

## Using Social Media Platforms To Awareness Citizens About Climate Change Issue: The Jordanian Ministry Of Environment (Facebook Platform) As A Model

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### Abstract

*The research aimed to demonstrate the role of governments in educating the public about climate change issues through the Jordanian Ministry of Environment on the Facebook platform. It has been found that the ministry has become aware of the importance of employing social media platforms to deliver the required messages to inform its audience of different groups about the phenomenon of climate change, specifically Facebook, unfortunately the ministry hasn't reached remarkable progress. The materials that have been published on Facebook platform for an entire year focused on covering the activities of the ministry, relevant government agencies, and international organizations, while only a narrow space was given to research centers, universities, and scientists who were not included to participate in explaining and interpreting this phenomenon, but rather to announce some proposed laws and procedures. Moreover, the private sector was not allowed enough space to communicate the proposed initiatives and opportunities for youth and those aiming at the empowerment of women and vulnerable groups. Such orientation was reflected in the publication of most of the materials in the form of news without reports, investigations, or even news stories. It is noteworthy that although Jordan is considered a country of asylum, suggesting a greater effect of climate change, only one article related to this subject was posted.*

*The researcher recommended the necessity of classifying the target audience and assigning the management of the platform to specialists in scientific journalism so that they can address subjects and interpret events and procedures profoundly, contributing to simple and clear information for the public, versus the content limited to news. And recommended the use of modern digital systems, various financing approaches and investing in small projects relating to the relevant sector, clean energy and waste recycling, additional focus on reports and investigations, and allocating more resources to adaptation, mitigation, and financing to contribute to securing the rights of citizens and protecting them from the effects of climate change.*

**Key words:** *climate change, Facebook, Ministry of Environment, audience, awareness citizens.*

### Introduction

The measures adopted by the governments of different countries regarding the issue of climate change and related consequences vary according to their relevant position on the challenge that is facing all the peoples of the world. Governments have employed traditional and digital media to inform their people of these measures, whether tangible physical measures or related to

awareness and education, assuming the potential to reach a large and diverse audience, and aiming at an enhanced interaction between the public on one side and the experts on the other side, who provide numerous and reliable sources of information, presented in several forms (such as video, photos, podcasts, blogs, and stories) that motivate the public to participate in implementing actions on environmental issues.

However, there is a major challenge related to the nature of the information published in terms of credibility and accuracy. As governments may focus on certain subjects that differ from the publications of other involved sides, such as environmental organizations, as well as private and service media. Governments often focus on relevant achievements, the signed agreements, and the laws under consideration.

Lord Nicholas stated the necessity of informing the public about the details of climate change issues, provided that the media must convey information on scientific and health issues of climate change precisely and clearly to the public without creating further panic, as these issues are characterized by uncertainty and multiple risks, and journalists in most cases are not specialists. They do not resort to clarifying the extent of uncertainty that characterizes these issues, nor are they specialized in understanding the implications of the relevant data and numbers. It is pivotal to understand such aspect profoundly to present the information correctly and accurately, as the climate system is very complex, and predictions about its future are inevitably uncertain. (Pinter, 2013).

It is important to avoid the inclination towards the trending events that create interesting news stories, such as the floods or the forests fires and the related wild animals' losses, but rather bring attention to issues with long-term and complex effects. Although these events are characterized by uncertainty, an inevitable unsought characteristic that weakens the possibility of creating news stories about them, as novelty and immediacy are pivotal for attracting the public,

However, it is important for the public, the politicians, and decision-makers to know to work on adapting and mitigating the effects of climate change. The propagation of climate change subjects demands the willingness of the media institutions owners to introduce them in the newsrooms and place them on the agenda of daily included events and subjects. Unfortunately, climate subject can sometimes be rejected by the editor-in-chief, as they lack the attention and excitement elements due to recurrent coverage.

Nevertheless, publishing through social media may contribute to the encouragement of the public's interaction with climate change coverage, regardless of the platform used or the digital format through which the content was published. Yet, in most cases, videos are the most widespread format, especially among young people who are the most important target groups. The content that addresses climate changes and fluctuations that occurred in the past, differs considerably from the content that addresses anticipated changes and future actions regarding the extent of audience interaction and views. (Rojas, 2022)

Published reports on climate change are assumed to immerse readers in the problem and urge them to find a solution, encourage them to interact and try to learn about the policies and procedures proposed by their government, and thus they will actively participate in the policy-making process and monitor the implementation of those measures. AS the constant focus on achieving the sustainable development goals and their relation to climate change in the media and the repetition of phrases calling for urgent action to combat climate change and its impact, emphasizing the need to conserve biodiversity, oceans, forests and ecosystems and use them sustainably is all important, beside the importance for the ordinary people to know how sustainable agriculture affects their lives, and affects the rain, which in turn affects the small

farmer. Networking and demonstrating the actions taken by governments and the efforts made by environmental activists enhances these achievements and helps achieve better results. (Kanapathy, 2022)

The information sources employed in climate issues vary from one region to another influenced by the prevailing cultures. For example, in Germany and India, scientists are the main source of information for all subjects related climate, while the media and news agencies in developing countries rely on local political elites to cover these issues. (Schafer, 2015)

Jordan is one of the developing countries that has joined all international agreements and laws that would undertake the necessary measures to confront climate change, and is embracing many measures related to mitigation, adaptation, and financing. The government seeks to involve the public in discussing, approving, and activating these measures, and the use of social media platforms may be one of the methods of reaching out. For its audiences, but the content and tools used may not achieve what we should be and thus achieve the desired impact.

