

Legislations, Administrative constraints, Governance, Financial resources and mechanisms

Lebanon scale





Co-Evolve4BG

Analysis of Threats and Enabling Factors for Sustainable Tourism at Pilot Scale

Legislations, Administrative constraints, Governance, Financial resources and mechanisms

Lebanon scale



جمعية أمواج البيئة
AMWAJ NGO



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OVERVIEW

The present document was produced in the framework of **Co-Evolve4BG** project “*Co-evolution of coastal human activities & Med natural systems for sustainable tourism & Blue Growth in the Mediterranean*” in relation to Threats and Enabling Factors for maritime and coastal tourism development on a national scale” Co-funded by ENI CBC Med Program (Grant Agreement A_B.4.4_0075).

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REVIEW

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List of abbreviations

CAMP	Coastal Area Management Program
CBD	Convention on Biological Diversity
DAR-IAURIF	Dar Al Handasah - Institut d'Aménagement et d'Urbanisme de la Région de l'Ile-de-France
EIA	Environmental Impact Assessment
IEE	Initial Environmental Examination
FAO	Food and Agriculture Organization of the United Nations
FFEM	Fonds Français pour l'Environnement Mondial
GFCM	General Fisheries Commission for the Mediterranean
GIS	Geographical Information System
GoL	Government of Lebanon
IMAC	Integrated Management of East Mediterranean Coastline
IUCN	International Union for Conservation of Nature
MAVA	MAVA Foundation
MEDWETCOAST	Conservation of Wetlands and Coastal Zones in the Mediterranean
MOA	Ministry of Agriculture
MoC	Ministry of Culture
MoIM	Ministry of Interior and Municipalities
MOE	Ministry of Environment
MPA	Marine Protected Area
MoTPW	Ministry of Transport and Public Works
MoT	Ministry of Tourism
MWC	MedWetCoast Project
NAP	National Action Plan
NBSAP	National Biodiversity Strategy and Action Plan
NCSR	Northwest Center for Sustainable Resources

NGO	Non-Governmental Organization
MPA	Marine Protected Area
PINR	Palm Islands Nature Reserve
RAC/SPA	Regional Activity Centre for Specially Protected Areas
RAMSAR	The Convention on Wetlands of International Importance, especially as Waterfowl Habitat
SAP-BIO	Strategic Action Plan for the Conservation of Biological Diversity in the Mediterranean Region
SISPAM	Sustainable Institutional Structure for Protected Areas Management
SPAMI	Specially Protected Areas of Mediterranean Importance
TCNR	Tyre Coastal Nature Reserve
UNDP	United Nations Development Program
CDR	Council for Development and Reconstruction
EDL	Electricité du Liban
GDP	Gross domestic product (growth of country's economy)
UNESCO	United Nations Educational Scientific and Cultural Organization
UNIFIL	United Nations Interim Forces in Lebanon
UNEP	United Nations Environment Program
UNWTO	United Nations World Tourism Organization

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Objective

The aim of this report is to provide detailed information to support authorities to achieve sustainable tourism operations in the protected areas; to bring benefits to conservation, tourism, and other purposes for which the protected areas have been declared; and to adopt the proper mitigation measures to stop the negative impact of human activities and advocate national and local governance over natural resources.

I. Introduction

Tourism is one of the world's fastest growing industries, as well as the major source of foreign exchange, earnings, and employment for many countries, including the developing ones, and it is increasingly focusing on natural environments and the existing resources. However, tourism is a double-edged activity as it has the potential to contribute in a positive manner to socio-economic achievements and at the same time it is sometimes a fast and uncontrolled process which can be the major cause of degradation of the environment and loss of local identity and traditional culture.

Biological and physical resources are in fact the assets that attract tourists. However, the stress imposed by tourism activities on fragile ecosystems accelerates and aggravates their depletion. Paradoxically, the very success of tourism may lead to the degradation of the environment and natural resources. This leads to the reduction of the site's attractiveness to tourists and the commodity that tourism has to offer.

As far as economic benefits are concerned, tourism certainly constitutes an opportunity for socioeconomic development, economic diversification, and the growth of related activities, especially in developing countries. Tourism is also a major source of income and employment. It can be based on the natural environment (nature tourism) which is a vital growing segment of the tourism industry and, despite the negative impacts and given the fact that tourism generates a large percentage of income and that a growing number of the activities are nature-based, tourism does present a significant potential for realizing benefits in terms of the conservation of biological diversity and the sustainable use of its components (*e.g.*, ecotourism).

II. Tourism planning and governance

II.1. Planning approach and governance at the international and national levels

Tourism has for many years been focused on mountain and coastal areas. Pressures from tourism activities on biological resources and their diversity have been well pronounced in many regions. Tourism activities have a major impact also on the marine and coastal environments, including the resources they host and the diversity of their resources. Most often, those impacts are due to inappropriate planning, irresponsible behavior by tourists and operators and/or lack of education and awareness of the impacts, existence of natural processes (*e.g.*, erosion, sea level rise, *etc.*), and lack of environmental legislations and laws.

Socioeconomic and cultural impacts of tourism include influx of people and the related social degradation, impacts on local communities and on cultural values. Thus, increased tourism activities can cause an influx of people seeking employment or entrepreneurial opportunities, but who may not be able to find suitable employment. As a result, this leads to social degradation, especially from the demographic aspect of view. Sudden loss of income and jobs can also be experienced in times of downturn if the economy is not diversified and relies heavily on tourism. When tourism development occurs, economic benefits are usually unequally distributed among members of local communities. In the case of foreign direct investment, much of the profit may be transferred back to the home country. Therefore, tourism can increase inequalities in communities and relative poverty. It has a highly complex impact on cultural values. However, tourism activities may lead to intergenerational conflicts and may affect gender relationships, whereas traditional practices and events may also be influenced by the tourist preferences. Tourism development can lead to the loss of access by indigenous and local communities to their land and resources as well as sacred sites (CBD, Biodiversity and Tourism, 2007).

II.2. Tourism in Lebanon

The Lebanese tourism industry has been one of the main growth engines in its local economy and continues to be a major revenue generator for the country. Lebanon is renowned for being one of the top tourist destinations thanks to its strategic geographical position, rich historic sites, mild climate and the quality of its services (IDAL, *Invest in Lebanon*, 2019). Lebanon's natural features and diverse landscape offer a wide range of outdoor activities: skiing, hiking, swimming, camping, caving, skydiving, parachuting, canoeing, bungee jumping, *etc.*

Therefore, the development of tourism industry in Lebanon is based on the following characteristics:

- Lebanon is an ancient land who served for centuries as a sanctuary for persecuted religious groups. Those groups left a heritage of a rich mosaic of religious beliefs, diverse traditions, and a vast amount of Christian and Islamic sanctuaries and holy places.
- Lebanon is a leading center for medical tourism in the region attracting foreign patients from all over the world. It offers an unparalleled wealth of medical resources at a very affordable and competitive cost. The country is known for its specialized physicians and surgeons, advanced medical services, highly experienced nursing staff, internationally accredited hospitals, and ideal climate.
- Lebanon's rich cuisine, vibrant nightlife, world class hotels, wide range of festivals, and many other factors, have made it one of the most visited countries for tourism in the Middle East.
- The remarkable natural features (*e.g.*, snow, forests, grottos, *etc.*) have a major role in tourism attraction to Lebanon.
- The mild climate of Lebanon makes it a distinguished place for tourists, where four weather seasons with moderate temperatures are witnessed.

Besides, some threats emerged lately and struck the tourism sector in Lebanon. The main threats are now including:

- Security and political challenges continue to be Lebanon's primary concern.
- Lebanon is already facing its worst economic crisis; a now-lifted coronavirus lockdown has also devastated local businesses.

International organizations and experts encourage Lebanon to proceed with bold administrative reforms to address acute social problems and modernize its business environment.

III. Ecotourism in Protected Areas: a sustainable development

III.1. Concept of Ecotourism and its role in sustainable development

Ecotourism is more than a definition. It is nature-based tourism. It is a tool for the protection of natural resources and sustainable development. It is also responsible for travel to natural areas that are sustainably managed by the local population. It is tourism of committed enjoyment with nature and its components, which is carried out without disturbing the ecosystems and without any negative impact on the components of biological diversity.

It chronicles ecotourism at the beginning of the twentieth century, when the population of the developed world became more aware of the dangers of urbanization, industrialization, modernization, and materialism. Within the framework of the World Tourism Day held in Quebec in 2002, the participants concluded that the sustainability of tourism should be a top priority for their conference for its great contribution to poverty alleviation and the protection of endangered ecosystems (World Tourism Day - UN, Canadian travel news, 2002).

The importance of ecotourism also lies in its effective contribution to preserving the natural and cultural heritage, the existing natural resources, the involvement of local and indigenous communities in their planning, development and contribution to their conservation.

Tourism is believed to be the opposite of the environment, as tourism benefits from environmental components and may even deplete them if there is no radical change in tourism itself, especially, in developing countries who are trying to attract intense foreign tourism to their lands in order to secure financial resources, regardless the depletion of their environmental resources.

