



INTERNATIONAL PUBLIC POLICY INSIGHTS

The United Arab Emirates (UAE) is facing a significant environmental challenge in the form of desertification on multiple levels. It is brought on by a variety of human activities, one of which is the excessive exploitation of natural resources, which causes the soil to undergo a transformation that renders it dry and unable to support plantation. As a result, the prevention of desertification in the UAE is the primary focus of this policy. The process begins with an analysis of the current situation, followed by the statement of the primary goals, and then an evaluation of the key stakeholders who play an important part in the implementation of the suggested policy options.

THE NATIONAL POLICY OF COMBATING DESERTIFICATION IN THE UNITED ARAB EMIRATES

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*EXCESSIVE EXTRACTION OF NATURAL RESOURCES IS ONE OF
MANY HUMAN ACTIVITIES THAT CONTRIBUTE TO THIS
PROBLEM; IT CHANGES THE SOIL TO BECOME DRY AND
UNSUITABLE FOR PLANTING.*



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This Policy Insights theme on the Year of Sustainability

The "2023 Year of Sustainability" theme in the United Arab Emirates (UAE) is a significant initiative aimed at promoting and advancing sustainability in various aspects of the country's development, in addition the hosting of the Congress of Parties (COP28), in Dubai. This theme underscores the UAE's commitment to addressing environmental, social, and economic challenges while working towards a more sustainable future. Here is a brief overview of the critical aspects of the 2023 Year of Sustainability theme in the UAE:

- 1. Environmental Stewardship:** The UAE has been actively pursuing sustainability in environmental practices. Initiatives such as renewable energy projects, sustainable agriculture, and conservation efforts are expected to be highlighted and expanded in 2023. The country aims to reduce its carbon footprint and conserve its natural resources.
- 2. Green Innovation and Technology:** The UAE is known for its investments in green technology and innovation. In 2023, there will likely be a focus on promoting research and development in sustainable technologies, energy-efficient solutions, and eco-friendly transportation.
- 3. Sustainable Urban Development:** As the UAE continues to grow and urbanize, sustainable urban planning and development will play a vital role in improving quality of life and reducing environmental impact. This theme is expected to emphasize the importance of smart cities and green infrastructure.
- 4. Conservation and Biodiversity:** The UAE is home to unique ecosystems and wildlife. The Year of Sustainability will likely include conservation efforts to protect these natural treasures and promote biodiversity through initiatives like wildlife reserves and habitat restoration projects.
- 5. Sustainable Business Practices:** Encouraging businesses to adopt sustainable practices is a key element of the 2023 theme. The UAE will likely support and incentivize businesses to



implement eco-friendly policies, reduce waste, and operate with a focus on environmental and social responsibility.

6. Education and Awareness: Promoting sustainability education and raising awareness among citizens, residents, and visitors is crucial. Educational programs and campaigns are expected to be an integral part of the Year of Sustainability, fostering a culture of responsible and environmentally conscious behavior.

7. International Collaboration: The UAE has a history of collaborating with international organizations and partners to address global sustainability challenges. In 2023, the country is likely to continue its efforts to contribute to global sustainability initiatives and share its expertise with the world.

The 2023 Year of Sustainability in the UAE reflects the country's dedication to sustainability, recognizing that a balanced approach to economic growth and environmental stewardship is essential for the well-being of current and future generations. This theme is expected to have a lasting impact on the UAE's policies, practices, and its position as a global leader in sustainability.



Abstract

The United Arab Emirates (UAE) is facing a significant environmental challenge in the form of desertification on multiple levels. It is brought on by a variety of human activities, one of which is the excessive exploitation of natural resources, which causes the soil to undergo a transformation that renders it dry and unable to support plantation. As a result, the prevention of desertification in the UAE is the primary focus of this policy. The process begins with an analysis of the current situation, followed by the statement of the primary goals, and then an evaluation of the key stakeholders who play an important part in the implementation of the suggested policy options.