### **Research Concepts**

Climate change term refers to long-term fluctuations in temperatures and weather patterns, whether due to natural cause, such as the changes in the solar cycle, or due to human activities, such as burning fossil fuels such as coal, oil, and gas. Fossil fuel combustion and constant consumption results in greenhouse gas emissions that surround the Earth, trapping the sun's heat and amping up temperatures. These are mainly carbon dioxide and methane gases resulting from burning gasoline used in transportation, or coal to heat buildings. Cutting grasses and trees from forests also releases carbon dioxide, in addition to gases resulting from landfills. (United nations)

### **Governments, climate change and human rights**

According to Amnesty International, the failure of governments to take rapid action to confront climate change is a flagrant violation of human rights, especially considering the presence of strong scientific evidence linking the effects of climate change to those rights for various generations throughout history. Climate change threatens the right to life for billions of humans worldwide on Planet Earth where natural disasters resulting from severe weather conditions such as storms, forest fires and floods.

Furthermore, climate change also threatens the right to health. According to the Intergovernmental Panel on Climate Change, the main health impacts of climate change will include increased risks of injury, illness, and death due to more severe heatwaves and fires, as well as an increased risk of undernutrition because of reduced food production in poor areas due to these disasters. Adding to this, the increased risk of diseases borne by contaminated food and water, and psychological and neurological diseases that people are exposed to because of the impact of those natural disasters as a direct evident consequence of climate change, in particular the children.

The right to adequate housing is also under the threat of climate change, flood disasters and forest fires resulting from climate change can destroy homes, either by burning or drowning, as rising sea water levels threaten the homes of millions of people in lowlands areas in various regions of the world, and their residents may be displaced due to drought. Moreover, climate change also affects the quantity and quality of water resources. Melting snow and ice, decreased rainfall, rising temperatures, and rising sea water levels would deprive 785 million people of access to a source of water or sanitation. (Amnesty International)

Detrimental effects of climate changes harm everyone, however the intensity of these effects is greater for some groups and societies, particularly those that are exposed to discrimination or are called vulnerable groups, who are mostly in developing countries, especially coastal countries, and small island states, which are the least wealthy and least developed countries and are of the minute contribution to the phenomenon of climate change.

They are affected not only because of their exposure to the effects of climate change, but also because of the political, economic, and social factors that intensify those effects. The most important consequences of colonialism are the unequal distribution of resources between countries, and the inability of low-income countries to adapt to the harmful effects of climate change.

Additionally, discrimination is reflected in environmental policymaking and affecting people of color and communities facing racial, religious, and linguistic discrimination, or excludes them from leadership roles in the environmental movement. The poor and power plants and refineries neighborhoods may be forced to breathe toxic air and suffer more than others from respiratory diseases and cancers, at a rate three times more of other residents.

Regarding women, and since most of their jobs depend on natural resources, they face obstacles in obtaining financial or technical resources or are deprived of land ownership, are less able to adapt to climate change, which makes them more vulnerable.

They are less able to protect themselves and will find it more difficult to recover of its effects. As well, children and youth suffer because of their physiological and developmental needs and those related to the metabolic processes in their bodies, and considering those circumstances they will not be able to adapt to the severe impacts of climate change. For instance, the forced displacement to which some local communities are exposed, and affects the rights referred to above, starting with lack of water, sanitation, food, access to adequate housing, health, education, and development – will likely be particularly harmful to children. (Amnesty International) .

### **Research methodology and studies**

During a full year (from 1/1/2022 to 1/1/2023), a number of (145) press was published on the Facebook platform of the Jordanian Ministry of Environment was analyzed, considering that this platform is the most visited by the Jordanian public in its various categories. The analysis was conducted to identify the issues it addressed on the platform, and whether it reflects those topics and sectors most affected by the Jordanian situation? Has the public been informed about regional and global cooperation in this context? As well as knowing whether the materials published on the platform focus on current events for the purpose of promoting government activities, or whether they seek to explain and interpret phenomena and events in an easy and understood scientific manner that the ordinary public can comprehend as a step to prepare for their participation in discussing procedures and decisions and then accepting them through this platform (Facebook). Has the data journalism based on numbers and documents been employed, or was it limited to those traditional statements based on government officials?

An evident correlation between the aforementioned analysis and the study of Meliani (2019) is regarded, which aimed to shed light on the concept of digital environmental media and determine the extent of its contribution to spreading the culture of sustainable development through analyzing the methods of using Twitter in the fields of awareness by bodies and associations active in the field of the environment, which found that there is a weakness in the use of research centers ,and the platform's lack of specialized staff to build an effective communication strategy to target the audience well.

In addition, Ezz Al-Arab's study (2019), which aimed to answer several questions, the most important of which is: What is the role of environmental media in activating sustainable environmental development? Using an in-depth interview tool for twenty workers in the field of journalistic media and in the field of the environment, the study found a weak level of official media dealing with environmental issues, which was characterized by being tactical and routine, lacking interpretive and analytical treatment, and relying on excitement and suspense in presenting the news.

### **Actions Taken**

The measures that must be taken to mitigate the effects of climate change are classified into three categories: Reducing emissions, adapting to climate impacts, and financing the necessary modifications. Regarding the first measure, the main element is to work on the transform of the energy systems from fossil fuels to renewable energy sources, such as solar energy and wind energy, aiming at zero emissions by 2050, and reducing them by about half by 2030 to preserve, given warming of less than 1.5°C, fossil fuel production must decline by approximately 6% per year during the decade 2020-2030.