Ecotourism focuses on enjoying the viewing of ecosystems and their animal and plant living components in their natural habitat, such as bird watching, playing sports such as walking, mountain climbing, and diving. Tourists can also enjoy the historical, cultural and heritage features. In Addition, ecotourism aims at enjoyment and acquaintance in a more sophisticated way and less harmful to the environment because it is clean green tourism and responsible tourism that is ruled by reason and sustainable.

III.2. Development of Ecotourism in Lebanon

The rich culture and history of Lebanon have placed it on the “must see” list of every world traveler, while the Lebanese cities are among the most famous names in ancient history and majestic ruins still stand today as a testimony to the greatness of the people who lived there.

The nature of Lebanon makes it the only country in the Arab World that embraces four seasons yearly. In the winter season, ski resorts offer tourists slopes that are comparable to even the best resorts in Europe. In summer, international festivals all over the country - in Baalbek, Byblos, Beiteddine, Batroun, Tyre, and Jounieh – bring together Lebanese and foreign artists to perform in stunning archaeological and historical sites.

These events have given Lebanon an enviable place on the cultural map of the Middle East. Visitors to Lebanon enjoy outstanding service in world-class hotels and resorts, restaurants, casinos, theaters, cinemas, nightclubs, and luxury shopping centers. Lebanon also offers access to cutting-edge medical centers (Destination Lebanon, Discover Lebanon, Ministry of Tourism - Lebanon).

Ecotourism is based on various attractive elements and components, most of which are available in Lebanon. The forms of ecotourism in Lebanon are as follows:

- The ecological natural factors that include the vital elements and systems of plants and animals and natural features such as lands, caves, forests, and rivers.
- Climatic, which can be transformed into eco-tourism components, such as wintering, summer, snowboarding and stargazing.
- Material cultural factors such as antiquities and heritage and historical sites, in addition to non-material cultural factors such as customs, traditions, folklore, dress, art galleries and art museums.
- Sports tourism and environmental entertainment, such as walking in nature, climbing, swimming, water skiing, kayaking, camping, and other sports.
- Diving to see the sunken monuments along the Lebanese coast, especially on the coast of Tyre, and close to the Tyre Coast Nature Reserve (TCNR).
- The nature reserves and marine nature reserves (*e.g.*, PINR & TCNR) in Lebanon pay attention to tourists, as they are the most important elements of environmental and tourism advertisement.

III.3. Ecotourism and Marine Protected Areas: A Possible Synergy to Achieve Sustainable Tourism

III.3.1. Marine protected area

A marine protected area (MPA) involves the protective management of natural areas according to predefined management objectives. MPAs can be conserved for several reasons including economic resources, biodiversity conservation, and species protection. They are created by delineating zones with permitted and non-permitted uses within that zone (IUCN, 2019). MPAs include marine parks, natural reserves and locally managed marine areas that protect reefs, seagrass beds, shipwrecks, archaeological sites, tidal lagoons, mudflats, saltmarshes, mangroves, rock platforms, underwater areas on the coast and the seabed in deep water, as well as shallow water (Park Australia, benefits of Marine protected areas).

In 1988, The World Conservation Union (IUCN) General Assembly called upon national governments, international agencies, and the non-governmental community for the protection, restoration, wise use, understanding and enjoyment of the marine heritage of the World through the creation of a global, representative system of MPAs and through management in accordance with the principles of the World Conservation Strategy of human activities that use or affect the marine environment. In many parts of the World, there is a growing focus and appreciation of the need for more MPAs and for better management generally of coastal and marine environments (Park Australia, benefits of Marine protected areas).

III.3.2. Significance of protected marine areas

Modern technology has increased the range of access to marine environments, supporting industries such as fishing, tourism, aquaculture, and the development of new forms of pharmaceutical drugs from marine biodiversity. However, unless managed sustainably, the uses and users of marine ecosystems can threaten, change, and destroy the very processes and resources that they depend on. Yet, the current management systems are failing to maintain the productivity, biological diversity of marine ecosystems. The consequences of this failure are serious and can be seen in impacts on the longstanding and widespread use of marine resources for seafood. The global fish catch has been in consistent decline since 1989 and the downward trend is projected to continue (Park Australia, benefits of Marine protected areas).

Marine biodiversity, ecosystems and resources are also threatened by impacts from land effluents through pollution by nutrients, chemicals, oil residues and sediments.

They are sites for scientific study and can generate income through tourism and sustainable fishing. MPAs provide a range of benefits for fisheries, local economies and the marine environment including:

- Help protect important habitats and representative samples of marine life,
- Assist in restoring the productivity of the oceans and avoid further degradation,
- Conservation of marine biodiversity and ecosystems,
- -Arresting and possibly reversing the global and local decline in fish populations and productivity by protecting critical breeding, nursery and feeding habits,
- Raising the profile of an area for marine tourism and broadening local economic options,
- Providing opportunities for education, training, heritage, and culture.

III.3.3. The role of MPAs in protecting marine habitats and biodiversity

Properly designed and managed MPAs play important roles in:

- Conserving representative samples of biological diversity and associated ecosystems,
- Protecting sites with minimal direct human impact to help them recover from other stresses such as increased coastal erosion,
- Protecting settlement and growth areas for marine species to provide spill-over addition in adjacent areas,
- Providing focal points for education and knowledge dissemination about marine ecosystems and human interactions with them,
- Providing undisturbed control or reference sites serving as a baseline for scientific research and for design and evaluation of management of similar areas. 'No-take' MPAs are free from fishing and harvesting and, as far as practicable, protected from other human impacts are an essential component of ecosystem-based management of the oceans.

III.3.4. Conserving biodiversity and ecosystems

Some change on coastal and marine ecosystems happens on a timescale. The significance of biological diversity and ecosystem processes is only appreciated after they have been lost or damaged. Without measures such as MPAs and 'no-take' reserves, marine biodiversity is likely to be lost before its existence.

Most species and biological communities have evolved some capacity to survive or recover after periodic stresses, such as high or low salinities, temperatures, or severe storms. In this regard, applied research into high temperature-induced coral bleaching suggests that corals from areas with low stress from human activities have a higher capacity to recover and are less likely to suffer or be killed by extreme coral bleaching.

Maintaining representative samples of marine ecosystems in intact condition, aiming for them to be self-sustaining and able to adapt to incremental changes in ocean climate, is a prudent investment for the future. While, maintaining a comprehensive gene pool of marine species, covering their natural ranges of populations and their functions, will help ensure the broadest possible variety of biodiversity options for the future (Park Australia, benefits of Marine protected areas).

III.3.5. MPAs and tourism

Tourism is now a primary source of income in many developing countries and frequently exceeds the value, particularly the foreign currency value, of marine fisheries in those nations. Despite the importance in tourism of the quality of the natural environment, coastal and marine tourism areas are vulnerable to hasty and inappropriate development. The components of coastal and marine environments that are important for tourism include clear water, clean sandy beaches, and opportunities to view marine life.

Well-managed marine protected areas are often major tourist attractions. An important attraction element for many visitors is to view abundant marine life from observatories, with glass-bottomed boats, and scuba diving. The establishment of a marine protected area is an excellent way to raise the profile of an area for marine tourism and to broaden the local economic options. It is important that the introduction and development of tourism is carefully planned to ensure that it is acceptable and sustainable for the local human communities. The involvement of local communities with appropriate training and support can gain additional economic benefit through managing the MPA and involvement in businesses that take visitors to the marine reserve, as well as receiving the benefits of improved local fishing. Experience in many countries shows that protected areas often earn significant revenue and make an important contribution to local economies (Park Australia, benefits of Marine protected areas).

IV. Evolution and governance on the Lebanese coast

IV.1. MAP and the vision of the tourism sector in Lebanon

The tourism sector was identified by the Lebanese Government as one of the priority sectors to be supported to stimulate economic growth; subsequently the marine environment, as a major component of the tourism sector, is important to the society and the economy. It represents a form of natural capital providing value in stocks and flows of goods and services, directly as seafood, pharmaceuticals, oils, and additives. It also supplies many services, some of which are significant to human health, such as ecosystem resilience, genetic diversity, and aesthetic appreciation. There are also indirect benefits (*e.g.*, biological support and water and air purification) and passive-use benefits (*e.g.*, the satisfaction that we get from knowing that the environment has been preserved for future generation) influence our decisions to exploit or to conserve marine resources (Ministry of Environment website).

Marine and coastal tourism is one of the growing areas within the World's largest industry. Yet despite increased awareness of the economic and environmental significance of marine and coastal tourism, it is only in recent years that a substantial body of research has emerged. Tourism's footprint can be significantly reduced by cleaner production and sustainable consumption patterns.

Travelers, tourism operators, investors and professionals all have an inherent interest in the conservation and sustainable use of biodiversity resources; it is one of the industry's main assets. Sustainable planning and management are in the industry's long-term interest. In fact, not only can tourism directly help finance the conservation and sustainable use of biodiversity, but it has also proven to be one of the most effective public awareness raising tools for environmental protection.

