National Blue Carbon Policy Assessment
United Arab Emirates
Summary

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Abu Dhabi Global Environmental Data Initiative

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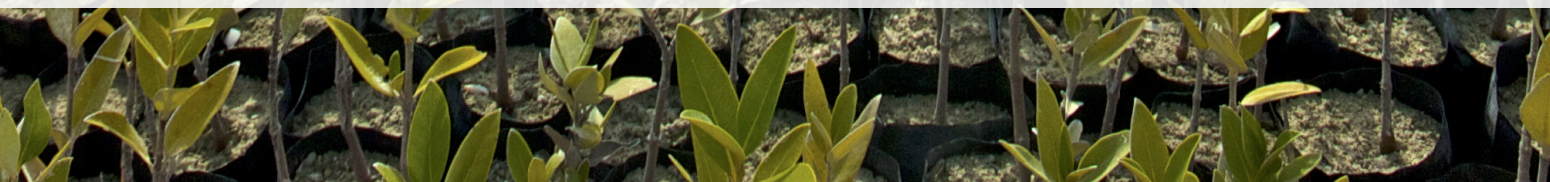
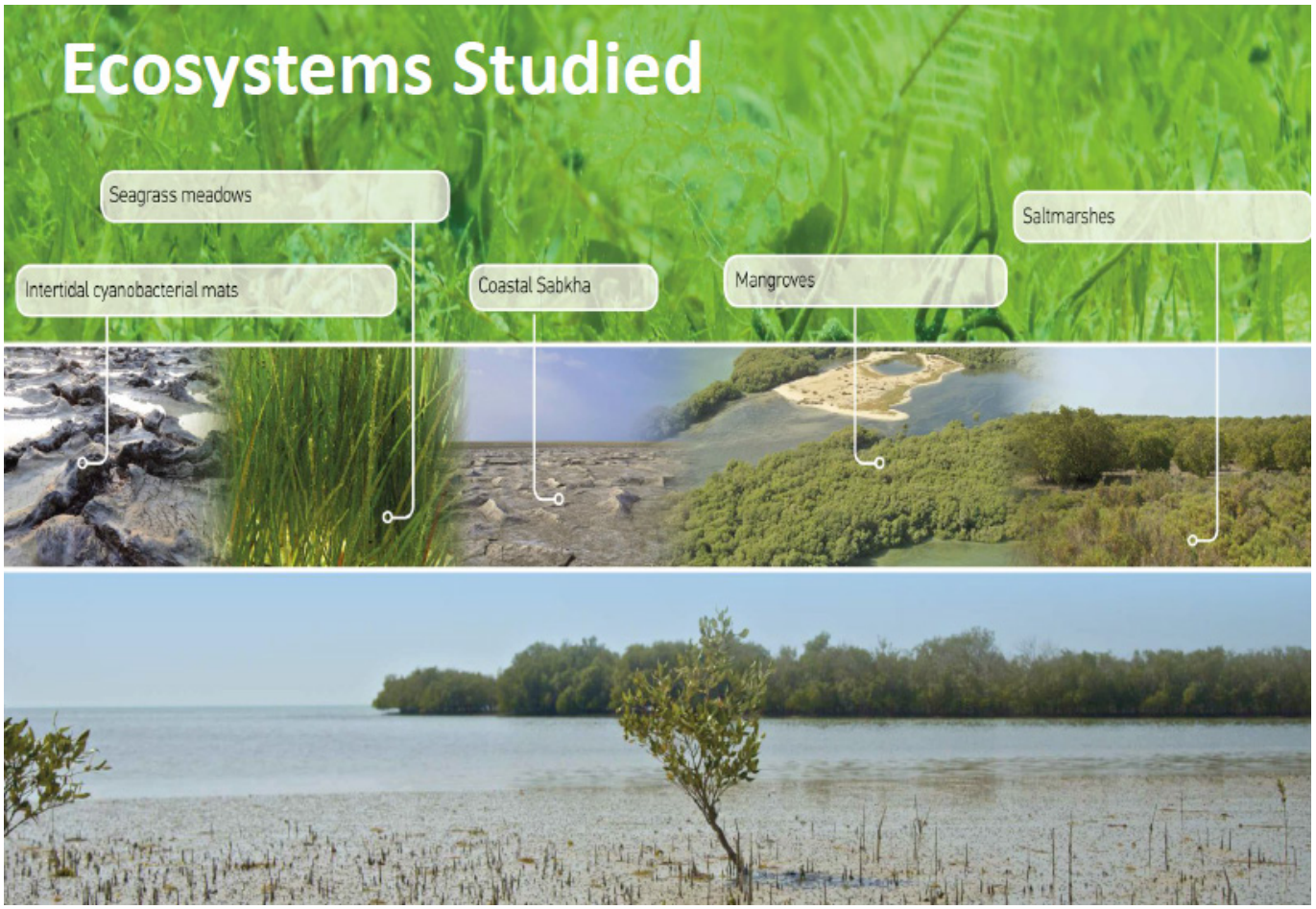