The second measure, i.e. the ability to adapt, is concerned with the ability of human and natural systems to adapt to potential damage, utilize available opportunities, or deal with the consequences. There are difficult and easy limits to adaptation. The first means that adaptation measures are unable to prevent the risks of climate change, such as expected losses in biodiversity in large proportions that are estimated to reach ninety percent at a temperature of 1.5 degrees Celsius.

The limits of easy adaptation mean the inability to avoid risks at a certain level, while this is possible in the future with the improvement of technological, economic, and social changes, adaptation can protect individuals and their homes from the effects of climate change, as well as their livelihoods, infrastructure, and natural ecosystems. Adaptation must occur everywhere, and priority must be given to the most vulnerable people who do not have the resources to confront the risks of climate change. For example, early warning systems for disasters are a reason to save... Lives and property. (Climate Dictionary for Youth)

The third measure is to finance climate action, which requires large financial investments by governments and companies, as industrialized countries must fulfill their commitment to provide \$100 billion annually to developing countries so that they can adapt and transition towards green economies. (FA).

### **Discussing the results**

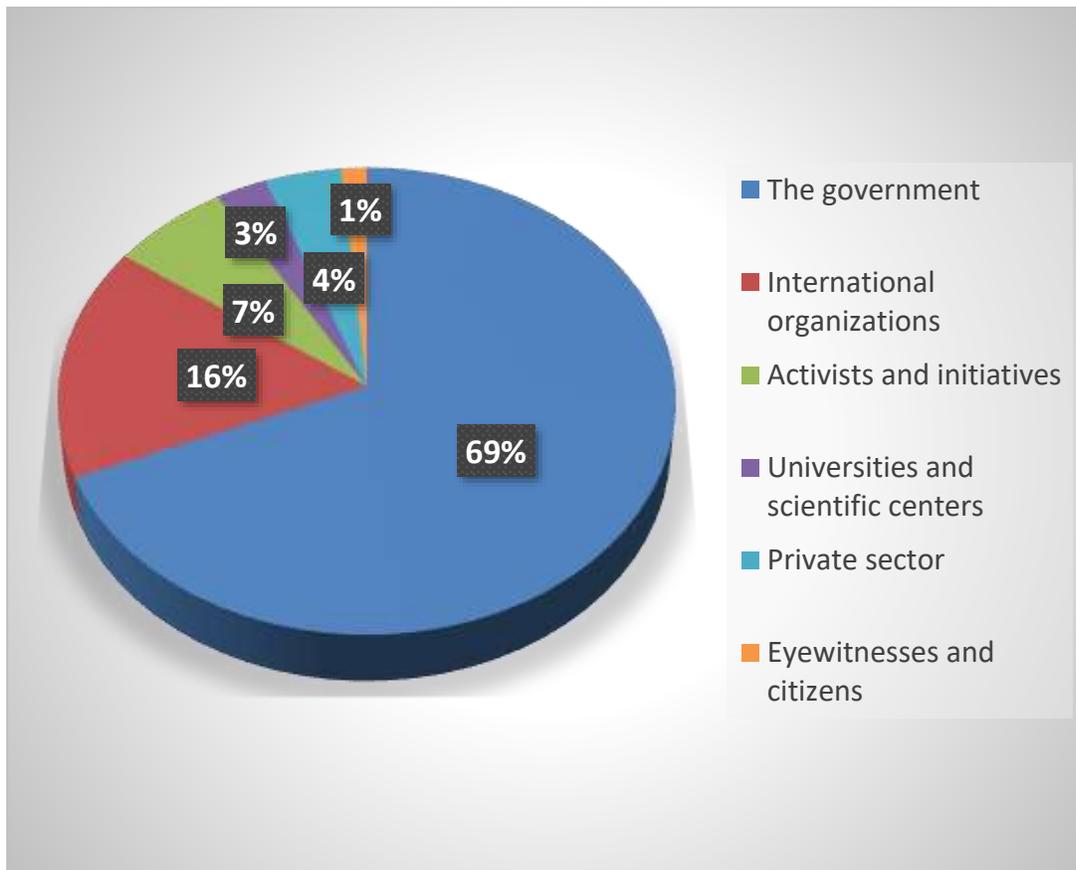
The issue of climate change is characterized by a lack of clarity, and uncertainty in some respects and information related to it, despite being based on science and study. Therefore, the publication of some misleading information (whether intentional or unintentional) issued by some non-specialized parties may lead to a defect in the information for the recipient, resulting in problems and other problems that the audience does not need. Therefore, it is important that the source specializes in the topic at hand and can interpret and clarify the content for the recipient.

Regardless, there is a diversity in the bodies that give their opinion and address all aspects from different points of view. Upon analyzing the study materials, it was found that (68.72%) of the sources of information and statements in it depend on official bodies such as different ministries, specifically those materials related to agreements and discussion of procedures. In

addition to the repercussions between the Ministry of Environment, Agriculture, Energy or Finance, or environmental inspectors from the Royal Department for Environmental Protection, the Public Prosecution Service, judges, municipalities, and provincial councils.

