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Palestinian Women Facing Climate Change in Marginalized Areas:

A Spatial Analysis of Environmental Awareness

By Khalil Abu Allan

Women face significant challenges in a time of climate change, and they also play a key role in helping to navigate the overall situation that results from these issues. This is especially true for Palestinian women, who suffer from special economic conditions and a political situation that creates climate impacts in the West Bank.

Palestinian women often find themselves at the center of the fallout from climate crises. They play a central role in awareness of the problem, rationalization of consumption, environmental protection, and resource management within their society. Yet, just as women in the region are expected to change the behavior of their

families in order to preserve natural resources and confront the phenomenon of climate change, many social, economic and political factors impede them from doing so.

This study will focus on an important question: What is the environmental awareness of Palestinian women in marginalized areas, especially those who live in remote communities? It also will present an analysis of the capabilities of Palestinian women in administrative and societal decision-making in the face of spatial change. This analysis will measure Palestinian women's capabilities in environmental management in a moment of increasing climate impacts, as



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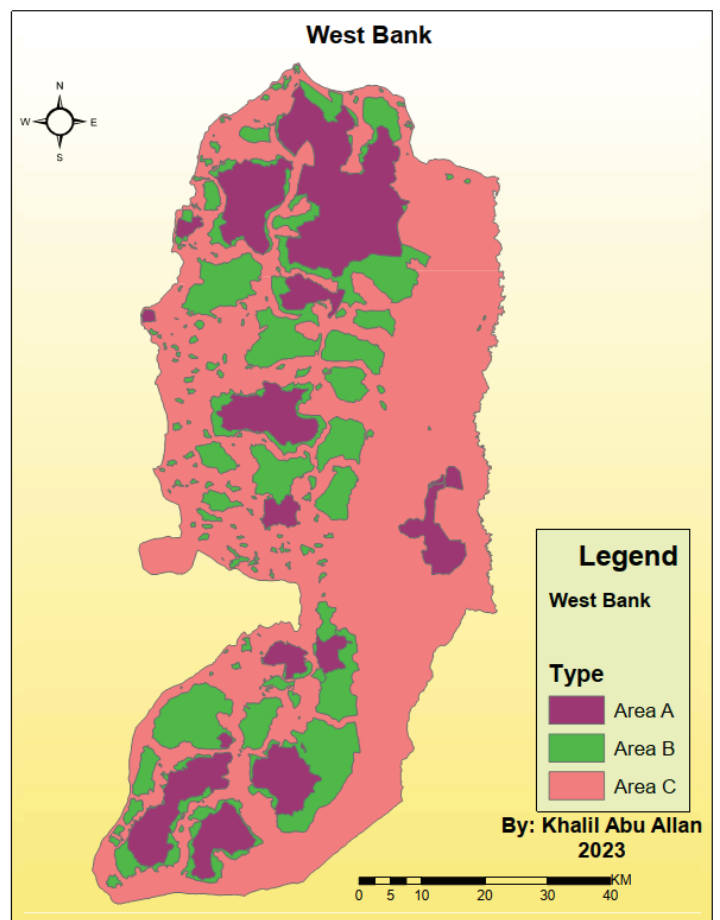
well as to articulate both the challenges they face and the reality of seeking gender justice in marginalized areas. This study will also lay out the agricultural practices relied upon by women and examine the problem of environmental education in the face of climate change, existing agricultural patterns, and modern practices—including water resource management and environmental education in the context of the family.

This analysis relies upon evidence of the spatial distribution associated with the effects of climate change and women’s awareness, cartographic distribution of the effects of climate change in the study area, and spatial distribution maps of environmental awareness measures for Palestinian women. In addition, this study includes data from field visits and interviews with women in the region—especially housewives, community women, and stakeholders. Interviews with legal personalities and government officials are also included. A questionnaire was also distributed to 500 women for comparison with the results of a previous study.

One goal of this work is to suggest ways to achieve fairness and equity in access to resources. It also seeks to enhance the role of women in reducing the impact of climate change, reduce the spread of pollutants, and activate policies to help them do so. Analyzing the environmental awareness of Palestinian women and strengthening their role in protecting the environment and reducing environmental pollution (both in marginalized areas and elsewhere) is essential, as well as strengthening their role in community environmental education.