Context

Much work has been done on advancing and implementing conservation efforts in blue carbon ecosystems (mangroves, seagrasses and saltmarshes) in the United Arab Emirates (UAE) by the Abu Dhabi Global Environmental Data Initiative (AGEDI), Environment Agency Abu Dhabi (EAD) and the Ministry of Climate Change and Environment (MOCCAE) in partnership with Emirate Municipalities. Blue carbon efforts were initiated by the Regional Blue Carbon Feasibility Study and the Abu Dhabi Blue Carbon Demonstration Project. This document builds on findings of the National Blue Carbon bundled with Ecosystem Services programme, as well as Abu Dhabi's Blue Carbon Policy (Climate Policy Assessment Report) published by AGEDI as part of the Abu Dhabi Blue Carbon Demonstration Project.

Given the extensive literature on blue carbon and ecosystem services policy reviews from the UAE, the UNEP/GEF Blue Forests Project refrained from conducting a full National Policy Assessment as it did for the other project countries and focused instead on summarizing the key policy items and next steps.



[1]Coastal sabkha, the phonetic translation of the Arabic word for salt flat, qualify as associated blue carbon ecosystem. This ecosystem is a supratidal formation, formed as a result of sea-level floods that create shallow water features. When these features silt up or evaporate, they leave a flat salt pan, also known as a sabkha (UAE Interact 2014).

Coastal carbon ecosystems in the UAE

The UAE's coastal carbon ecosystems include mangrove swamps, seagrass beds, salt marshes and algal mats, as well as associated blue carbon ecosystems such as coastal sabkha[1].

Reforestation activities, started in 1972, together with natural growth, have had the potential to increase the overall mangrove extent in the UAE over the last twenty years. This potential net increase, however, can be affected by deforestation and degradation of primary mangrove forests as has occurred in numerous locations. Urban and coastal development, pollution, and potentially increased water temperature, have been the key drivers of degradation in the past (FAO, 2005).

The largest seagrass meadows can be found along the coast of Abu Dhabi covering an estimated 5,500km2 and most of them supporting more than one species of seagrass (Campbell et al, 2015, 243).

Most of the UAE salt marshes and sabkha can be found off the coast of Abu Dhabi (Goudie, 2002; UAE Interact, 2014).

High increases in dredging, reclamation, as well as pollution from uncontrolled waste disposal, shipping, and coastal development for infrastructure and desalination operations since the early 1970s appear to be among the main causes of the degradation of coastal blue carbon ecosystems.

Legal protection of blue carbon ecosystems in the UAE

The **Constitution** of the UAE declares natural resources in each Emirate as public property and their protection as a societal responsibility (Article 23) that has been pursued on both the federal and emirate level.

The federal body is the **UAE Ministry of Climate Change and Environment** (MOCCAE), recently renamed from the Ministry of Environment and Water, (The National 2016). The ministry was established in 2006 as a "federal umbrella" (UAE MoEW 2015: 13) of environmental action in the UAE.

Legislation in the UAE has been introduced on both the federal and the emirate levels with the most important environmental laws on a federal level being **Federal Laws No. 23 and No. 24**, both issued in 1999. Federal Law No. 23 mainly relates to the exploitation, protection and development of living aquatic resources in the UAE as it regulates fishing by setting up rules for licenses, practices, techniques and fishing areas. Federal Law No. 24 was the first Emirati special environment law, consisting of 101 articles covering a wide range of topics related to environmental protection.

The federal legislation marks just one layer of regulatory governance in the UAE, as regulations are also enacted at the emirate level, with the emirates maintaining a high degree of autonomy. There are also important governmental divisions at the municipal level. Within each emirate, the "baladiya", or local council, are involved in more localised issues.