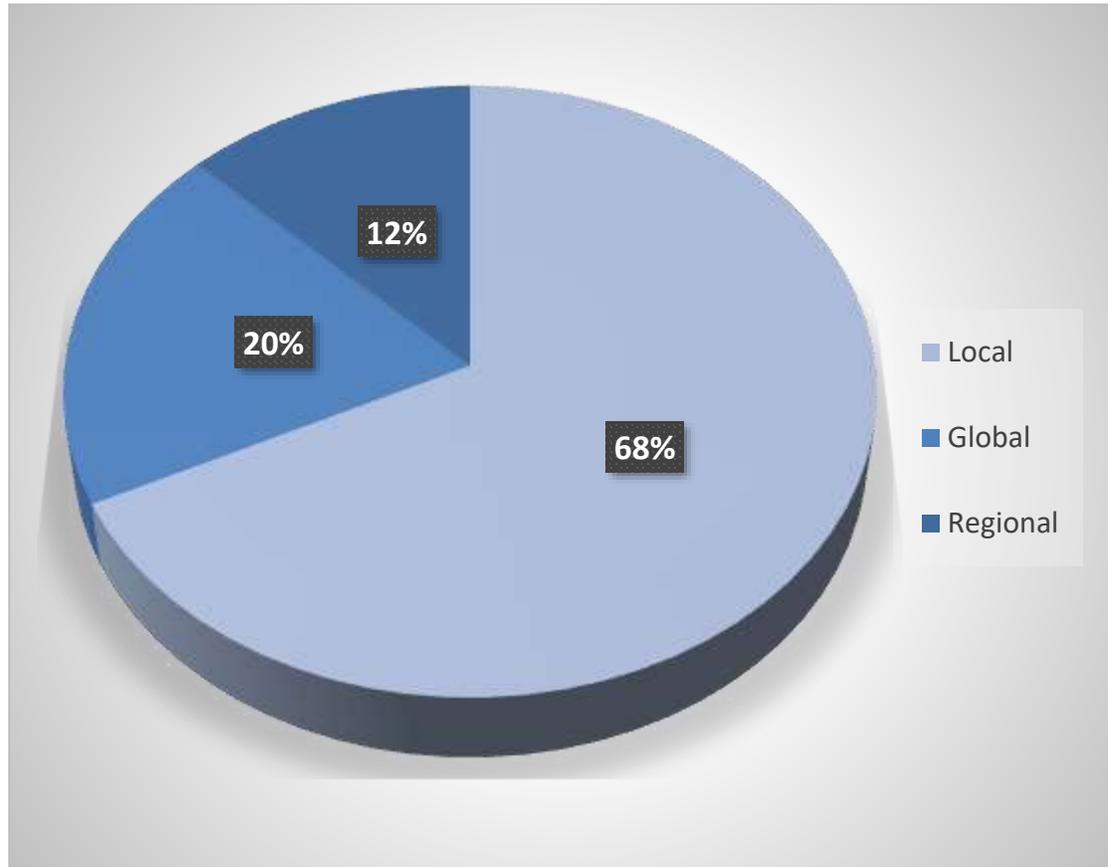
It is estimated that (16.11%) of these materials were based on international organizations, most of which are affiliated with the United Nations and related to the Middle East region, with a percentage of (6.64%) only, was derived from activists and civil society organizations. As for the private sector, this platform did not involve relevant work and initiatives except with a percentage of (4.27%). The same applies to universities and scientific centers and their experts and specialists, as their presence did not exceed (2.84%). Regarding eyewitnesses and citizens are the affected group percentage was (1.42%). This result is consistent with the studies of Meliani and Ezz Al-Arab in terms of limited reliance on experts, specialists, and organizations and weak reliance on research centers in covering environmental issues on the Twitter platform.

figure (1) The active powers



Concerning the geography of the content, a percentage of (67.76%) of the study sample was completely related to Jordanian affairs. As for Jordanian cooperation with the regional and global scope in this regard, the platform worked to inform the public about it through a percentage of (12.61%) and (19.63%) respectively from that sample. It is noted that these articles represent the implementation of international programs and initiatives affiliated with the United Nations, and a small percentage is represented in bilateral agreements with the governments of some countries within the framework of activating bilateral agreements in several areas, including the issue of climate change.

Figure(2) Geografic scope



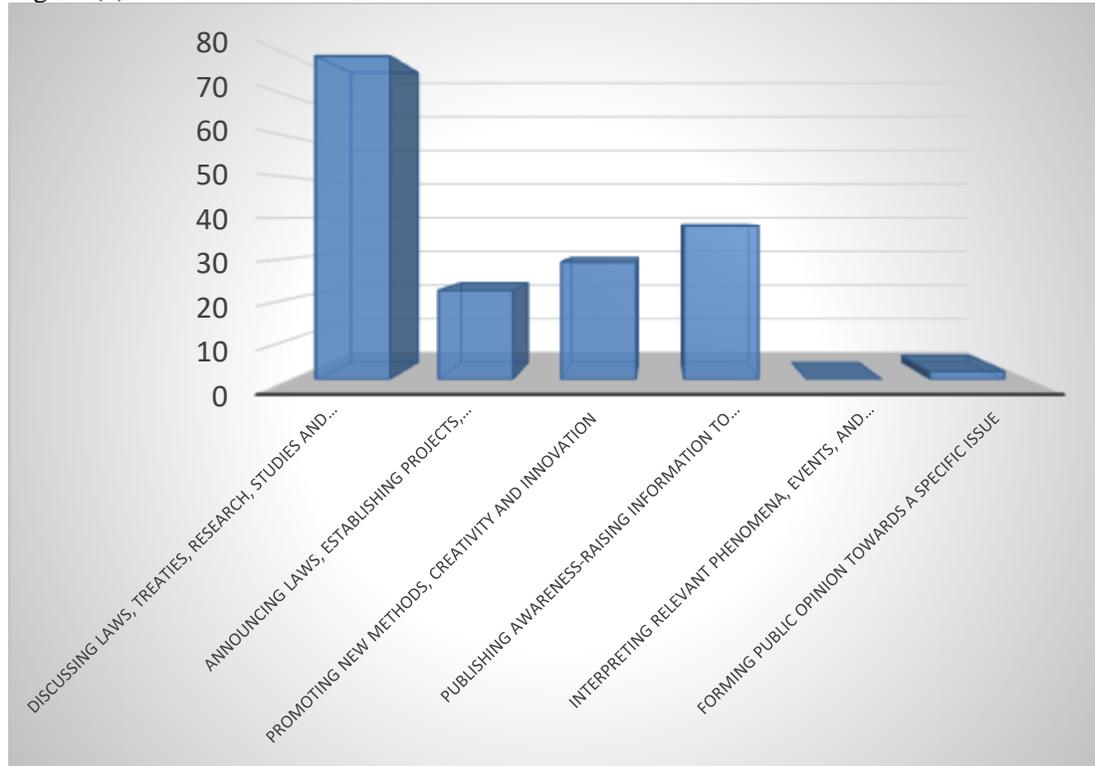
The research revealed that a percentage of (46.78%) of the research sample relates to discussing laws, treaties, research, studies, awards, and procedures required to be implemented, depending on the entity responsible for implementing the procedure, whether official governments, private interests, organizations, unions, etc. In spite relating to enforcing laws, inflicting violations, protection, or building partnerships and finding solutions related to different sectors. As for the materials, that aim only to announce the establishment of projects, the implementation of initiatives, and obtaining their funding, or the start of implementation of a specific law, or about workshops and awards, or specific applications and innovations to be used by stakeholders, they represented (12.68%).