The Mediterranean Region is one of the most intensely and historically important regions on the planet with 7% of the World's population living along the coast of the Mediterranean Sea, which is highly impacted by 32% of international tourism (IUCN, 2017).

IV.2. Regional overview

The Middle East has a strong and vibrant travel and tourism sector, demonstrated by its high contribution to regional GDP. In 2018, the travel and tourism sector accounted for 7.5% (Figure 1), the eighth highest contribution (WTTC, 2018). The tourism sector in the Middle East was hard hit following the socio-political turmoil witnessed starting in 2010. However, it had the first largest tourism investment share worldwide in 2018, an indicator of the sector's positive prospects and significance in contributing to overall economic growth.

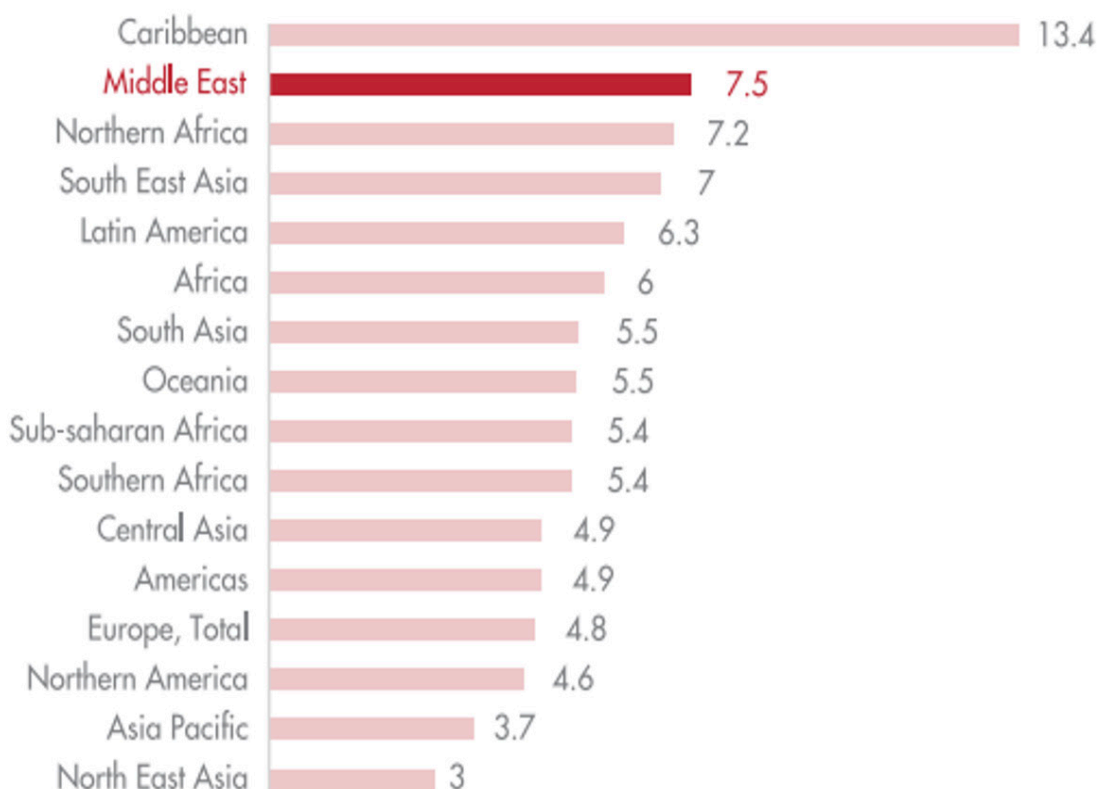


Figure 1. Travel and tourism investment (%) per region – 2018 (WTTC, 2018).

The Lebanese coastline extends over 240 km which constitutes around 8% of the total area of the country, comprises 33% of the total built-up area in the country and hosts 55% of the total population. The Lebanese coastal zone is part of the Mediterranean Region that is considered a global biodiversity hotspot. It supports an amazing diversity and abundance of marine life and human activities, contributing to the Lebanese economy and offering enormous potential for future economic, social, and cultural benefits.

In the coastal zones of Lebanon, the industrial sector is considered the most developed sector, and it is the main contributor to the coastal economic activity. For example, the industrial activities in northern coast of Lebanon provided almost 57.5% of the partial GDP in 2015 followed by the energy and water supply sector (14.5%), market services (including mainly tourism) with 12.1%, agriculture in terms of fishing and extraction (7.5%), government (mainly municipalities) with 6.8%, and finally transportation and communications (1.7%) (IDAL, Invest in Lebanon, 2019).

Lebanon, with its small surface area (10,452 km²), occupies a central position within the eastern Mediterranean Basin. A privileged crossroads between Europe, Asia, and Africa, it is located a few hours flight from most Arab countries, North Africa, and Europe. Lebanon, a thousand-year-old passageway, is a bridge between East and West.

IV.3. Local overview

In Lebanon, the direct contribution of travel and tourism to GDP reached USD 3.8 billion in 2018, accounting for 7% of Lebanon's GDP. Whereas the total contribution of the tourism sector (direct and indirect) was estimated at USD 10.4 billion or 19.1% of GDP – the second highest ratio in the Middle East (Figure 2; IDAL, Invest in Lebanon, 2019).

IV.4. Tourism-related issues in the Lebanese coast

Challenges on the coastal zone of Lebanon have been well demonstrated in following project reports:

- Report on climate and morphology stability,
- Report on pollution and anthropogenic pressures,
- Report on safety and security challenges.

Lebanon's coast is vulnerable to destruction due to several physical and man-made processes, such as (but not limited) sea level rise, erosion, extraction of sand from beaches, establishment of ports, recreation, and encroachment on public lands, *etc.* Small numbers of sandy beaches are left in good condition in Batroun, Jbeil, Al Muaameltein, and the white Sand in Beirut and Tyre in the south.

Also, the threats extended to the great potential offered by the coast already exist, such as uncontrolled urban sprawl, increased privatization of the shorefront, reduced public access to the beach, solid waste dumping, wastewater discharges, sea filling and sand extraction.

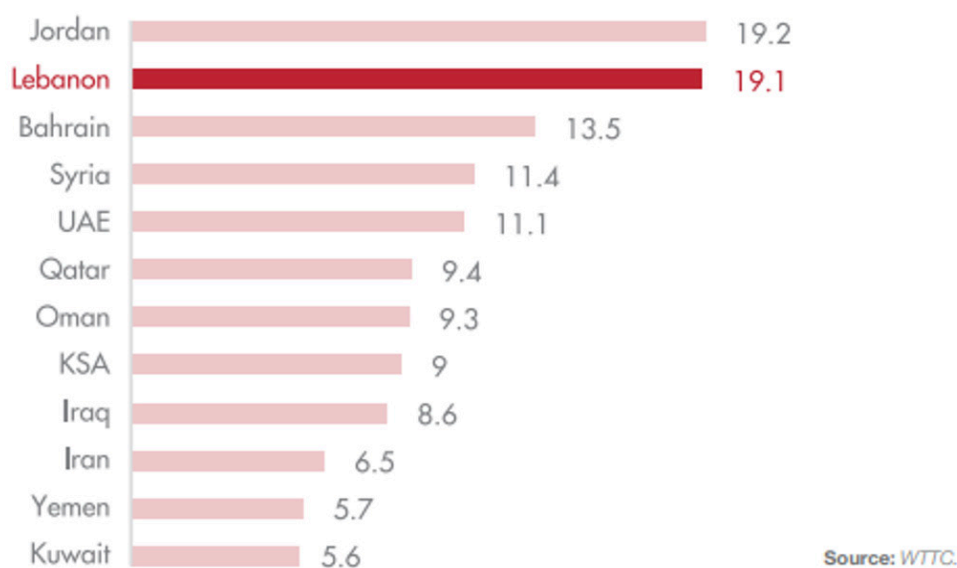


Figure 2. Travel and tourism total contribution to GDP – 2018
(IDAL, Invest in Lebanon, 2019).

Furthermore, the increased interest in the use of the coastal zone and its resources has led to conflicting interests among different coastal users. If immediate and appropriate measures are not taken to mitigate the impacts generated by natural and man-made processes, the marine environment along the coast and the quality of life of its inhabitants will deteriorate.

Another striking aspect of issues along the coast of Lebanon is the marine pollution which exposes a variety of pollution sources including wastewater effluents, chemical and medical wastes, oil residue, thermal water and sediments from rivers and streams. However, the frequent events of oil spills often exist, such as in the case of 2006 and lately in 2021.

After this, several activities were undertaken to clean up the sea and shoreline, followed by additional measures to maintain healthy and productive sea ecosystems which allow the Lebanese to benefit from the economic, environmental, cultural, and recreational services that their sea has to offer.

The marine and coastal ecosystem in Lebanon has been threatened by a multitude of factors that have caused the loss of species, the fragmentation or destruction of habitats including urban sprawl, industrialization, domestic wastes, tourist establishments, sand and pebble extraction, sand dredging, sea filling, water pollution, illegal and discriminated fishing.