Despite the existence of almost 60 areas in the UAE with some form of protection, only 13 per cent of the marine area lies under protection. The six biggest **protected areas with coastal carbon ecosystems** are: Marawah Marine Biosphere Reserve; Al Yasat Marine Protected Area; Jebel Ali Marine Sanctuary; Sir Bu Nair Island, Sharjah; Ras al Khor Wildlife Sanctuary, Dubai; Mangrove and Alhafeya Protected Area in Khor Khalba, Sharjah; and Al Wathba Wetland Reserve, Abu Dhabi.

At the Emirate level, other than the creation of protected areas, there are no specific laws addressing blue carbon elements. The Abu Dhabi Emirate, however, applies a general **mangrove compensation policy**, which requires the afforestation or reforestation (together "A/R") of two trees for every mangrove tree destroyed. EAD is reassessing that policy placing a stronger focus on conservation, considering that the growth process for mangroves (including in terms of GHG sequestration) is long, that the immediate mangrove loss also implies the loss of multiple ecosystem services, and that A/R activities require complex and expensive monitoring tasks to secure full compliance.

The UAE is a signatory to multiple **international agreements**, including the Paris Agreement on Climate Change since April 2016, the Kyoto Protocol since 2005, and the UNFCCC since 1995. It signed the Convention on Biological Diversity in 2000 and has been declared a special area under the convention for cooperation on the protection of the marine environment from pollution (MARPOL). UAE has also joined the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) created in 2012.

As special efforts have been made to save the dugong as an important marine mammal that inhabits the coasts of the region, the UAE actively promoted the conclusion of a **memorandum of understanding on the protection of dugongs** and their natural habitats – notably seagrasses – across regional countries ("Dugong MOU").

Policy objectives and incentive schemes for blue carbon ecosystems in the UAE

Under the late Sheikh Zayed bin Sultan al Nahyan, the first public afforestation policy was heralded with the emirate's first artificial forest in Madinat Zayed in the Western Region.

In their **Intended Nationally Determined Contribution** (INDC), now recognized as NDC, the UAE announced the development of strategies and plans to improve coastal blue carbon ecosystems and to minimize anthropogenic impacts through large restoration and plantation efforts of mangroves and seagrasses (UAE INDC, 2015).

Abu Dhabi Emirate is using the 2013 IPCC Wetlands Supplement[2] and its specific advice on coastal ecosystems to include emissions by sources and removals by sinks from blue carbon ecosystems in their 2016 GHG inventory[3]. The UAE is expanding this for the following national level GHG report and its next National Communication to the UNFCCC. The UAE is currently developing a comprehensive **Climate Change Strategy** which will build on the Vision 2021 and the Green Growth Strategy. The new framework is expected to ensure coherent development and implementation of adaptation measures both at the national and local levels, including those pertaining to blue carbon ecosystems.

Vision 21 is a document prepared by federal and Emirate-level officials that outlines national development goals and indicators for 2021, the year the UAE will celebrate its 50th anniversary. This plan builds on other emirate-level initiatives, including

[2]2013 to the 2006 IPCC GUidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Supplement)
[3]Report under peer review by time of writing

the Abu Dhabi Vision 2030, Dubai Integrated Energy Strategy 2030, Dubai Plan 2021, Ajman 2021 Vision, and Fujairah Master Plan 2040 and includes the drive towards a sustainable and diversified economy, including a movement to a future less reliant on oil.

The **Strategic Plan 2014-2016**, adopted by the Ministry of Climate Change and Environment (former Ministry of Environment and Water), aims to integrate the management of ecosystems and natural resources.

The **UAE Green Agenda 2015-2030** was launched in January 2012 (originally named the UAE Green Growth Strategy). This strategy looks to align environmental and economic development goals through six focus areas, including Green Energy and Green City by Climate Change, among others. It aims to put forward the country's ambition to become a global hub and a successful model for the low-carbon green economy so as to enhance the competitiveness and sustainability of its development and preserve its environment for future generations.