The study area for this work is represented in the Palestinian areas classified (C) in the West Bank. These areas constitute 61% of the total area of the West Bank (Figure 1) and are under Israeli administrative and security control. The responsibility of the Palestinian Authority here is to provide other services—including education and medical services. The percentage of women in this region is about 49.3% of the population, and women in these areas suffer from marginalization in all respects.

Figure 1: Map of the West Bank and land classification.



Assessing Environmental Awareness Among Palestinian Women

The role that women play in promoting the values of environmental security, preserving the environment from waste and pollution, confronting climate change, and spreading the culture of environmental awareness in society is an educational and developmental role par excellence. Palestinian women contribute to their society in so many ways: as mothers, teachers, educators, and authentic partners. They represent half of society in both work and production, and they are an influential and effective social force in guiding public opinion and the attitudes of community members.¹

Women also bear responsibility for raising and preparing young people in a healthy, social, and

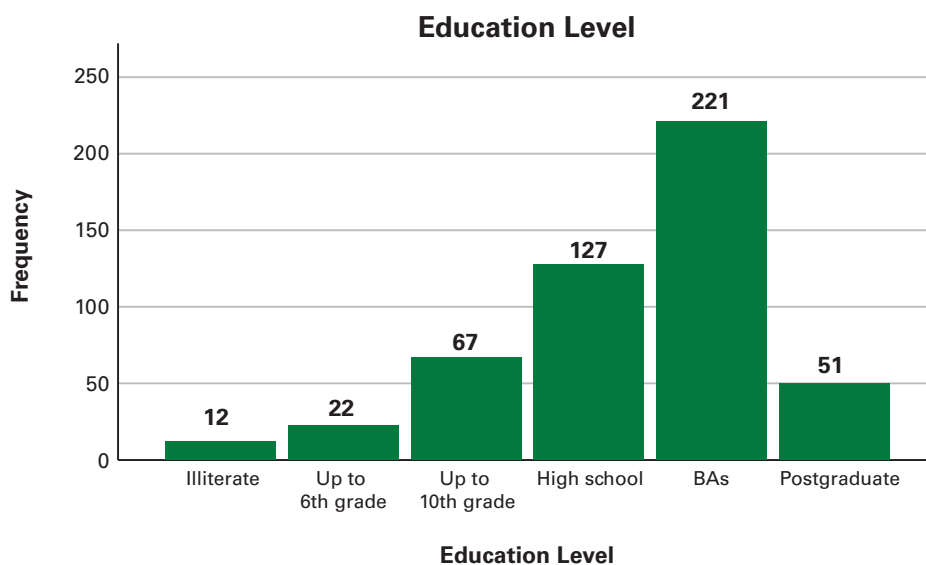
sound environment that is free from disease and negative environmental phenomena—including environmental pollutants of any kind.² Women also play a role as active strategic partners in building, developing, and creating sustainable systems in marginalized and non-marginalized areas in the West Bank.

Yet, our project survey found that despite their high educational level, Palestinian women still suffer from marginalization. This is especially true in specific geographical areas. The study determined that the percentage of women who hold a bachelor's degree reached 44.2% (Figure 2). However, as a significant percentage of these women remain without work outside the home, largely as a result of poor economic conditions and pervasively high unemployment.

Table1: Education level of women (study sample)

Education level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	12	2.4	2.4	2.4
	Up to sixth grade	22	4.4	4.4	6.8
	Up to the tenth grade	67	13.4	13.4	20.2
	Secondary	127	25.4	25.4	45.6
	Tertiary	221	44.2	44.2	89.8
	Postgraduate	51	10.2	10.2	100.0
	Total	500	100.0	100.0	

Figure 2: Education level of women (study sample)