The promotion of new methods resulting from studies and initiatives constituted a percentage of (16.96%), and although this percentage was not high, the topics they represented were important, such as promoting the use of a digital system to monitor emissions for the first time in a developing country, namely Jordan, and for initiatives in the field of biodiversity and advanced irrigation techniques that would significantly mitigate the effects of climate change on vulnerable groups.

Raising awareness content comprised (22.22%) of the sample; awareness varied from demand a certain behavior or warn against certain data targeting the public (individuals). Awareness included the use of specific mechanisms, applications, and innovations as well in specific methods by specific industrial, agricultural, or even health sectors.

The materials did not include anything aimed at forming public opinion regarding the many issues raised locally or globally, except for (1.18%), while no materials were included that were concerned with interpreting relevant phenomena, events, and changes in a scientific manner.

Figure (3) Goal

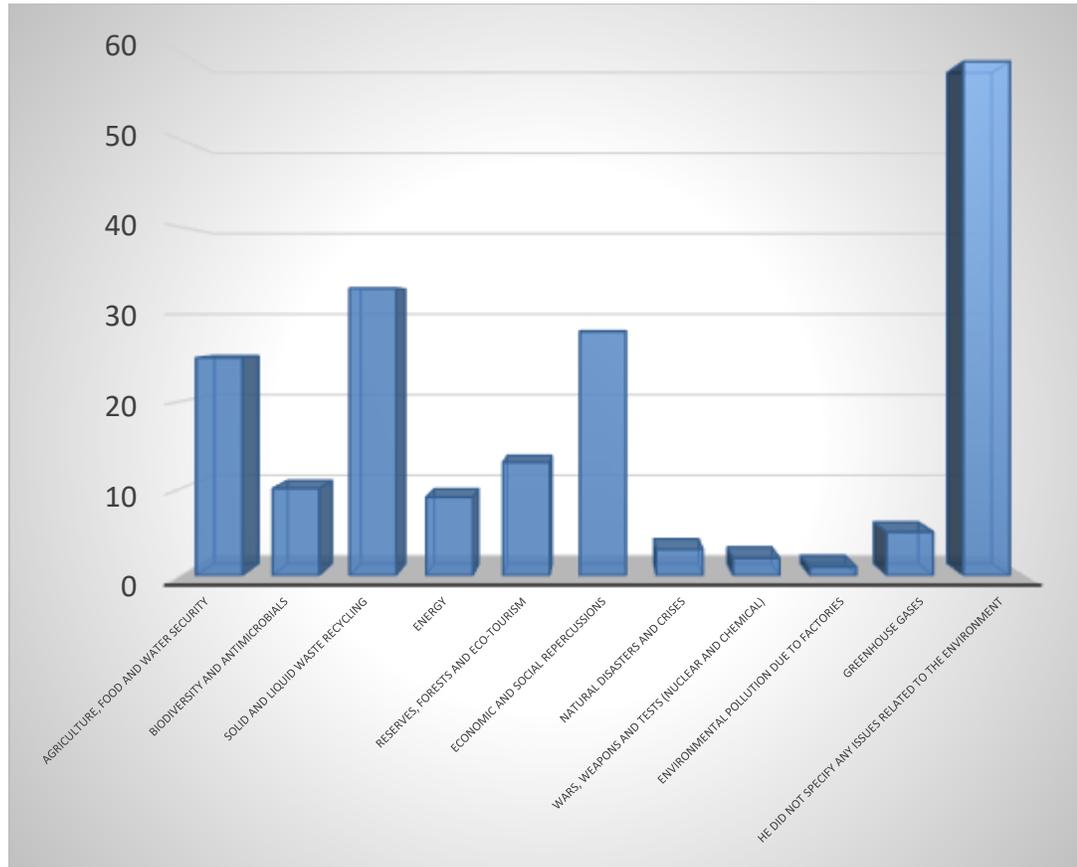


The interactions and entanglements between the issue of climate change and other fields urges officials, activists, and stakeholders to work within many sectors and involve in many areas, from agriculture and food security to its relationship with violence and gender, through laws, agreements, and treaties to preserve biodiversity, waste recycling, and the transition to clean energy, and this will not be achieved. It is worth mentioning, that the above-mentioned goals can only be achieved with the participation of community members and understanding of the effects of climate change on the various sectors, so that they can be part of the proposed solutions.