The **National Biodiversity Strategy and Action Plan** (NBSAP) of 2014 includes a number intervention actions relevant for blue carbon ecosystems, most importantly an initiative to diversify the mangrove species across the UAE and linked to Aichi:

> **TARGET 11.** By 2021, at least 50% of degraded habitats are undergoing restoration to help mitigate against the impacts of climate change and combating desertification.
>
> **TARGET 12.** By 2021, at least 90% of restoration plans for degraded ecosystems that provide essential services have been implemented.
>
> **TARGET 18.** By 2018, action plans are developed and implementation started to minimize the additional anthropogenic impacts on marine ecosystems sensitive to climate change.

In 2008, Abu Dhabi developed its **Maritime Strategy 2030** with the overall objective to create a simple and up-to-date regulatory framework for planning in maritime, marine and coastal areas in Abu Dhabi. It is being implemented in cycles, the first of which was the Abu Dhabi Maritime Strategic Plan 2012-2016.

The Maritime Strategy 2030 also laid the groundwork for the emirate's Integrated Coastal Zone Management (ICZM).

The most significant and extensive government initiative to date in the field of climate change and land-use / coastal ecosystems is that of the **Blue Carbon Demonstration Project of the Emirate of Abu Dhabi**, launched in 2012.

The programme was expanded to the national level in partnership with MOCCAE to include carbon estimation of northern and eastern Emirates mangroves and the expansion of its ecosystem services and coastal vulnerability index work.

Main opportunities

The Abu Dhabi Blue Carbon Demonstration Project identified a number of policy and finance-focused recommendations, which can be up scaled to the national level and are expected to impact the UAE's blue carbon ecosystems positively. Based on these, the following opportunities stand out:

Policy

Ensure the suite of ecosystem services of blue carbon ecosystems is acknowledged and incorporated into ongoing policy and regulatory processes:

- Nationally Determined Contribution (NDC);
- National Climate Change Strategy;
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

Such processes would best target the key drivers of degradation, in particular, urban sprawl and pollution and conceive both ring-fenced command-and-control and incentive mechanisms. The legal framework for blue carbon ecosystem conservation and restoration could be stronger in this respect, formulate negative lists ("red lines") and offer a preference for conservation over A/R compensation. The specific needs of blue carbon ecosystems – currently only mentioned in passing by Laws No 23 and 24 – could be specifically addressed.

Investment

Create a national Blue Carbon Specialised Fund to improve the protection and management of critical ecosystems (as suggested by the Abu Dhabi Blue Carbon Demonstration Project);

Participation of business and civil society – through incentive mechanisms such as PES (payment for ecosystem services) and others – will be important in the future. UAE has a particular advantage over many other countries rich in blue carbon ecosystems, in that it holds considerable in-country investment capacity and know-how. Enhanced business engagement will not happen naturally; rather, the government could set additional incentives or provide PES instruments, through imposing a tourism and/or blue carbon preservation levy, which could directly feed the Specialised Fund.

Science

Establish a Blue Carbon Ecosystem Observation System by continued monitoring for blue carbon and ecosystem services and creating a data toolkit;

Maintain robust inventories, comprehensive data and knowledge infrastructure to ensure highest standards for data collection, management, and processing;

Develop research plans to continue field work to further populate the existing blue carbon inventory as well as building capacity of local laboratories for data analysis;

Perform a thorough valuation of blue carbon ecosystem services, including national natural capital mapping;

Establish blue carbon ecosystem management objectives in close consultation ("consensus") with stakeholders (public and private) and, on that basis, formulate a blue carbon management plan;

Identify blue carbon ecosystem priority areas;

Establish a regional scientific working group on blue carbon and ecosystem services;

Establish an international blue carbon secretariat around data and information (ideally in the City of Abu Dhabi).

Communication

Promote awareness for blue carbon ecosystem needs, threats and intervention options.

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About the UNEP/GEF Blue Forests Project

The Global Environment Facility's (GEF) Blue Forests Project is a global initiative focused on harnessing the values associated with coastal marine carbon and ecosystem services to achieve improved ecosystem management and climate resilient communities. The project is implemented by the United Nations Environment Programme (UNEP) with partners worldwide. Project sites include locations in Ecuador, Kenya, Madagascar, Mozambique, Indonesia, the United Arab Emirates, Thailand, and the United States of America. The project also addresses key 'blue forests' knowledge gaps, as well as providing experience and tools to support greater global replication and application of the blue forests methodologies and approaches.

Project website: www.gefblueforests.org

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