Abbreviations

COP – Conference of the Parties

MOCCAEE – Ministry Of Climate Change And Environment

NCM – UAEREP- National Center of Meteorology – UAE Rain Enhancement Program

SDGs – Sustainable Development Goals

UN - United Nations

UAE - United Arab Emirates

UNCCD - United Nations Convention to Combat Desertification

UNFCCC - United Nations Framework Convention on Climate Change



Background

Four major ecosystems are found in the United Arab Emirates (UAE) environment: wetlands, mountains, marine, and desert ecosystems. In the UAE, deserts dominate the landscapes and cover almost 80% of its land. It is the home of various distinct flora and fauna that adapt to harsh environmental conditions, including Houbara and Ghaf trees (Biodiversity Facts, n.d.). However, this environment is affected by various environmental issues such as desertification, one type of land degradation in which fertile lands in arid sites become unproductive. This typically happens when natural resources, including soil and water, are overburned, leading to less vegetation (Habitat: desert, n.d.). Desertification is a major environmental dilemma that occurs globally and in the UAE due to multiple factors, such as overgrazing, exploitation of natural resources, and infrastructural development. Annually, desertification and drought destroy approximately 12 million hectares worldwide (Phelan, 2022). Additionally, in 2018, the UAE recorded nearly 42,300 hectares of arable lands compared to approximately 75,000 hectares in 2002. Within the same period, the percentage of agricultural land dropped from almost 8% to 5%, negatively impacting various aspects affecting human beings and the environment (Phelan, 2022). Desertification has been identified in the UAE since the 1970s, specifically after the exploration and utilization of vast oil reserves. It is also attributed to urbanization, the rapid increase in the population, and food consumption (Phelan, 2022).

Desertification is not a natural process. It is mainly caused by land activity, which transforms the soil, making it dry and unable to support vegetation. Once it happens, the most



productive topsoil gets washed off or blown away (Slavikova, 2019). As a result, the soil will lose its vital nutrients which negatively impacts biodiversity; hence, identifying flora and fauna living in the environment is crucial to enable establishing suitable conservation measures, which can include increasing the number of conserved lands and awareness about the importance of biodiversity protection (Slavikova, 2019). Furthermore, desertification has significant environmental impacts, including increased soil salinity, permanent loss of fertile lands, and species extinction (Phelan, 2022). In the UAE, there has been a rapid increase in population along with the consumption of natural resources and urbanization, leading to land degradation and desertification. The UAE government must intervene and resolve this issue to protect biodiversity, sustain natural resources, and maintain economic growth (Environmental challenges, 2020). Desertification is a global and local environmental dilemma. A failure to resolve it could result in permanent and irreversible damage, negatively impacting food security, increasing poverty and sickness, enhancing forced migration, and destroying habitats (Environmental challenges, 2020).

In the UAE, deserts are cultural landmarks; hence, protecting lands and establishing strategies to combat desertification is crucial to sustaining economic growth and social development (Phelan, 2022). Additionally, the UAE is one of the 193 nations that adopted 17 Sustainable Development Goals (SDGs) established by the United Nations (UN) in 2015 (Sustainable Development Goals, n.d.). The UAE's government launched various programs, objectives, and indicators to be achieved by 2030. Goal 15- focuses on life on land and

promotes sustainable development, habitat protection, and combating Desertification (Moccae, 2022). Hence, the MOCCAIE (MOCCAIE) is developing several programs to protect the environment and preserve habitats in the UAE, including establishing 49 protected areas across the country to preserve habitats and protect biodiversity (Moccae, 2022).

Combating desertification will require introducing several technologies to retain soil nutrients and increase vegetation, which is challenging in the UAE due to the harsh environmental conditions and limited rain. Therefore, government intervention and support are crucial to combat desertification and ensure sustainable growth. Additionally, public awareness is a challenge to combating biodiversity, specifically with aspects related to land management (Slavikova, 2019).

Policy Issues

The Underlying Factors

Governance

The UAE has been fighting climate change since 1989. The UAE ratified the Vienna Convention on the Protection of the Ozone Layer in the same year. Then in 1995 she became a member of the UNFCCC (United Nations Framework Convention on Climate Change). The United Arab Emirates also ratified the United Nations Convention to Combat Desertification (UNCCD) in 1998. In line with international efforts to combat desertification, the UAE established the National Strategy to Combat Desertification 2014–2021 (The United Arab Emirates' Government portal, 2020). In its fight against desertification, the UAE continues to



expand its protected areas. Currently, 49 protected areas cover 15.5% of the country's land area, and tree-planting initiatives are being implemented.

In an effort to boost production, each emirate's government have over the years given farmers incentives. For instance, farmers get special funds to buy machinery and equipment as well as a 50% discount on seeds, fertiliser, and pesticides (Muttaki, 2021).

The UAE government is investing AED 2.5 billion to expand water networks to agricultural areas to distribute treated water conveniently. The network will expand cultivated areas and improve the agriculture industry's sustainability (SEBUGWAAWO, 2022). The Ministry of Climate Change and Environment of the United Arab Emirates has prioritized encouraging farmers to embrace hydroponic technology, which uses nutrient-rich water to produce plants with little to no soil. The technique prolongs the growth season, saving up to 70% of water while avoiding dangerous chemicals. To illustrate, 87 commercial farms are now utilizing this technique (The United Arab Emirates' Government portal, 2021).

In July 2018, the Ministry of Climate Change and Environment (MOCCA) introduced "The UAE's Natural Wonders," a three-phase national project. The project's initial stage aims to increase public awareness of the 43 natural reserves that account for about 14% of the UAE's total area (The United Arab Emirates' Government portal, 2022).