The study found that a percentage (31.41%) of the research materials were general and addressed the challenges facing society, negative practices, and the importance of taking action in various sectors in general, while the remaining percentage (68.59%) was allocated to specific topics, as the waste recycling sector of various types included (17.55%) of the research sample, an issue that requires further observation of the Ministry of Environment.

As regards for materials related to the economic, social, and health consequences on different groups of society, and the importance of empowering vulnerable groups, and financing small and micro projects, their share was (14.89%) of the research sample, followed by materials related to food security, agriculture, and water (13.3%), then reserves, forests, eco-tourism, and heritage protection. Monuments and parks are among the effects of climate change (6.91%), then those related to biodiversity, antimicrobials, and related issues affecting citizen health (5.32%), while energy issues and the transition towards clean and renewable energy (4.78%), and (2.66%) of the sample were assigned to greenhouse gases and the global warming generated by them. Natural disasters, storms, rain, floods, and burning forests, and the materials related to them did not exceed (1.95%), and those related to wars, weapons, nuclear tests, and chemical industries (1.06%), and the least of them were materials related to factory pollution (0.53%).

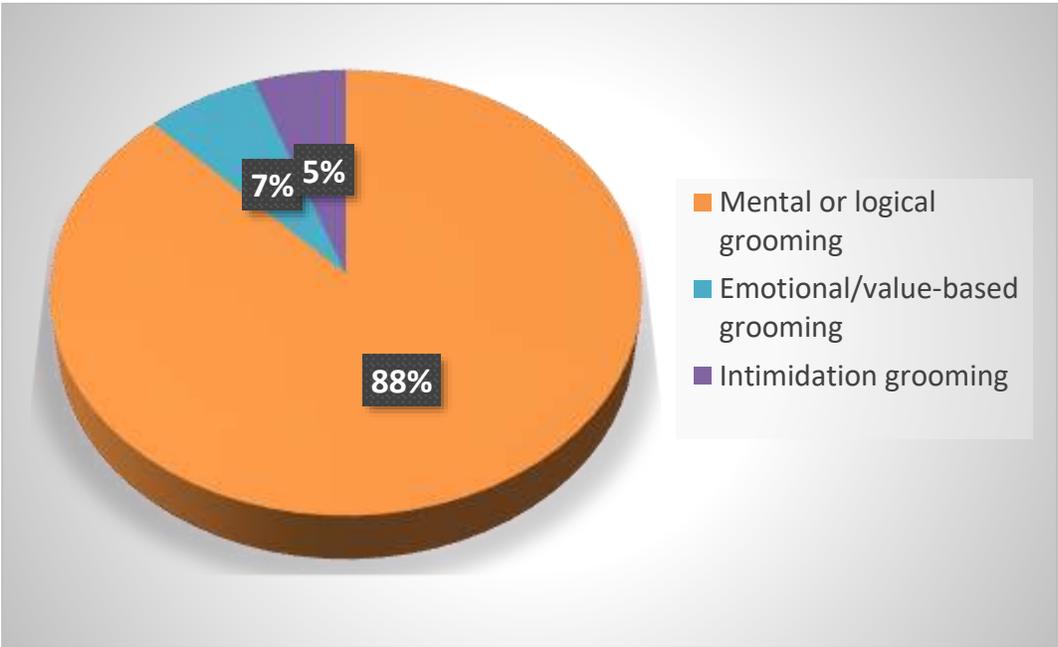
Figure (4) dominise



**Impression and Influence**

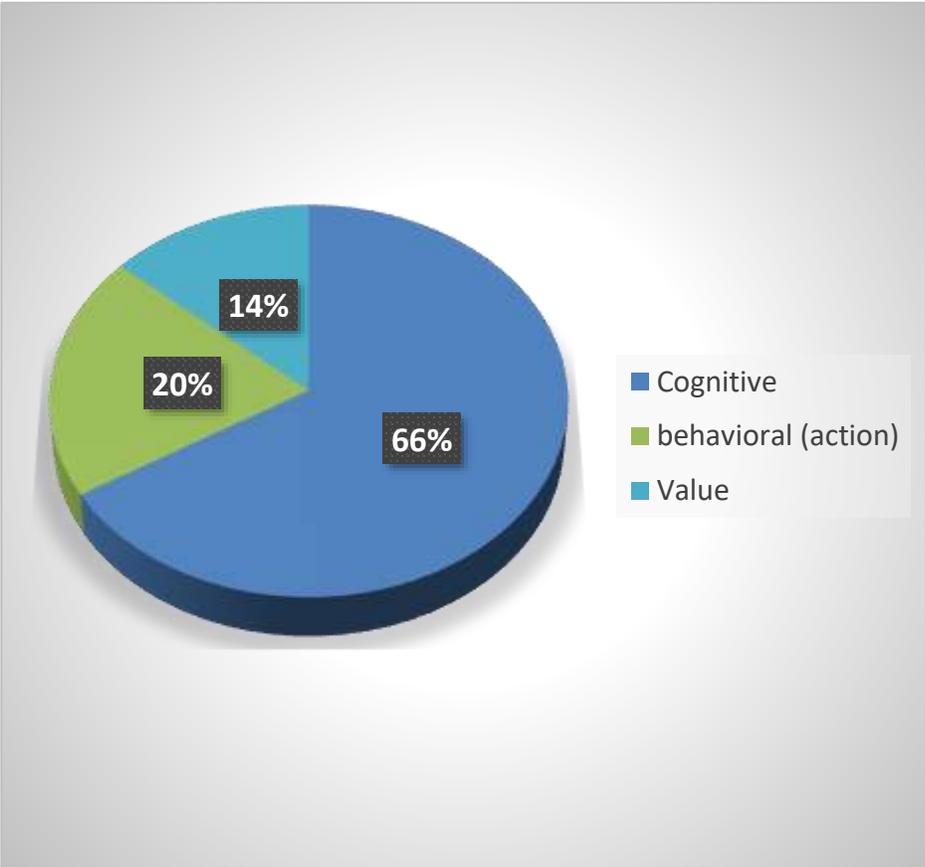
Social media is criticized for the use drama and exaggeration in covering the issue of climate change by presenting exclusively the unexpected and shocking events, as this method of presentation may lead the recipient to a stage of sensory dullness, and thus the relevant content won't imply any effect by creating a change in behavior and practices that affect this issue, so it is preferable Cover-ups should be based on mental, not emotional or based on provoking intimidation, such as linking them to (religion, legislation, morals, basic needs, and personal benefit). In the research sample, it was found that (87.82%) of the press materials used mental incentives that depend on numbers and statistics, such as those related to material and human losses and the excessive costs caused by fires due to high temperatures, as well as those caused by floods and torrents, beside the spread of epidemics and diseases, in addition to the losses of farmers and fishermen due to... Impact on soil and sea water levels. Using numbers may also be useful in determining the required fund to mitigate and adapt to those impacts. While emotional incentives and intimidation appeals were used at rates of (6.71%) and (5.49%), respectively, and are often related to imposing laws and penalties for environmental violations or explaining the health effects on those affected by climate change.