The status of the marine ecosystems in Lebanon will become worse if no measures are taken.

There are many threats and dangers to the marine life and its biodiversity due to:

- The scarcity of scientific knowledge and data about marine biodiversity among scientists and stakeholders.
- Fragmentation of the coastal zone including public domains due to the increasing sea and public domains encroachment.
- Chaotic and rapid Urban sprawl due to population growth, increasing the pressure on the country's coastal and marine natural resources.
- Overfishing and illegal fishing.
- Land and seawater pollution.
- Lack to engineering protection controls to secure the shoreline stability.
- Overexploitation of coastal groundwater aquifers, where seawater intrusion is well pronounced.

Furthermore, there are few baseline studies that document the ecosystem components, ecosystem services and characteristics, as well as the series of harassments along the coast impede a proper evaluation and understanding of the short term, long term, and cumulative impact of these ongoing changes. Moreover, the limited financial resources and institutional corruption, the weak and overlapping institutional mandates and law texts, the absence of political will and the limited expertise in marine ecosystems hinder

the effective management of the marine ecosystems for the development of these resources and then protection and conservation of biodiversity.

The MoE/GEF/UNEP aims to strengthen the institutional and legal frameworks relevant to the protection and management of coastal and marine ecosystems and mainstreaming protection, conservation, and sustainable management issues in the environmental and planning strategies. It aims to support institutions, organizations and stakeholder groups in assessing, planning, integrating, and implementing marine and coastal biodiversity management and conservation. It also aims to catalyze support from the sector of non-governmental organizations (NGOs) and involve non-environmental actors at the national level. Therefore, this multi-scale commitment is one of the key prerequisites for the mainstreaming of marine biodiversity conservation and sustainable use into development planning and will result in global environmental benefits through demonstrating for other countries improved conservation and management of marine and coastal biodiversity (Ministry of Environment website).

Lately, the tourism sector in Lebanon has been paying a heavy price as a coronavirus pandemic, economic crisis and Beirut port blast take their toll. The number of tourist arrivals in Lebanon fell to below 200,000 in the first half of 2020 (Figure 3), compared to more than 923,000 in the same period last year as the coronavirus pandemic forced the main airport to close (Tourists' arrival to Lebanon, Arabian business, 2020). The industry has had to deal with a deep economic crisis since the beginning of the year 2021.

The effects of the Covid-19 pandemic and the Beirut Port explosion in August, the number of tourists was slashed to 199,722 in the first half of 2020, compared to 923,820 tourists posted in the first half of 2019, following an increase of 8.3% in the same period of the previous year, according to the latest figures released by the Ministry of Tourism.

The number of visitors arriving to Lebanon reached their lowest monthly level starting from March 2020 due to the closure of the airport starting on March 18. While the tourism sector posted an overall negative performance throughout the first half of the year 2020, the second quarter was harder as a coronavirus-related lockdown was imposed on the country. Therefore, the Beirut International Airport activity was a mirror image with the total number of passengers recorded falling to just below two million in the first 10 months of 2020, compared to 7.7 million passengers in the same period of 2019 (Figure 4; Tourists' arrival to Lebanon, Arabian business, 2020).

Hundreds of tourism-related businesses have closed in the past 12 months of *the year 2020*, while 70,000 workers have been laid off, according to the president of the Syndicate of Hotels Owners in Lebanon (Tourists' arrival to Lebanon, Arabian business, 2020). As a result, tourism receipts in Lebanon totaled USD 1.1 billion in the first quarter of 2020, representing a 42.4% decrease compared to the same quarter of 2019 and a 32% decrease from the previous quarter, according to the central bank's latest figure (Figure 5).

Lebanon tourism data on key indicators for inbound and outbound tourism covers tourist arrivals, tourism industries and employment, tourism share of exports and contribution to GDP as shown in Figures 6, 7 and 8 (UNWTO ,2021).

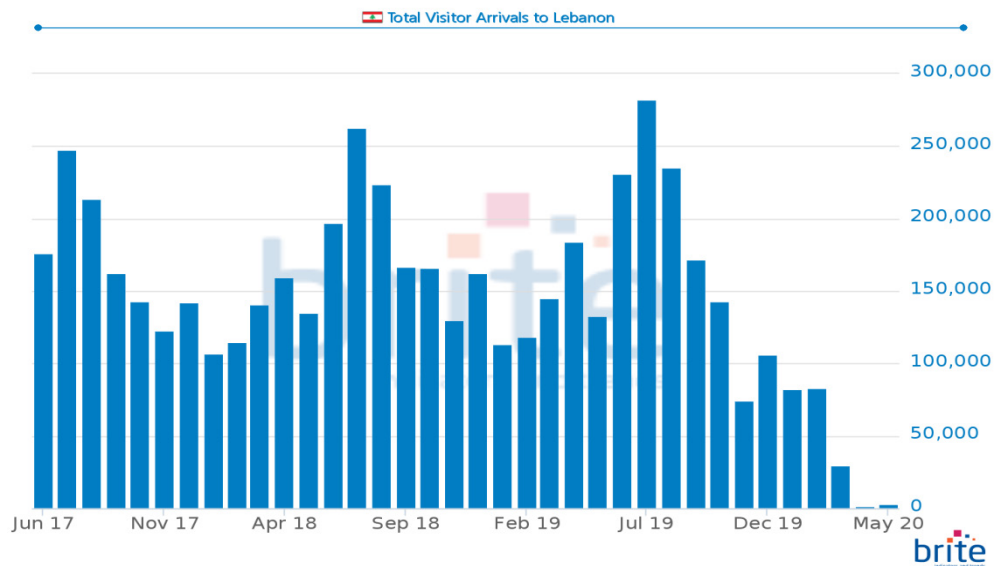


Figure 3. Total people arrivals to Lebanon (Economena Analytics, Central Administration of Statistics, Ministry of Tourism, Lebanon).

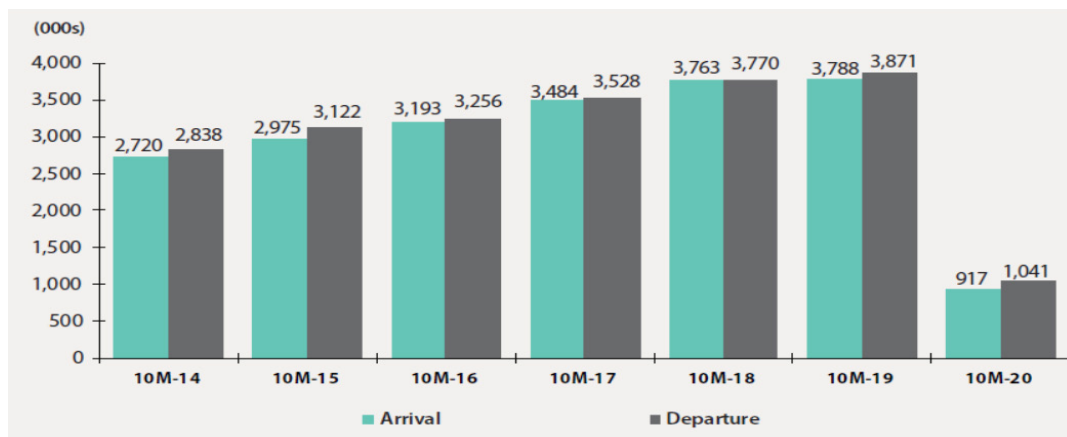


Figure 4. Number of passengers at BIA (Beirut International Airport).

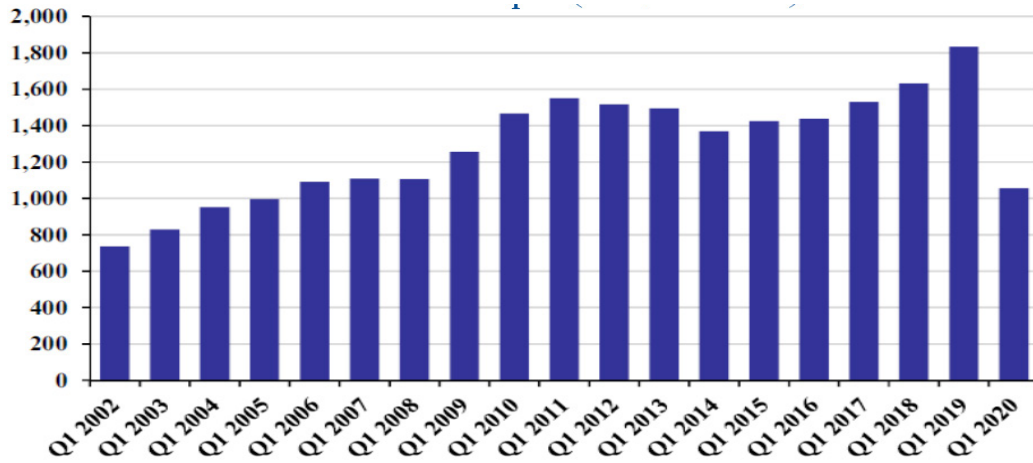


Figure 5. Tourism receipts (US \$ million 2002-2020) (Central Bank of Lebanon).