The establishment of eco-reserves like the Al Wathba Wetland Reserve and Mangrove National Park fosters and promotes eco-tourism by raising awareness of the distinctive habitats that exist in the nation (The United Arab Emirates' Government portal, 2019).



The UAE attended COP27 (Conference of Parties) in Egypt in November 2022 and produced many agreements and initiatives in various fields. Furthermore, the United Arab Emirates will host COP28 at his Expo City in Dubai in November 2023.

The Ministry of Climate Change and Environment plays a significant role in this war against desertification by working with government agencies and community groups to distribute roles and initiatives to achieve desired goals.

Financing

The Ministry of Climate Change and Environment is the main entity responsible for funding the programs addressing desertification. At the same time, other government organizations may sponsor certain programs or be part of a fund. For example, the Ministry of Education (MOE) and Ministry of Higher Education (MOHE) can fund the educational institutes' awareness programs. The awareness provided for the public can be divided based on the program, which can be funded by the local government Environmental Agencies which includes local municipalities in each emirate and city, environmental agencies, and Management of nature reserves. Emirates Environmental Group can also be part of the fund since they run awareness programs for the public.

Delivery

According to the National Strategy to Combat Desertification, the following measures are being undertaken in the country: community awareness campaigns and educational programs in schools to raise awareness among students; collection and analysis of all available data for analysis, evaluation, further policymaking, and empowerment. There is also ongoing in-depth



research with applied testing to develop new theories. All those initiatives are being encouraged and promoted through media campaigns.

Stakeholder Analysis

Key Stakeholders

The agencies that are involved in Policy development, implementation, and evaluation on national and international levels are the following:

- Ministry of Climate Change and Environment (Strategy and Implementation)
- National Center of Meteorology – UAE Rain Enhancement Program (NCM - UAEREP)
(Technical support)
- Local Government Environmental Agencies (local municipalities in each emirate and city, environmental agencies, and Management of nature reserves)
- Emirates Environmental Group (Awareness Support & community involvement)
- Environmental and Agriculture Private Companies (Technical Support)
- Ministry Of Education (Awareness Support)
- Ministry Of Higher Education (Awareness Support)
- Farm Owners (Citizens)
- Media Regulatory Office
- United Nations Framework Convention on Climate Change (UNFCCC)
- United Nations Convention to Combat Desertification (UNCCD)
- Conference of the Parties (COP)



Theory of Change

The intended policy options are to improve the National Policy of combating desertification in the UAE by providing technical support for farmers, to enhance agricultural practices by increasing the percentage of green lands in the country, and education campaigns for the population. The intended results would be positive trends in land cover, productivity, and trends in carbon stocks.

Policy Options & Recommendations

Policy Options to address the issue

The suggested policy options for the National Policy of combating desertification in the UAE are the following:

Option 1: Conduct awareness programs regarding the risk of desertification

It is crucial to establish informational & educational campaigns for the general population to drive awareness regarding the importance of the UAE's contribution to a sustainable future. By distributing knowledge about the risks of desertification via schools, blogs, Facebook, Twitter, Instagram, and other social media (Thelen, 2014). Additionally, the inclusion of the UAE's environmental priorities in education curriculums on various levels will instill a sense of responsibility for sustainability in young people, particularly with aspects related to preventing desertification. These tools will foster shared responsibility among UAE society and enhance their commitment to combat desertification.



Option 2: Providing technical support for farmers around the UAE.

Supporting farmers in the UAE is crucial to enhancing vegetation in the country by embracing innovative, easily available, and sustainable techniques (PIÑEIRO, ARIAS, & DEARLOVE, 2021). In the early 1970s, there were only about 4,000 farms in the United Arab Emirates. Today, there are more than 30,000 farms (Muttaki, 2021).

Encouraging sustainable land use and land management covering UAE residents is equally important will reduce issues related to excessive grazing, overharvesting of plants, soil compaction, and adopting suitable irrigation methods to avoid Desertification (Frigillana, 2016).

Option 3: Increasing the percentage of green lands in the UAE.

This option can be achieved through Cloud seeding technology and tree-planting initiatives. Thus, it will enhance the position of the United Arab Emirates in combating desertification at the international level by increasing the percentage of green lands.

Conclusion

In conclusion, it is crucial to implement the suggested policy options to combat desertification in the UAE, which will support sustainable growth and preserve its natural resources. These options align with the country's attempts to preserve habitats and protect biodiversity, which is part of (SDG15). Focusing on policy implementation's barriers and weaknesses is critical to the stakeholders. They should allocate adequate resources to support the correlated policy options and establish further research focusing on barriers to



implementing options. Consequently, this will enable the country to avoid desertification and its correlated negative consequences that will affect the current and future generations.

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