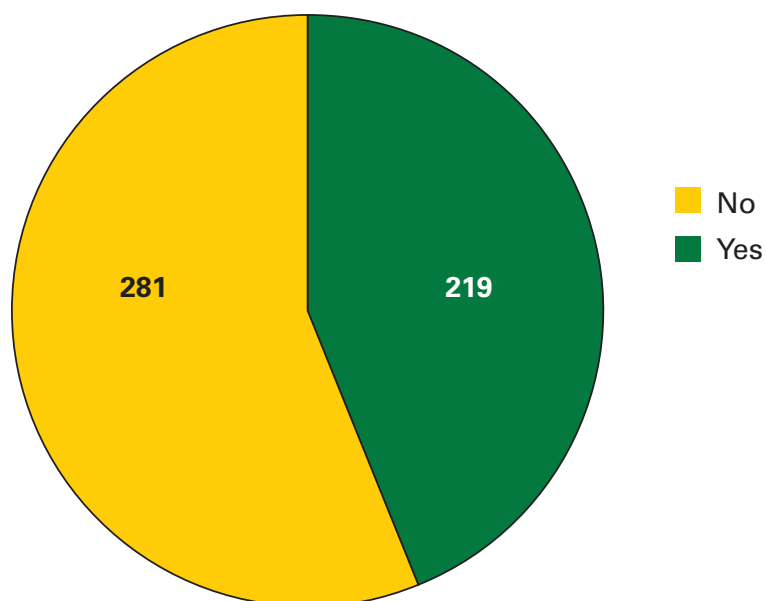
In addition, the percentage of Palestinian women in marginalized areas with knowledge of the issue of climate change reached a total of 44%, while 56.2% of Palestinian women in marginalized areas know nothing about the phenomenon.

Table 2: The extent to which women (study sample) know about climate change.

Knowledge of the phenomenon of climate change					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	219	43.8	43.8	43.8
	No	281	56.2	56.2	100.0
	Total	500	100.0	100.0	

Figure 3: The extent to which women (study sample) know about climate change.

Knowledge of the phenomenon of climate change

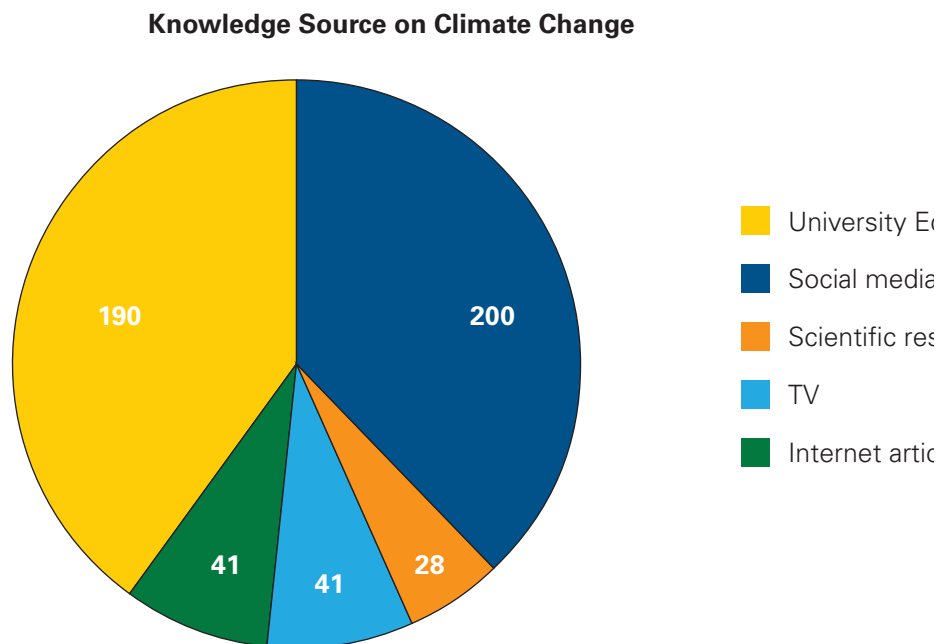


Efforts to raise the awareness of women and girls’ rights should be intensified, including through social media campaigns, and community and school-based campaigns. This is especially true since the study sample showed that the percentage choosing social media as a source of knowledge in the field of climate change is about 40% (Table 3).

Table 3: Sources of awareness of the climate change phenomenon for the study sample

Knowledge source on climate change					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Social media	200	40.0	40.0	40.0
	University education	190	38.0	38.0	78.0
	Scientific research	28	5.6	5.6	83.6
	TV	41	8.2	8.2	91.8
	Internet articles	41	8.2	8.2	100.0
	Total	500	100.0	100.0	

Figure 4: Sources of awareness of the climate change phenomenon for the study sample



First Person Accounts of Environmental Awareness

The interviews with Palestinian women conducted for this research offer a window into the lives behind the statistics.