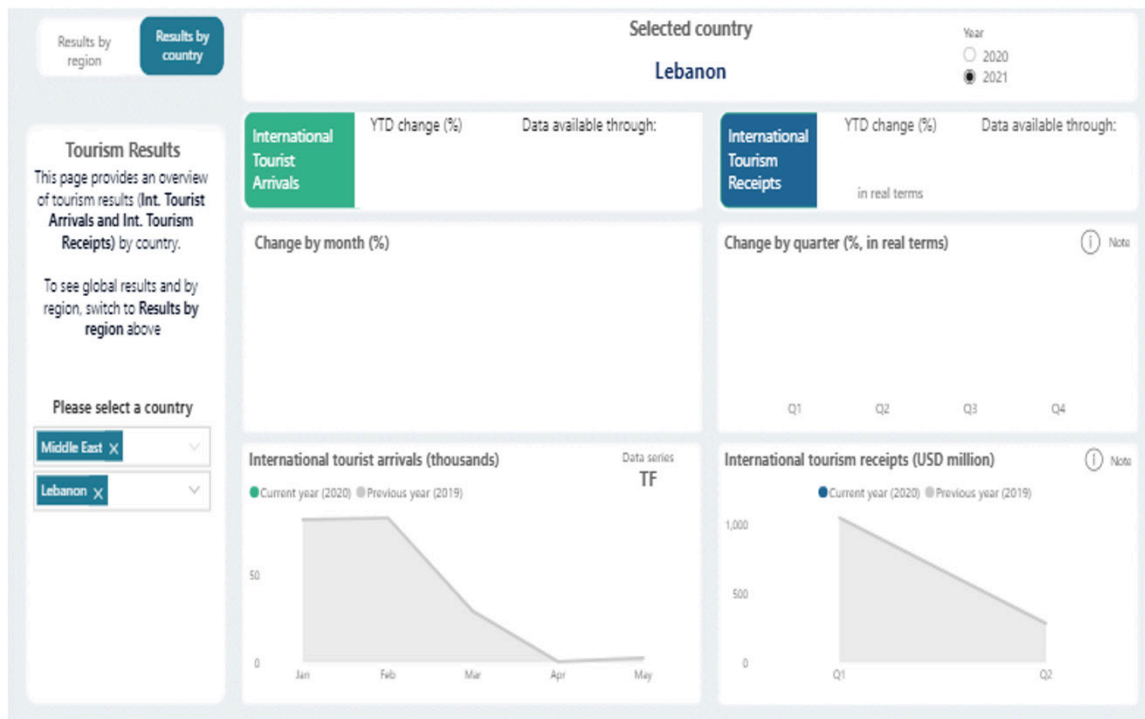
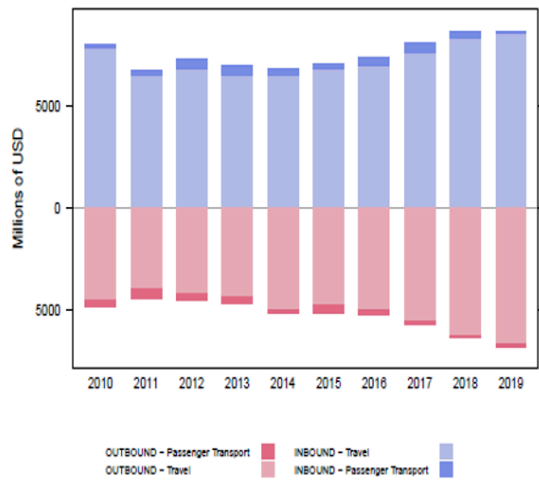


Figure 6. Tourists arrival and international tourism receipts by country “LEBANON” (UNWTO ,2021).

EXPENDITURE

Total Expenditure: Travel and Passenger Transport



Total Expenditure: Travel only

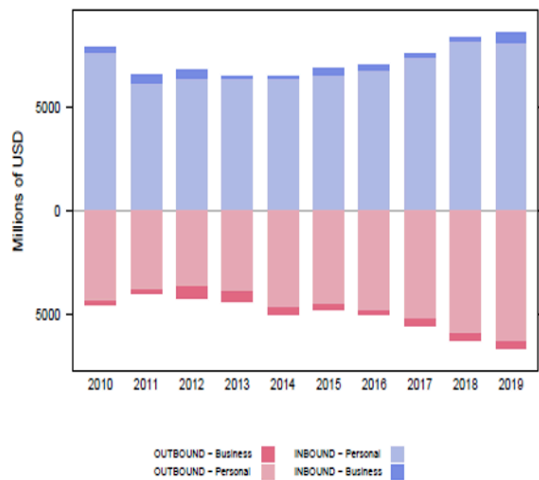


Figure 7. Lebanese tourism expenditure (2010-2019).

MACROECONOMIC INDICATORS

Tourism Direct GDP

No information has been reported during the 2010-2019 period.

Tourism Expenditure over Total GDP
Inbound and Outbound



Figure 8. Lebanese tourism macroeconomics.

V. Sustainable Tourism and Governance

Sustainable tourism can make positive improvements to biological diversity conservation, especially when local communities are directly involved with operators. Given that a high percentage of tourism involves visits to naturally and culturally distinguished sites, generating large amounts of revenue, there are clearly major opportunities for investing in the maintenance and sustainable use of biological resources. Along with the efforts to maximize benefits, efforts must be made to concentrate on the significance and values of conserving marine and coastal biodiversity and treasure it (UN Habitat, Lebanon Urban Issues).

In this context, challenges stand on enhancing MPA through its biological diversity, to develop, promote and disseminate guidelines for the sustainable planning and management of tourism activities in vulnerable terrestrial, marine, and coastal ecosystems and habitats. The benefits of good management are in gaining experience and increasing knowledge that helps to take appropriate solutions and decisions, when facing administrative problems. In this regard, effective administrative decisions depend on experience in this field, and on the persons responsible for implementing day-to-day management in each reserve. In general, the administrative system for the reserves includes the following basic elements (UNEP, *Tourism can help sustain biodiversity*, 2017).

Administration:

Official authorities appoint a committee to manage the ecosystems and natural reserves, in which all local governmental and non-governmental actors are represented, such as municipalities, mayors, environmental associations, scientific experts, *etc.*

Equipment and infrastructure:

It is necessary to have the vehicles, boats, and motorcycles available to secure patrols and provide protection according to the protection laws in force; as well as roads must be built and limit transportation within national parks for the purpose of developing tourism. It is also necessary to provide buildings and housing for the administrative apparatus working in the natural reserves or in the touristic sites/in the vicinity to receive visitors coming from remote areas, to revive the economic situation of the residents of the area in which the reserve (MPA) is located.

Financial resources:

The natural reserves and touristic sites cannot continue and develop unless sufficient budget is available for it. As for the financial resources of this budget, it can be secured from several sources, such as official bodies, and some local and international associations concerned with environmental affairs, and in particular, the International Union for the Conservation of Nature (IUCN), the Committee for the Preservation of Reserves, National and Protected Areas (CNPPA), the UNESCO, and the developed countries. Also, some of the budgetary resources may come from fees levied on visitors (UN Habitat, Lebanon Urban Issues).

Media and environmental awareness:

In this field, media plays an important role in alerting the dangers of environmental degradation and the importance of protected areas in warding off these risks. The importance of environmental media is reflected in the fact that it helps push the public to engage in the planning and decision-making process. Public participation in the environmental dialogue leads to generalizing environmental awareness to preserve natural resources and gives officials a clear picture of public opinion concerns (UN Habitat, Lebanon Urban Issues).

In this regard, it is imperative to reactivate the cultural attachments in foreign embassies and tourism offices, to introduce people to Lebanon's civilizational role and the abundance of its land. A great heritage and natural sites, such as those in Lebanon, is exemplified by this wonderful number of geographical contrasts in this small area of the world which should all be a nature reserve.

Environmental education, as a comprehensive process, must be tackled from the family to the school and the entire society. However, this does not diminish the role of those in charge of the reserves from working to instill the concepts of conserving environment and preserving it by directing and educating local associations to play their role in explaining to citizens and educating them about the importance of preserving the remaining environmental resources in their surroundings, environmental, material benefits improve their economic situation.

Environmental education and instilling the concept of preserving the environment and paying attention to existing reserves should be included in the educational curricula, and environmental education clubs should be established, student trips to the reserves should be organized, for them to learn the beauty and importance of nature, and to drop the state of hostility that they hold in their imaginations towards some living things. However, visitors can be educated through the visitor centers available in the reserves and touristic sites, and through brochures. As for educating students, it is through lectures on environment or related environmental affairs, environment preservation, development, and sustainability.

VI. Governance

There is a great variation in the application of the reserve system including MPAs, and how reserves are managed in the main country and between one country and another, each country must work to enact laws to establish natural reserves to reach the goals set for each reserve and touristic site, and if concern for the environment requires to plan for what is called “green / blue marketing”, before that it is necessary to create a green/blue institutional culture, through administrative procedures, regulatory frameworks, and environmental activities that will be undertaken.