Figure (5) grooming



Such use may be consistent with the desired effect, as (66.33%) of these materials sought to create a cognitive impact, (20.1%) to create a behavioral impact, and (13.579%) to create a value impact, which in turn affects creating beliefs about the importance of playing an important role in mitigating these impacts on communities.

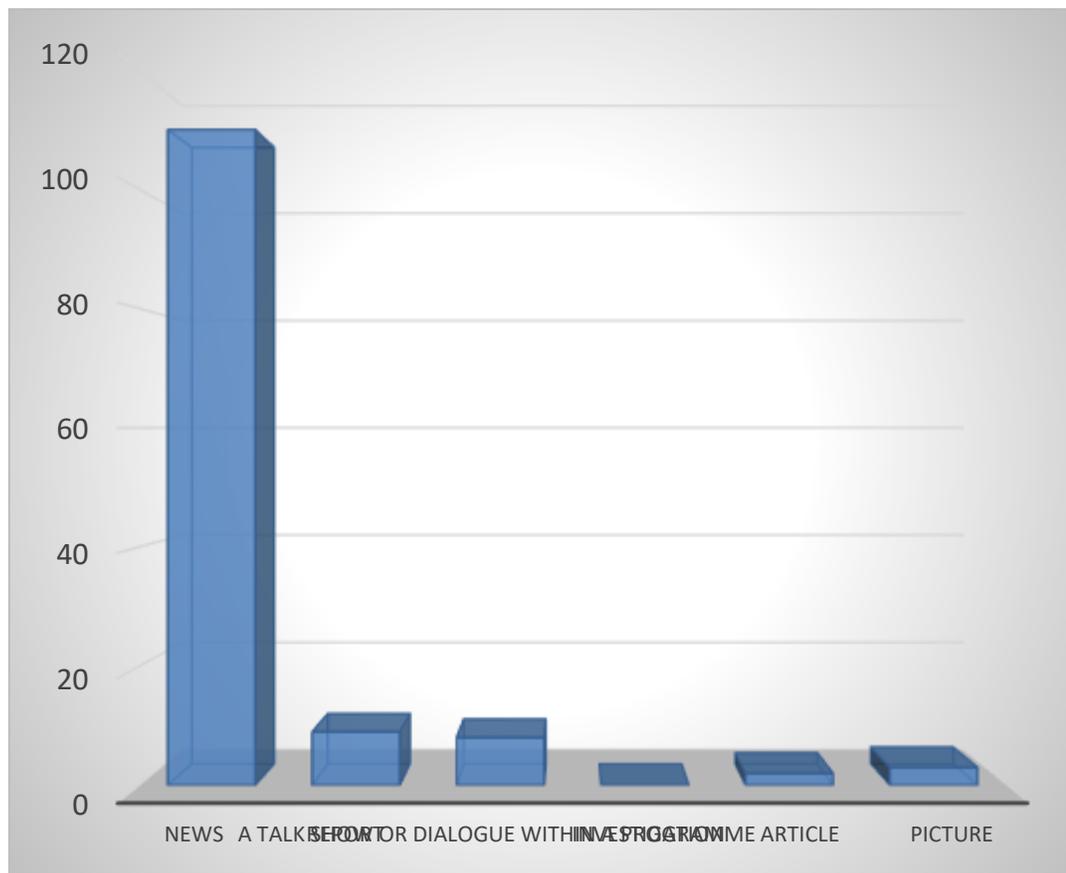
Figure (6) Influences



### Content Styles and Patterns

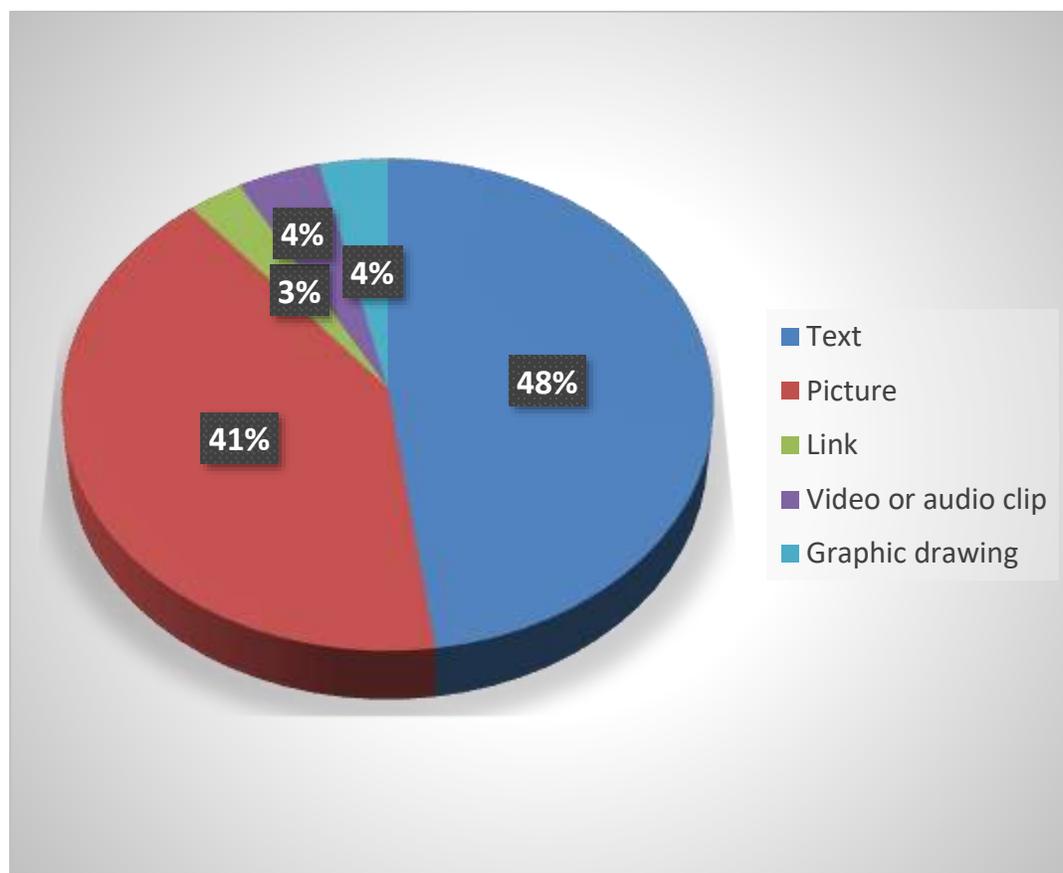
News form comprised (72.5%) of the platform’s materials, while (12.58%) were awareness posts, and (5.96%) were reports, most of which were issued when international days or occasions related to the environment, climate, agriculture, pollution, and protecting the planet, to tackle general information related to all sectors and meetings, global international organization. An approximately percentage (5.3%) was represented in dialogues on radio or television programs. The graphical representation was (1.99%), and the article at a rate of (1.32%), while no investigation was included in the materials.

Figure (7) Art used



The platform relied mainly on texts and images. (90.34%) of the platform’s materials used texts and (77.93%) used images. As for videos, audio clips, and graphics, only (8.23%) and (6.9%) of the materials relied on them. The included electronic links (5.52%), which contained awareness posts forwarding the browser to refer to broader information about companies related to waste recycling, or to view a new law related to this change, considering that some materials used more than one style, especially combining text and image together.

Figure (8) style



This research studied the events that have occurred and whose effects are still present in society, and represented a percentage of (32.56%), such as the effects of fires, accidents, resulting diseases, and the effects on soil, air, rain, biodiversity, etc. As regarding expectations, whether negative effects resulting from continuing behaviors that harm the environment or positive ones, such as adaptation and mitigation measures, financing them, and building partnerships, they were at a rate of (65.11%) of the total that was covered by the study sample. As for past events from which lessons can be taken, they represented (2.33%).

### Outcomes and Recommendations

The study has reached the following outcomes:

1. The Jordanian government, represented by the Ministry of Environment, did not improve the efficient use of social media platforms (Facebook) in some respects.
2. No sufficient space for research centers, universities, and scientists to participate in explaining and interpreting climate changes.
3. The private sector did not have enough opportunity to deliver the proposed initiatives and openings to youth and to empower women and other groups.
4. The platform topped the topics of waste recycling, economic, social and health repercussions on different segments of society, food security, agriculture, water, reserves and forests, eco-tourism, protection of heritage and antiquities, and parks.
5. It was noted that the audience was not targeted adequately as classes, rather was dealt with as one category and that there were no specialists to manage the page, due to the generality of the proposal, resulting in less satisfactory tangible results and does not enable the audience to be reached as it should be.

6. Reports and investigations were not used to educate the public, while reliance was placed largely on news and a few educational posts and videos.  
The researcher recommends the following.

1. The platform (Facebook) should be assigned more space to other parties (except the government), such as the private sector, universities, experts, scholars, and activists, to discuss their roles and proposals.
2. The platform should be managed by journalists specialized in environmental and development media. If there is a scarcity of these specialized cadres, it is the responsibility of the Ministry to train them and provide the necessary explanations to raise public awareness.
3. It is necessary for the platform to draw attention towards to the three procedures: Adaptation, mitigation, and financing.
4. Adequate attention should be drawn to the issues of empowering youth, women, and vulnerable groups, and financing small and micro projects to maintain food security and protect agricultural areas and water sources from pollution to contribute to securing the rights of citizens and protecting them from the effects of climate change...
5. Consider simplified reports and investigations that involve the public in managing and implementing procedures as they are part of the problem and the solution.

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