Mrs. Samia Al-Tal is a community activist and director of a women’s association in the southern West Bank. She says that “Palestinian women, despite the technological development in the world, have the capabilities to build a safe society and environmental education in the face of climate change. But as a woman, I still face the challenges of society and its customs, and these factors still affect the role of women in protecting the environment—just as early marriage greatly affects the role of women in protecting the environment from climate change.” Bisan Samamreh, a civil engineer observes that: “The political differences between

the Palestinian and Israeli side in the marginalized areas, especially classified (C), are the main reason for limiting the development of women’s environmental awareness in these areas. Global peace and stability must spread among the peoples of the world in order for them to [exist]. Women are the main part in facing this danger [of climate change].”

Regarding the decline in the role of home environmental education for Palestinian women, sociologist Manar Muhammad noted that “The spread of unemployment and domestic violence is one of the main reasons that affect the strengthening of the role of women in environmental protection, and the lack of... home gardens is due to the concentration of women in the field of education.... If we want to achieve social justice for women in the field of facing climate change, we must eliminate the phenomenon of unemployment and political

differences in the region, spread community awareness, and educate people.”

Buthaina Al-Nasser offered the view of a woman whose work is in the home. “My husband goes to work every day from morning to evening,” she said, “and I did not know the term climate change. And when I created a Facebook account in 2010, I became aware of new information about the danger of climate change. Since that time, I have been striving to raise my children with a sound environmental education, such as cleaning public streets, not burning waste, and planting gardens—even though I am not educated, and I only know how to read and write.”

Palestinian women are not alone in this lack of awareness. In an interview with Bafaq for Environment and Development magazine, Simon Awad, Executive Director of the Center for Environmental Education, observed that “experience and familiarity with environmental issues are modest for both genders. First, there is a lack of societal interest in the environment in general. And the level of environmental awareness can be read from our culture of dumping waste on the streets, roadsides, and vacant lands. Yet women are also at the front of efforts to raise that awareness.”³

Awad said that women’s forums actually contributed to raising environmental awareness locally. Participants also proposed ideas that were later adopted by the center, including, for example, applying the use of environmentally friendly materials at home, and recycling food and plant waste to make compost.⁴

Women’s desire to exchange experiences and spread the word through social relations with their surrounding community means that each new environmentally friendly idea can spread widely.⁵

The survey and interviews conducted for this project reveal that Palestinian women’s environmental awareness remains low. They also suggest a strong correlation between differences in environmental justice and climate change.

The absence of environmental justice between the sexes increases the risks of climate change for women. At the same time, climate change represents an additional pressure factor that exacerbates existing environmental inequality between genders. There are a number of basic factors that make the effects of climate change more visible in the lives of Palestinian women, especially since women are more affected by energy poverty.⁶

As a result of the cumulative effect of rising health and safety risks arising from inefficient lighting, household air pollution, and contaminated cooking fuels, there are also challenges facing urban agriculture as a means to protect cities from rising temperatures and fluctuating rainfall.

Women’s Roles in Administrative and Societal Decision-making

The Palestinian Authority in the West Bank has sought to enhance the leadership role of Palestinian women. It has placed them in senior positions in the government, including ministerial positions, as well as other positions in the leadership of community institutions and other bodies. United Nations Women in Palestine held a virtual side event during session meeting 66 of the United Nations Women’s Committee, in which it addressed the gendered impact of climate change within the framework of the Women, Peace and Security Agenda (2022).

In the field of water management, the importance of enhancing the vital role played by

women and their participation on an equal basis with men in decision-making related to water and environmental policies is essential. Progress toward this goal contributes to enabling achieving sustainable development goals—including SDG 6, SDG 5 (on women), and other development goals.