Lebanon has a range of legislative and policy tools to establish and manage MPAs. The Ministry of Environment (MoE) has a specific mandate in this regard and needs to develop this Strategy to establish and manage a network of MPAs in Lebanon and exchange regional experience in this regard.

In addition, the MoE will be seeking the cooperation of other administrations having a mandate and responsibilities in marine-related issues such as the Ministry of Agriculture, Ministry of Public Works and Transport, Ministry of National Defense, Ministry of Interior and Municipalities as well as other stakeholders such as local NGOs, Fishermen’s Orders, and local communities to ensure the proper management of MPAs by using a participatory approach.

VI.1. Palm Islands Nature Reserve (PINR)

The Palm Islands Natural Reserve (PINR) was established through Law no. 121 of 9/3/1992; it includes three islands: Palm, Sanani and Ramkin (Figure 9). The law states that a committee established through a decision from the MoE for a period of three years and including seven volunteers undertakes the activities related to protection, prevention, mobilization of scientific studies and expertise to ensure the ecological restoration of the nature reserve. These volunteers are Representative of the Municipality of Tripoli, Representative of the Municipality of El-Mina, Stakeholders concerned in Ecology. The current “Appointed Protected Area Committee” (APAC) of the PINR is formed by representatives of the: Municipality of Tripoli, Municipality of El-Mina, Lebanese University - Ornithology, Balamand University, Environment Protection Committee (NGO), Union of NGOs of North Lebanon for Development, Environment and Heritage, Fishermen Order.



Figure 9. Palm Islands Nature Reserve.

The management team in the case of the PINR includes at present only two rangers/guides and one secretary, but the process of recruitment of a manager for the reserve was initiated recently by the MoE and the APAC. Rangers and patrols are the essential means to protect, survey and control visitors and poachers. Recently, the reserve's rangers were empowered to issue fines to a poacher or anyone breaching the Law provided they (the rangers) were first sworn in by the governor. Within Lebanon, the Ministry of Environment involves the staff of all protected areas in its training program. Management plans were developed for the PINR and endorsed by the MoE and still been updated. These management plans were prepared in collaboration with local communities and various stakeholders and under the supervision of the MoE.

VI.2. Tyre Coast Nature Reserve (TCNR)

The TCNR was established by Law no. 708 dated November 5, 1998. The law states that a committee established through a decision from the MoE for a period of five years and including five volunteers undertakes the administration of the site. The volunteers represent: Municipality of Tyre, "Kaem- Makam" or Governor of the Caza of Tyre, Two local NGOs, and the Ministry of Agriculture. The current administrative committee (APAC) of the TCNR is formed by representatives of: Municipality of Tyre, Ministry of Agriculture, Kaem-Makam" of Tyre, and two local environmental NGOs.

This committee (APAC) works under the overall supervision and support from the MoE. The management team in the case of the TCNR includes at present the reserve's manager, a manager assistant, an administrative assistant, 2 full-time rangers, and 1 part-time ranger. A five-year Management Plan was developed for the TCNR. This

Management Plan was prepared under the MedWetCoast Project, which is an initiative under the Ramsar Convention. The national project was executed in Lebanon by the MoE and managed by the UNDP. The Management Plan was prepared as part of different components that aim at conserving the biodiversity of global and regional importance in the Mediterranean Basin, and it was developed in consultation with the local stakeholders, and was endorsed by the MoE, and by a decree from the Council of Ministries (decree 8044 dated 25/4/2012) upon initiative and proposition from the MoE.

TCNR is recognized as a SPAMI (since 2013), a Ramsar site (1999), and an IBA-to-be. It includes 4 diverse ecosystems: sand dunes, wetlands, agricultural, and marine ecosystems. Currently, two EU-funded projects under the ENI CBC MED Program are executed at the reserve: COMMON (Coastal Management and Monitoring Network for tackling marine litter in the Mediterranean Sea), and Med4EBM (Mediterranean Forum for Applied Ecosystem-Based Management). Three studies were conducted recently at the reserve to serve as baseline for upgrading its management plan: Ecological study and a socio-economic study (by SPA/RAC) and a valuation of the ecosystems of TCNR (IUCN, 2021). Recently, a third MPA was declared: Abbassyeh Coast Nature Reserve (locally known as Al-Baqbouq), right north to Tyre.

VI.3. Abbassyeh Coast Nature Reserve

The beach of the town of Abbassyeh, located in the Caza of Tyre, is a sandy beach characterized by many ecological characteristics, natural resources, and distinctive biodiversity. The beach is covered by sand dunes, which provides a favorable environment for the presence of many types of plants and animals. This beach is characterized by dense and diverse vegetation cover, which provides a habitat for many birds, insects, and reptiles.

Many plants are spread on Abbassyeh beach, including reeds, palms, castor and capers, ash plant and white sand lily, which has become rare on the Lebanese coast, and mangroves that live on salt water, which provides a refuge for migratory birds and plays an important role in preventing coastal erosion and mass movement and contribute to regulating wind movement and rain distribution.

In addition, the beach of Abbassyeh town is characterized by the presence of “hot springs”, which is an indication of the diversity of the ecosystem in the site due to the availability of geothermal water and the relevant minerals.

One of the most important characteristics of Abbassyeh Beach is that it constitutes a habitat for endangered sea turtles (Figure 10). The two recorded types of sea turtles: the loggerhead turtle (*Caretta caretta*) and the green sea turtle (*Chelonia mydas*). In 2010, a report was published by the Regional Activities Center for Special Protected Areas (RAC/SPA) (responsible for implementing the Protocol on Special Protected Areas and Biodiversity in the Mediterranean of the Barcelona Convention for the Protection of the Mediterranean Sea from Pollution) about sea turtles in the Mediterranean, and indicated that the Abbassyeh Beach is considered one of the

unique habitats. The important and precise presence of the sea turtle nesting in the Mediterranean Sea must be protected.

The Abbassyeh Beach is separated only by the city of Tyre from the Tyre Beach, but it is considered a natural extension of the Tyre coast and therefore the Tyre Coast Nature Reserve (TCNR) established under Law No. 708 dated 05/11/1998. Therefore, the Abbassyeh Beach contains quite similar fauna and flora diversity as the TCNR. Hence, it is a site rich in biodiversity and of high ecological importance.



Figure 10. Sea turtle, TCNR.

The establishment of the Abbassyeh Coast Nature Reserve will contribute to the preservation of the distinctive and unique coastal and marine biodiversity in the entire coast and the species of sea turtles that are threatened with extinction globally, and it will also contribute to the implementation of Lebanon's obligations towards the international conventions ratified by it, especially the Barcelona Convention and its attached protocols, and the Convention on Biological Diversity (CBD).

Based on the foregoing, the Abbassyeh Beach Nature Reserve, after a decision issued by the Municipal Council in the Abbassyeh Municipality No. 31 dated December 13, 2016 approving the establishment of a nature reserve on the Abbassyeh beach of the Abbassyeh area and was filed with the MoE under the letter of the Mayor of Abbassyeh on 6/3/2017 registered at the Ministry of Environment under No. 1267/b on 15/3/2017, the Abbassyeh Beach Nature Reserve is finally established by Law 170, dated May 8, 2020. (MoE, 2013).

VI.4. Proposed MPAs in Lebanon

The scientific design of the MPAs' network in Lebanon was developed through a 3-step process based on three types of selection criteria for those sites involving scientific concepts, targeted research and monitoring, and taking into account both the biophysical and socio-economic characteristics of the sites (MoE, 2013).

VI.4.1. Representation and replication criteria

The sites and/or MPAs network are selected in the aim of one or more of the following criteria should apply to site and/or MPAs network: The site conserves representative examples of each shallow water habitat type and deeper sea habitats, including a “sufficient” number and surface area of each habitat type.

- The network is protecting at least 20% of each habitat type,
- The network aims to protect at least 3 replicate areas of each habitat type, and spreading them out geographically to reduce the possibility that the surrounding areas will be affected by the same disturbance,
- The network includes representative areas for specific species to maximize the number of species protected; the site is more likely to be resistant or resilient to global changes.

VI.4.2. Key habitats

The key habitats are permanent or transient aggregations of unique species, including mainly fish species; turtle nesting localities; and localities that support high diversity; and species with limited abundance/distribution; also, localities that are preferred habitats for vulnerable species and contain a variety of habitat types near one another (Ministry of Environment website).

VI.4.3. Connectivity criteria

Each MPA of the network is selected considering the following elements:

1. Taking a system-wide approach that recognizes patterns of connectivity within and among systems (particularly seagrass beds, sponge caves and vermetid reefs),
2. Possible, including the entire ecological units (*e.g.*, whole offshore reefs) and a buffer around the core area of interest,
3. If this is not possible, larger areas of continuous ecological units are included (*e.g.*, coastal vermetid platforms, and rock shelves, *etc.*),
4. Maximizing the acquisition and use of environmental information to determine best configuration, taking connectivity into account, using rules of thumb for MPAs network,
5. Design, *i.e.*, where possible, MPAs with a minimum size of 10 km² (10 to 20 km in diameter) with a maximum spacing distance of 15 km between each two (Ministry of Environment website).

