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The First Scientific Conference of the Faculty of Science – Sirte University Environmental Pollution and Challenges of Environmental Sustainability (EPESC), Oct. 14, 2025

The Impact of Environmental Awareness on the Economy and Sustainability Development

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Abstract: Although the environment, including its various resources, was in a state of natural balance that enabled it to meet human demands and provide him with the needs necessary for the continuation of his life and the life of other living creatures, man's irresponsible behavior with the surrounding organisms, components and elements of the environment has greatly disturbed the balance of the ecosystem. The study relied on the inductive approach, comprehensive and qualitative analysis of information. The study showed different results for several axes presented through a questionnaire that was in the city of Tobruk. The study presented different results for several axes presented through a questionnaire in the city of Tobruk. In general, these results indicate that the level of environmental awareness among the study participants is relatively high in some aspects. Such as the role of the media, the municipality, and schools in environmental awareness, as well as in recognizing the impact of human activities on the environment. However, the results also show a difference in opinions on issues such as exploitation of natural resources and desertification, indicating the need for greater awareness and deeper understanding of these issues. The results showed that most of the historical answers were statistically at the 0.05 level of significance, which reliably reflects the results, and the possibility of recording them to the community. Because of these results, many measures can be taken to enhance environmental awareness in society, such as the role of educational and media organizations in spreading environmental awareness and stimulating community participation in environmental protection.

Introduction

Ecological consciousness, economic growth, and sustainable practices are all intertwined in the complex topic of environmental awareness's effects on the economy and sustainability development. The importance of environmental awareness grows as countries work to strike a balance between environmental protection and economic development. For example, in order to promote economic sustainability in Malaysia, environmental awareness and the development of a green economy have been essential. Businesses are spending money on eco-friendly practices and technology, which not only support sustainability but also boost economic growth and generate green jobs (Kasayanond & Jermsittiparsert, 2019). Globally, addressing problems like pollution and resource depletion requires combining environmental sustainability with economic development. Economic policies and effective governance are crucial for fostering resource-efficient and low-carbon growth. Through green investments and supportive regulations, nations such as those in the Nordic region have shown that environmental preservation and sustainable growth can coexist (Lisenko, 2024).

Promoting sustainable practices requires a strong emphasis on public awareness and education. Public campaigns and educational programs have played a significant role in influencing public perceptions about resource conservation and the circular economy in both industrialized and developing nations. Sustainable behaviours are more likely to be adopted by a society that is ecologically educated, which fosters both environmental and economic sustainability (Uliankina et al., 2024; Gonella et al., 2024)

Furthermore, sustainable development projects clearly show how economic and environmental goals overlap. Environmental accounting techniques are being used by businesses more and more to control their environmental impact while achieving financial goals. This strategy not only improves operational effectiveness but also supports more general sustainability objectives (Halati & He, 2018; Xu & Zhang, 2020). Economic development in coastal areas is greatly impacted by understanding of marine environmental issues. Communities can achieve sustainable economic growth by better balancing economic activity with environmental conservation through the development of a deeper understanding of maritime ecosystems. The study's main goal is to investigate how important environmental consciousness is to Tobruk's sustainable growth. This is achieved by looking at the function and efficacy of the city's municipality, periodicals, awareness centers, and other media outlets.

Materials and Methods

By examining data on citizens' views of environmental risks and their participation in reducing them, the study used an inductive and descriptive-analytical technique to evaluate the degree of environmental awareness in the Libyan city of Tobruk. To guarantee that various community segments were represented, a stratified random sampling technique was employed.

Data Collection

A standardized questionnaire created specially to gauge environmental awareness was used to gather data. Gender differences, age groupings, educational attainment, environmental habits, and the effects of environmental awareness initiatives by the media, municipality, and educational institutions were among the important topics covered in the questionnaire. Standardized statistical procedures were used to verify the questionnaire's validity and reliability in order to guarantee the correctness and generalizability of the findings.

Data Analysis

Using SPSS software, the gathered data was analyzed, and one-way analysis of variance (ANOVA), means, and standard deviations were computed to look at variations in the demographic factors. The validity of the items used to measure environmental awareness was examined using factor analysis, and the reliability of the study instrument was evaluated using Cronbach's Alpha.

Environmental Awareness Assessment

By examining participant replies and pinpointing the main determinants, such as the success of awareness campaigns run by media, educational, and local organizations, the degree of environmental awareness was determined. In order to offer useful suggestions for enhancing environmental awareness initiatives in the area, the connection between environmental awareness and personal actions regarding environmental concerns was also investigated.

Results and Discussion

Demographic Data Analysis

Table 1: Gender Variable

Gender	Frequency	Percentage (%)
Male	69	63.9
Female	39	36.1
Total	108	100

Table 1 presents the distribution of the sample based on gender. Out of the 108 participants in the study, 39 (36.1%) are female and 69 (63.9%) are male. This distribution suggests a sample that is dominated by men, which might be indicative of the target population's makeup, especially if men are more involved in environmental awareness campaigns or similar sectors. Nonetheless, the noteworthy 36.1% female involvement enables an examination of gender-based disparities in environmental consciousness. Due to social, cultural, and educational factors, opinions on sustainability and environmental challenges can differ, which could have an impact on the study's findings. Although women tend to exhibit more pro-environmental attitudes and behaviors overall, a variety of psychological, social, and cultural factors impact these disparities. Promoting gender equity and environmental sustainability in environmental policies and practices requires acknowledging and resolving these gender disparities. (Xiao & McCright, 2015; Zelezny & Aldrich, 2000; Hunter & Johnson, 2004).