Life in the Palestinian Territories is dependent upon water, and for this reason, the Palestinian Water Authority was keen to include gender in its strategy and implementation plan. Measures have been prepared to integrate gender equality into the water sector with the aim of stimulating the activation of women’s participation in planning, implementation, follow-up and evaluation of the water sector management.⁷

An added incentive to empower women in vital sectors, especially the water sector, is the growing interest of the international community in gender issues. The growing efforts by the Palestinian government to integrate women in various sectors—as well as the existence of specialized institutions that can be used to do so in this context—have led to a growing local awareness of the concept and role of women in the water sector.⁸

Yet despite growing attention and attempts to expand the role of women, 70% of the leaders in confronting climate change are men. It is especially surprising that Palestinian women leaders constitute only about 30% in this field when you take into account that Palestinian women are among the most educated women in the MENA region. For instance, the illiteracy rate among Palestinian women dropped to 1.5% in 2022. The leap in the educational status of Palestinian women is clear; in 1997, the illiteracy rate for Palestinian women was about 15%.

The higher level of education among women contributes to enhancing their role in administrative and community decision-making in facing climate change.⁹

In an interview conducted for this research, Akram Hamza, Mayor of Al-Dahria Municipality, said that “women working in the engineering department and development projects management constitute the main part of the municipality’s work. The engineering department is led by a woman.” This reflects the development in the leadership role of Palestinian women in marginalized areas. But there are differences. The political situation in the region and the state of economic instability greatly affects the activation of the role of Palestinian women.

Women’s Agricultural Practices and Environmental Education

A study prepared for the Palestinian Economic Policy Research Institute (MAS, 2016) revealed that 87% of working hours in agriculture are performed by women, while their production equals about 70% of the food consumed by society. This analysis recommended improving women’s status as a condition for improving the status of the agricultural sector in general—as well as achieving a minimum level of food security.

While the study highlights the prominent role of women in the agricultural sector in terms of the volume of work and production, it also emphasizes that they enjoy few benefits, privileges, and rights. For instance, there is a significant gap in women’s possession of resources, especially land. Women are deprived (at a total of 72%) of their rights in the husband’s inheritance for workers in vegetable production. Finance is also a concern. Fully 100% of women working in livestock and 88% of women working in the

agricultural sector depend on self-financing. Only 10% benefit from financing from micro-credit institutions, and only 2% get loans from banks.¹⁰

In recent years, some voices have emphasized the need to empower women in the agricultural labor market by supporting and financing private agricultural projects supervised and managed by different segments of Palestinian women as part of civil programs affiliated with civil society institutions.¹¹ Calls to adopt such an approach are rooted in an apparent weakness in Palestinian women's ability to penetrate the world of agricultural business, whether due to the limited accumulation of practical experience.

The agricultural sector offers poor prospects for Palestinian women. Although the level of female education is high, only 18% have access to job opportunities. Even more dismal is that the majority of women working in agriculture (who number about 40 thousand) do not receive wages. It is especially disconcerting because 87% of agricultural workers are women.¹²

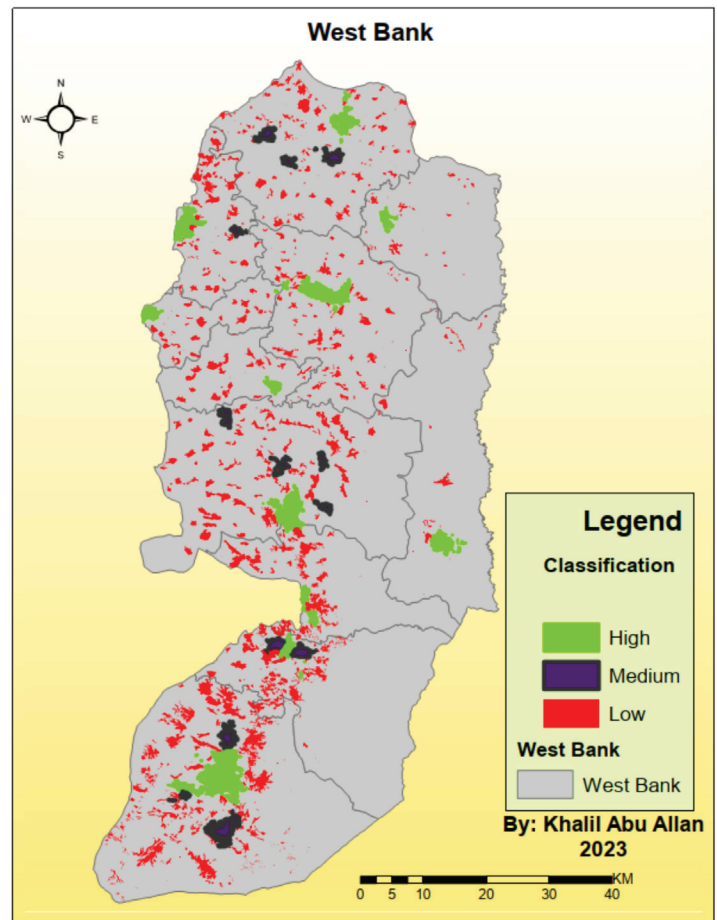
Mapping the Distribution Climate Change Awareness Among Women