Based on the criteria, literature scientific assessment (Bariche, 2008) and field surveys, the sites were selected according to their richness and importance in biodiversity, to be part of the MPAs network of Lebanon that includes: coastal sites (9), estuary (5) and deep sea (1 or 4). These sites are:

Proposed MPA coastal and marine sites:

This includes Nakoura (Figure 11), Sidon rocks, Rawshe cliffs and caves (Figure 12), Beirut port's outer platform, Byblos, Madfoun rocky area, Batroun Phoenician wall, Ras El Chekaa cliffs, and Enfeh Peninsula.

Proposed MPA estuary sites:

Litani River estuary (Quassmyeh), Al-Awali River estuary, Damour River estuary, Ibrahim River estuary, and Arida stream estuary.

Proposed MPA deep water site:

A Fishery Restricted Area has been declared, banning trawling activities for all the Mediterranean in depths superior to 1,000 m depth. Inside Lebanon's territorial waters, this area represents about 1,240 km², including four specific features, namely: Beirut Escarpment, Saint Georges Canyon, Jounieh Canyon and Sour (Tyre) Canyon.

Lebanon could envisage two options: declare the whole area under 1,000 m depth in the territorial waters as an MPA or declare the four features presented above as four MPAs as a deep-sea network with an integrated management plan.



Figure 11. Nakoura white cliffs, South Lebanon.



Figure 12. Rawshe pigeon's rocks and cave.



Figure 13. Kfaraabida, North Lebanon.



Figure 14. Hamat, North Lebanon.

VII. Legal framework, administrative constraints, and funding mechanism

VII.1. Administrative strengths and constraints

Several laws and regulations were adopted from 1929 and up to 2010, and addressed controlling the fishing sector, urban planning, heritage and archeological sites, regulation of the maritime public domain and land use planning (Table 1).

Tourism can cause similar forms of pollution as any other industry: air emissions, noise, solid waste and littering, release of sewage, oil and chemicals, even architectural/visual pollution. Therefore, administrative constraints might take place. The MoE, and in collaboration and coordination with the MoTPW, as well as CDR, shall conserve areas endowed with comparative advantages at sub-regional, regional, and national levels.

Table 1. Laws governing coastal and marine issues.

Type and Number	Title
Law issued as Decision No. 2775 of 28/9/1929 (Ar)	<u>مراقبة الصيد البحري</u> Control fishing
Law of 29/11/1955 (Ar)	<u>استرداد عقارات الدولة والبلديات الموقرة</u> Retrieve government's and municipalities' leased properties
Law of 24/9/1962 (Ar)	<u>التنظيم المدني</u> Urban Planning
Law 58 of 29/5/1991 (Ar)	<u>قانون الاستملاك</u> Expropriation law
Law 444 of 29/7/2002 (Ar)	<u>قانون حماية البيئة</u> Code of the Environment
Law of 8/12/2006 (Ar)	<u>تعديل القانون رقم 58 تاريخ 1991/5/29 (قانون الاستملاك)</u> Amendment of the Expropriation law
Law 166 of 07/11/1933 (Ar)	<u>وضع نظام للآثار القديمة</u> Establishment of a regulation for heritage and archeological sites
Decree 4810 of 24/6/1966 (Ar)	<u>نظام اشغال الاملاك العامة البحرية</u> Regulation of Maritime public domain
Decree 2366 of 20/6/2009 (Ar)	<u>الخطة الشاملة لاستخدامات الاراضي اللبنانية</u> Master Plan for land use in Lebanon
Decree 4869 of 2/9/2010 (Ar)	قبول هبة مالية مقدمة من مرفق البيئة العالمي لصالح وزارة البيئة عبر برنامج الأمم المتحدة للبيئة لإعداد وثيقة مشروع "الإدارة المستدامة للموائل والتنوع البيولوجي البحري والساحلي عبر تطوير وتعميم السياسات والأطر القانونية في لبنان". GEF grant acceptance decree for PPG "Sustainable management of marine and coastal biodiversity and habitats through policy and legislative development for mainstreaming in Lebanon"
Decision 104 of 17/11/2005 (Ar)	<u>إلغاء القرارات القاضيّة بإشغال الأملاك العمومية النهرية</u> Cancellation of the decisions regarding public domains related to rivers
Decision 2 of 21/5/2001 (Fr)	<u>Amendment of certain provisions of the law promulgated under Decree No. 11614 of 04/01/1969 and relating to the acquisition, by non-Lebanese, of real land rights in Lebanon</u>

These advantages could be of natural, agricultural, landscape, cultural and ecological origin. In addition, they shall increase capacity building programs, underlining the value-off and correlation-between nature conservation and socio-economic attributes. The Ministries should also emphasize on the socio-economic aspects when designing and implementing environmental projects with a focus on the coastal zone. In addition, the municipalities shall be informed and empowered on the best means to increase municipal returns through increased conservation of coastal resources.

VII.2. Ad Ministry of Environment

The Ministry of Environment (MoE) is the administrative authority over the nature reserves in Lebanon and is responsible for their supervision, protection, and management. The MoE, and in collaboration with the concerned institutions, shall:

- Promote the sustainable coastal tourism concept and products.
- Protect different river streams against all types of construction.
- Declare different bays and coasts as areas of special importance at national and Mediterranean level.
- Carry out training courses to coastal communities having special sustainable tourism assets.
- Encourage NGO funding for sustainable coastal tourism; on the local-scale.
- Enact decisions to fully protect and preserve coastal agricultural plains against construction and other human activities that might lead to water and soil contamination.
- Enact decisions to fully protect and preserve areas and landscapes of natural, cultural, historical and archaeological significance from any type of construction.
- Organize informative workshops and field campaigns at the level of municipalities or confederations of municipalities, to explain the importance of urban master planning in the context of coastal resources' conservation, and other relevant topics considering adaptation measures required.
- Design and disseminate booklets on sustainable practices of land-use management.
- Protect and rehabilitate the remaining coastal heritage sites.

The marine and coastal natural reserves are mainly controlled by several international conventions and agreements that have either been signed or ratified by the Lebanese government. These conventions include:

- The Barcelona Convention for the protection of the Mediterranean Sea against

pollution (signature by the GoL on 16/2/1976, accession on 30/6/1977 through legislative decree no. 126) and its amendments (Adhesion by the GoL on 16/10/2008 through law no. 34).

- The Convention on Biological Diversity (CBD) (signature by the GoL in 1992 and ratification on 11/8/1994 through Law no. 360).
- The United Nations Convention on the Law of the Sea (signature and ratification by the GoL in 1995).
- The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Adhesion by the GoL on 23/2/1999 through Law no. 23).
- The African-Eurasian Migratory WaterBirds Agreement (AEWA) (Ratification by the GoL on 13/6/2002 through Law no. 412).
- The Agreement on Conservation of Cetaceans of the Black Sea, Mediterranean Sea, and Contiguous Atlantic area (ACCOBAMS) (Adhesion by the GoL on 5/2/2004 through Law no. 571).
- The UNESCO Convention on the Protection of Cultural and Natural Heritage (Adhesion by the GOL in 30/10/1990 through Law no 19).

These conventions are useful for the legal framework and commitments of Lebanon, but the country is facing several constraints to implement these conventions due to the lack of resources and overlapping mandates, besides the weak implementation of laws and current land tenure along the coastal areas.

VII.3. Lebanese conservation laws related to marine and coastal areas

Lebanon has a large body of sector-specific environmental laws and regulations, some dating back to the 1920s and some are recent ones. For example, the law of fisheries in Lebanon dates to 1928. Nevertheless, the Ministry of Agriculture (MoA) and FAO coordinated efforts to draft an “amended” law “, *i.e.*, Law no. 2775 dated 1929. This draft version is now being discussed with stakeholders.

The Environment Law 444/2002 embraces the “polluter-pays” principle, as well as the Environmental Impact Assessment and Strategic Environmental Assessment processes, to help reduce pollution, including marine one. Furthermore, when complete, the “Master Plan for wastewater treatment in the coastal zone” will significantly reduce environmental pollution in the Mediterranean Sea, by managing wastewater resulting from an estimated 2.5 million capita. The Law 444 and the Master Plan apparently constitute a new framework for the protection and management of the entire ecosystem, including the sea.