Table 2: Age Variable

Age Group	Frequency	Percentage (%)
30 to < 45 years	60	55.6
45 to < 50 years	36	33.3
50 to < 55 years	10	9.3
55 years and above	2	1.9
Total	108	100

Table 2 illustrates the age distribution of the participants. The majority (55.6%) fall within the 30- to 45-year-old age range, suggesting a preponderance of comparatively younger people who may have had more exposure to environmental education and awareness campaigns.

People between the ages of 45 and under 50 make up the second-largest group (33.3%); they may have greater expertise with environmental concerns and a different viewpoint on sustainability.

Just 9.3% of the sample is in the 50–55 age range, indicating decreased representation in this study, possibly as a result of younger groups' greater interest in environmental issues. Participants 55 and over were the least represented group (1.9%), suggesting that older people do not participate as much in conversations about environmental awareness. Interpreting the study's findings on age-related differences in environmental consciousness may be pertinent given the general distribution, which indicates that younger and middle-aged groups are more actively engaged in sustainability initiatives and environmental awareness. Overall, older persons make a substantial contribution to environmental causes, especially in areas like recycling and conservation, even though younger and middle-aged groups are more actively involved in some of these activities. Age-related differences in the motivations and emotional reactions to environmental challenges imply that customized strategies could be required to successfully involve various age groups in environmental sustainability initiatives (Ágoston & Varga, 2024; Lin & Fung, 2024p; Gray & Arvai, 2019).

Table 3: Educational Level Variable

Educational Level	Frequency	Percentage (%)
High school or lower	13	12.0
University student	4	3.7
Bachelor's degree	53	49.1
Master's degree	22	20.4
Ph.D	16	14.8
Total	108	100

Table 3 presents the distribution of participants based on educational qualifications. The majority of respondents (49.1%) had a bachelor's degree, indicating that they have received a university education. This may have a good impact on their environmental consciousness because they were exposed to sustainability and development principles while they were in school. Master's degree holders (20.4%) and Ph.D. holders (14.8%) make up the second-largest group, suggesting that a sizable fraction of the sample has advanced academic credentials that could improve their comprehension of sustainability and environmental challenges.

Those with weaker educational backgrounds are less represented in this study, as evidenced by the lowest representation of university students (3.7%) and high school grads or less (12.0%). According to this distribution of educational attainment, a highly educated sample may help foster a more knowledgeable viewpoint on environmental concerns, which may improve understanding and encourage the adoption of sustainable practices. Studies on sustainability frequently reveal a greater proportion of people with advanced degrees, which can result in a more knowledgeable viewpoint on environmental issues. In order to prepare students to make meaningful contributions to sustainable development, higher education institutions play a critical role in integrating sustainability into their systems. To guarantee a wider comprehension and involvement with sustainability challenges, it is necessary to improve sustainability education at all educational levels (Menon & Suresh,2020).

Environmental Awareness Practices Analysis

Table 4: Reading Sources

Reading Source	Frequency	Percentage (%)
Books	39	36.1
Newspapers	13	12.0
Other	56	51.9
Total	108	100

Table 4 represents the distribution of participants based on their preferred reading sources for acquiring environmental knowledge. According to the research, the majority (51.9%) rely on sources other than books and newspapers, including as social media, scientific publications, and internet platforms. Books make up 36.1% of the sample, indicating that a sizable percentage of people still rely on conventional reading materials to learn about the environment. Compared to other media, newspapers are the least used source (12.0%), suggesting that they might not be as effective in raising environmental awareness. This distribution emphasises how important it is to evaluate how well various knowledge sources support sustainability and environmental consciousness.

There is a notable dependence on non-traditional sources, according to the statistics on the distribution of participants' preferred reading sources for learning about the environment. 51.9% of responders said they prefer sources other than books and newspapers, which probably include social media, scientific publications, and internet platforms. Results showing how well digital and social media platforms work to raise awareness of sustainability, especially among younger audiences like undergraduate students, support this trend (Kim& Ostergren2018).

With books making up 36.1% of the preferences, they continue to be a significant source, suggesting that conventional reading materials are still essential for spreading environmental knowledge. In order to promote sustainable environmental actions, this is consistent with the focus on structured educational programs that integrate all aspects of environmental information, including system and action-related knowledge. Newspapers, however, are the least utilized source at 12.0%, suggesting a decline in their relevance for spreading environmental awareness. This is consistent with studies that show local news sources as the least effective in promoting sustainability awareness compared to other communication channels (Liefländer & Kaiser, 2015). The arrangement of recommended reading materials emphasizes how important it is to assess how well different knowledge sources support sustainability and environmental consciousness. It has been demonstrated that combining innovative culture with information management techniques greatly raises environmental awareness and promotes a sustainable environment1. In order to prepare future sustainability specialists and leaders, educational institutions must play a critical role in incorporating environmental sustainability into their curricula (Weina & Yang, 2022).

Conclusion and Recommendations

The study highlights a relatively high level of environmental awareness in Tobruk, especially regarding the role of media, schools, and municipalities. However, varying opinions on issues like resource exploitation and desertification indicate the need for deeper education.

Enhancing environmental awareness through targeted education and media efforts is essential for promoting sustainable economic development and ensuring long-term ecological balance.

Conflicts of Interest: The authors declare that they have no competing interests.

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