The areas in the north of the West Bank have low environmental awareness. The primary reason is the impact of political differences, as well as the lack of political stability between the Palestinian and Israeli sides. This situation has greatly affected the quality of fertile agricultural lands in the north of the West Bank. (Figure 5)

It also means that farmers move away from their lands. This is especially problematic because it means women's interest in agricultural work is declining in one of the regions with the

most women working in that sector.¹³ In the southern region of the West Bank, the decline in rainfall and desert encroachment, and the impact of customs and traditions on women's work in the environmental field, have affected the leadership role of women in protecting the environment and confronting climate change.¹⁴

Figure 5: Classification: Environmental awareness in the West Bank



Creating More Climate Awareness and Equality for Palestinian Women

Individual behavioral patterns are one of the key challenges in preserving the sustainability of the environment and limiting the effects of climate change in the West Bank. Women can play an important role in achieving that sustainability through their daily practices—inside and outside the family. Environmental awareness on the part of women enables them to make sound environmental decisions, including buying environmentally friendly products or recycling waste.

Providing women with sound environmental information also helps to instill these practices in their children and involves young people in environmental awareness and education processes in general to contribute to creating a healthy and sustainable environment.

Yet it is the reality of Palestinian women in the West Bank that they still suffer from marginalization in the area of climate change. Their awareness is still somewhat weak, with a slight improvement in the level of awareness in recent years. Social media plays a major role in climate change issues in this region, as it has a positive impact on the level of environmental awareness in climate change.

The lack of funding to support modern agricultural practices and the lack of societal, developmental, and applied activities to reduce the phenomenon of climate change in marginalized areas in the West Bank is also a problem. It has led to limiting the interaction between Palestinian women and a hurdle to strengthening their leadership role in confronting climate change.

The political and administrative instability of the areas classified (C) in the West Bank also has reduced the role of Palestinian women in the agricultural sector. It also exacerbates the impacts of the rise and change in temperature, the deterioration of agricultural soil, and the decrease in green spaces. Environmental justice in these areas is nonexistent, and no aspect of environmental justice is applied in the region.

The conclusions of this study are that there must be a greater commitment to achieve environmental justice in the region and reduce political disagreements. There also is a need for greater international cooperation with the Palestinian side to raise the level of environmental awareness. Local and international institutions must further activate women's role in confronting climate change in the Palestinian Territories.

Interviews

Mrs. Samia Al-Tal / community activist and director of a women's association in the southern West Bank / June 2023

Mrs. Bissan Samamra/ civil engineer/ Samamra Foundation for Construction and Development/ June 2023.

Dr. Manar Muhammad/ Ph.D. in Sociology/ Faculty of Sharia Sciences/ June 2023

Mrs. Buthaina Al-Nasser/ housewife/ South Hebron/ July 2023.

Mr. Akram Hamza/ Mayor of Al-Dahria/ July 2023.

Endnotes

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About the Author







Khalil Abu Allan is a faculty member at Hebron University in the Department of Applied Geography. He is an expert in spatial modeling techniques using GIS and groundwater sensitivity assessment in the West Bank, in the arid and temperate regions, and in the Mediterranean Basin. Abu Allan is an alumnus of the Water Resources Management IVLP Program in 2021 and is the author of *Environmental Study of Spring Water Quality in the Zarqa Natural Reserve: West Bank, Ramallah*. He holds a master's degree in human geography, environmental development, and water resources and a bachelor's degree in geography with a minor in political science. As a versatile scholar in the management and development of water resources at the local and international levels, Abu Allan has developed leadership experience in the role of youth in managing the environment and conserving environmental resources, conservation and management of water resources.

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