There are several legislations related to the conservation of marine and coastal habitats and biodiversity in Lebanon. These are:

- Law no. 444/2002 (Code of Environment), also called “Environmental Protection Law” specifies, under Chapter VIII, the protection, conservation and management of nature and biodiversity.
- Law no. 708/1998 declaring the Tyre Coast Nature Reserve on November 5, 1998.
- Law no. 121/1992 declaring the Palm Islands Nature Reserve on March 9, 1992.
- Law no. 508/04 (hunting law) is the latest attempt for regulating and controlling hunting in terms of season, type of protected birds forbidden for hunting, amount, and type of game birds along with a permit system, based on hunting testing.
- The law issued as decision no. 2775 dated 1929, related to the control of marine & coastal fishing and its amendments.
- Decree no. 8213, dated 24/5/2012 related to the “Strategic Environmental Assessment for Proposed Policies and Plans and Programs in the Public Sector” or SEA decree.
- Decree no. 8633 dated 7/8/2012 belongs to the fundamentals of “Environmental Impact Assessment” or EIA decree. According to this decree, all major development, infrastructure, and industrial projects are subject to EIA or IEE studies including their effects on biodiversity, in order to promote conservation activities and prevent the damage of the surrounding environment by these projects before receiving approval.
- Decision of the Ministry of Agriculture no. 125/1 - dated 23/9/1999, banning the fishing of marine turtles, monk seals and whales as well as selling, using, or trading with any derivatives from the mentioned species.
- Decision of the Ministry of Agriculture no. 1/385, issued January 26th, 1997, stating that fishing activities are prohibited in all estuaries all year round. The protected area involved extends over 500 m on each side of the estuary, 500 m inside the river, and two kilometers seawards. In addition, all human activities are banned, except for those of scientists and the Coast Guards.

VII.4. Ministry of Agriculture

In addition, many Ministerial Decisions regulating fishing and fishing techniques are issued by the MoA. These are:

- Decision of the MoA no. 346/1 dated 15/7/2010 regulating and identifying fishing types and equipment and banning the use of small mesh sizes and trawling nets and fishing using scuba diving equipment.

- Decision of the MoA no. 93/1 dated 14/3/2008 regulating the scuba-diving industry including permitting procedures and safety measures and scuba-diving fishing.
- MoA decisions banning dynamite fishing.

VII.5. Lebanese Navy Forces

The Lebanese Navy Forces have a fleet of approximately 69 vessels of various sizes and roles; It oversees all the Lebanese coast. The coordination between the army and the rest of the authorities is represented in it, from the State apparatus to the Lebanese armed forces and “UNIFIL”, which takes place through the joint maritime operations room. They have various roles, such as:

- Securing the Lebanese marine environment and the Lebanese ports, enforcing the law and the State authority in waters, organizing the traffic of commercial ships in, and defending State interests in the economic zone, as well as assisting the Lebanese commercial fleet and the fishermen and providing security.
- Defending the regional waters and the Lebanese coast from any naval military aggression.
- Fighting illegal behaviors (e.g., terrorism, immigration, smuggling and trafficking of narcotics, etc.).
- Providing naval support and early warning to the Army forces and participating in joint military operations (fire support, logistic support, landing operations, etc.).
- Providing support to security agencies (customs, internal security forces, etc.) in their naval missions.
- Assisting ministries and agencies in their duties at sea like (Firefighting, fighting pollution, search, and rescue operations.)
- Protecting natural resources and national interests along the coast and the regional waters.

VII.6. Ministry of Culture / Ministry of Tourism

Tourism policies and activities should be conducted with respect for a variety of specialists, such as the artistic, archaeological, and cultural heritage, which they should protect and pass on to future generations. Hence, a particular care should be devoted to preserving monuments, worship sites, archaeological and historic sites as well as upgrading museums which must be widely open and accessible to tourists.

In Lebanon, there are two ministries to each other (MoC and MoT). The Directorate General of Antiquities (DGA) as part of the Ministry of Culture, and the MoT, as the official tourism body for Lebanon, they are entrusted with following tasks:

- Organization and execution of archeological excavations, upkeep of the historic monuments and discovery of new archeological sites.
- Delivery of excavation permits and control of scientific archeological missions performing excavations.
- Establishment and management of museums, organization of archeological and historic exhibitions and control the commerce and export of antique objects.
- Enforcement of current laws and regulations and manage the World Heritage Sites in Lebanon.
- Promoting tourism industry and its relevance themes (e.g., transportation, hotel reservations, etc.).
- Regulating, coordinating, and monitoring tourism professions and monitoring private companies and associations working in the tourism sector.
- Promoting and executing tourism investment projects; facilitating and simplifying rules and requirements related to these projects; and applying laws and regulations related to tourism and tourism enterprises.

VIII. Resources and financial mechanisms

VIII.1. Financial Contributions

Direct financial contributions from tourism can contribute directly to the conservation of sensitive areas and habitat. Revenue from marine nature reserves' entrance fees and similar sources can be allocated specifically to pay for the protection and management of environmentally sensitive areas. Special fees for operations in touristic sites, natural reserves and heritage sites can be collected from tourists or tour operators.

VIII.2. Contributions to government revenues

Governments can be provided by funds needed to manage marine natural resources from: user fees, income taxes, taxes on sales or rental of recreation equipment, and license fees for activities such as scuba diving, fishing, skateboarding, parasailing, softball/beach ball, kayak, canoe, *etc.* These funds can be used for overall conservation programs and activities, such as park ranger salaries and park maintenance.

This growing interest in marine or coastal tourism, and the economic benefits that come along with it, can change community attitudes towards conservation.

IX. The benefits of Marine Protected Areas

IX.1. Culture, history, and heritage

- **M**PAAs have a major role in educating local communities and visitors about the culture, history, and heritage of the areas they protect.
- Governments and local communities in some countries are protecting these sites of historic, cultural, and religious significance through the declaration of various forms of MPAs.
- MPAs are created within a multiple-use approach that includes protecting historic and cultural values alongside biodiversity conservation and sustainable use.
- Educating visitors about historic significance helps illustrate the relationship between people and marine environments. These sites can include shipwrecks, lighthouses, customary tenure boundaries, battle sites, hunting areas, ceremonial and sacred sites, fish traps, harbors, coastal fortifications, fish markets, and salting and drying sheds.
- MPAs are also important for developing local understanding of rights and responsibilities in using and caring for marine environments.

IX.2. Education

MPAs are particularly important because they provide opportunities for people to experience and study marine plants and animals that are undisturbed by fishing and other impacts. They can become places where people can observe and compare with the impacts from disturbance. Hence, many education centers and trained education staff are based around MPAs, and they have an important role in helping children and older students know the attractive elements and attitudes for these natural components. This includes all age ranges, including children who can learn and share their knowledge with their families and the wider community; they play a significant role in developing community understanding and demand for sustainable management of their marine environments. In addition, the field surveys and campaigns by students can provide good results. Participants in these activities are also more likely in later years to be informed contributors to future decisions about marine environments and resources.

IX.3. Training

A further important educational role of MPAs is in the training of resource management staff. Typically, most staff come from different backgrounds with little exposure to the nature and values of marine plants, animals, and ecological processes. Therefore, courses at MPA field stations can provide valuable knowledge and contribute to the understanding of these values. MPAs with education facilities also play an important

role in tourism through providing training, support and information for local people involved in the tourist industry. The relevant centers often provide an attraction for tourist visitors seeking local knowledge of the area.

X. Conclusions

Located along the Eastern Mediterranean Basin, Lebanon is characterized by its physical features including remarkable landscape, vegetation cover and water resources. Therefore, the physical setting of Lebanon is well pronounced by its distinguished topographic and climatic components; hence, it was once dubbed as the “Switzerland of the Middle East”. Nevertheless, the lack of proper protection measures and conservation implements, as well as the absence of effective environmental legislations and long-term strategies to preserve these natural features, plus many other repercussions led to the loss of significant part of this characterization, including the territorial and marine ecosystems which in turn affected the tourism industry.

In particular, the coastal zone of Lebanon is witnessing numerous aspects of environmental deterioration affecting the existing natural reserves. This includes mainly severe sources of pollution, urban sprawl, shoreline degradation, indiscriminate fishing, and many other human interventions that impact ecosystem fertility and the related tourism aspects.

Lebanon’s tourism sector has always been an essential contributor to the local economy, representing a major source of income and employment. However, there are: the security, health, political and economic challenges which became Lebanon’s primary concern. Lately, the tourism sector in Lebanon has been regressed due to many challenges that occurred and affected the country, including the political and financial crisis. Even before this crisis, tourism in Lebanon has been threatened by numerous natural and man-made factors. However, these threats are being exacerbated with time and their impact on the tourism industry has been well pronounced.

Yet, the enhancement of the tourism sector still counts on the legal frameworks and legislations which are many but most of them are not effective enough to reduce the descending trend in the tourism industry.

This deliverable reveals a detailed discussion on: Legislation, Administrative constraints, Governance, Financial resources and mechanisms in Lebanon. It reveals all accorded environmental legislations and laws which are directed towards protecting natural components of the country, aiming at optimal improvement for the tourism sector. In addition, the interlinkage between these legislations and laws and their effect on tourism was demonstrated as well as their attributes to the governmental entities (*e.g.*, ministries, *etc.*) were determined. Nevertheless, an obvious shortage in effective implementation of these legislations and laws is well pronounced, and it is recommended to apply new legal reforms based on scientific knowledge and in-depth research to protect the natural components of Lebanon, and then its tourism.

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