

Protected areas in Algeria: which tourism potential?

Besma KAHOUL^{1*}

¹ University of Setif1(Algeria), besmakahoul@yahoo.fr

Received:08/02/2024

Accepted:05/08/2024

Published:01/09/2024

Abstract:

Protected areas are no longer a simple ecological issue but are considered coherent territorial spheres that can participate in population's development in varying degrees. These areas can therefore bring economic and social benefits, besides their conservation's beneficial effects, through various activities, of which tourism is one of the most important. The network of protected areas in Algeria covers a significant surface of the national territory, covering all of the ecosystems (at least 20 protected areas cover more than 40% of the territory) and constituting tourist assets that should be valorized. In this context, our research aims to examine various touristic forms that can be developed within the protected areas of Algeria by guaranteeing profitable tourist activity without harming nature.

Keywords: Algeria, tourism, protected areas, parks, sustainable development.

JEL Classification: L83; Q01; Q56; Q57.

Introduction

Algeria is among the Mediterranean countries with a rich biodiversity and a world-class natural and cultural heritage. This diversity results from an area of 2381741 square kilometers, where we encounter, from north to south, littoral and coastal zones (a coastline of 1600 km), mountainous areas (the Tellian Atlas and the Saharan Atlas), steppe zones, wetlands, forest areas, and Saharan areas. This results in a wealth of landscapes and natural environments of high quality, which gives it an exceptional heritage value and makes it an ideal tourist destination.

Algeria, like all the other countries, is concerned and threatened by the regression of pastoral and forest resources because of the degradation actions generated by bad logging practices and management of environments by man (pollution, urbanization, tourism, etc.) and natural threats (drought, fire, etc.).

In face of these various threats, Algeria has put in place institutional and legislative mechanisms to mitigate the negative impacts on biodiversity and the national heritage. It joined the objectives and global indicators adopted under the Convention on Biological Diversity in its National Biodiversity Strategy and Action Plan, and it has also ratified the other conventions related to the protection and enhancement of resources (Algiers, Washington, Ramsar, Barcelona, Rio de Janeiro on biodiversity, Paris on the fight against desertification, Sydney 2014, etc.). And in the same light, it identified a network of protected areas that encompass unique ecosystems and represent the country's biological diversity.

The development of protected areas is the cornerstone of biological diversity's conservation; they can also bring economic and social benefits, besides their beneficial effects on conservation, through different activities, of which tourism is one of the most important.

Protected areas in Algeria constitute a tourist attraction due to their unique natural and cultural wealth. This raises the issue of developing a profitable tourist activity that preserves nature and does not destroy it, and from this perspective, we ask the following question:

What type of tourism should be developed in protected areas in Algeria?

To answer this question, we will discuss the following points:

- Protected areas around the world.
- Protected areas in Algeria.
- Tourism in protected areas.

1- Protected areas around the world

Protected areas are essential for biodiversity conservation; this is clear in the definition proposed by IUCN (International Union for the Conservation of Nature; IUCN is the oldest and largest global environmental organization in the world, with more than 1200 members of the government and NGOs and almost 11,000 volunteer experts in 160 countries), who developed a first definition of protected areas in 1994 and updated and slightly modified in 2008 by the IUCN World Commission on Protected Areas (WCPA) as follows: "A protected area is a clearly defined geographical space recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." (DUDLEY, 2008)

This definition has been well explained in a publication by the IUCN, *Guidelines for Applying Protected Area Management Categories*, presented at the 2008 World Conservation Congress.

According to this definition, any protected area has a geographical delimitation whose main purpose is conservation; this also corresponds to the definition of the Convention on Biological Diversity (CBD) 1992 in its 2nd article. The text of the convention is as follows:

Protected area: "a geographically defined area that is designated, regulated, and managed to achieve specific conservation objectives." (UN, 1992)

The WCPA-IUCN 2008 definition and the CBD definition share the same general message, but the CBD definition does not refer to long-term protection, cultural values, or the obligation to designate, regulate, and manage these spaces by effective means, legal or other. The definition implies a set of common objectives for protected areas, and according to the same IUCN publication -*Guidelines for Applying Protected Area Management Categories*- the following objectives should apply to all categories of protected areas: (DUDLEY, 2008)

- Conserve the composition, structure, function, and evolutionary potential of biodiversity;
- Contribute to regional conservation strategies (as core reserves, buffer zones, corridors, steppingstones for migratory species, etc.);
- Maintain diversity of landscape or habitat and of associated species and ecosystems;
- Be of sufficient size to ensure the integrity and long-term maintenance of the specified conservation targets, or be capable of being increased to achieve this end;

- Maintain the values for which it was assigned in perpetuity;
- Be operating under the guidance of a management plan and a monitoring and evaluation program that supports adaptive management;
- Possess a clear and equitable governance system.

Other objectives are set for each category. IUCN has classified protected areas since 1994 into six categories (see table 1).

Table number (01): categories of protected areas according to IUCN since 1994

Category 1	a. Strict nature reserve b. Wilderness area	A protected area managed primarily for scientific purposes or for the protection of wild resources
Category 2	National Park	A protected area managed primarily for the purpose of protecting ecosystems and for recreational purposes
Category 3	Natural Monument or Feature	A protected area managed primarily for the purpose of preserving specific natural features
Category 4	Habitat/Species Management Area	A protected area managed primarily for conservation purposes with intervention at management level
Category 5	Protected Landscape/Seascape	A protected area managed primarily for the purpose of conserving landscapes, seascapes and for recreation
Category 6	Protected Area with sustainable use of natural resources	A protected area managed primarily for natural ecosystem's sustainable use

Source: (HUGH, 1994)

We also distinguish between sites inscribed in wetlands of international importance (Ramsar site), sites inscribed on the UNESCO World Heritage List, and biosphere reserves, as well as other categories of protected areas that can be created within the framework of international conventions. (ABDELGUERFI, 2003)

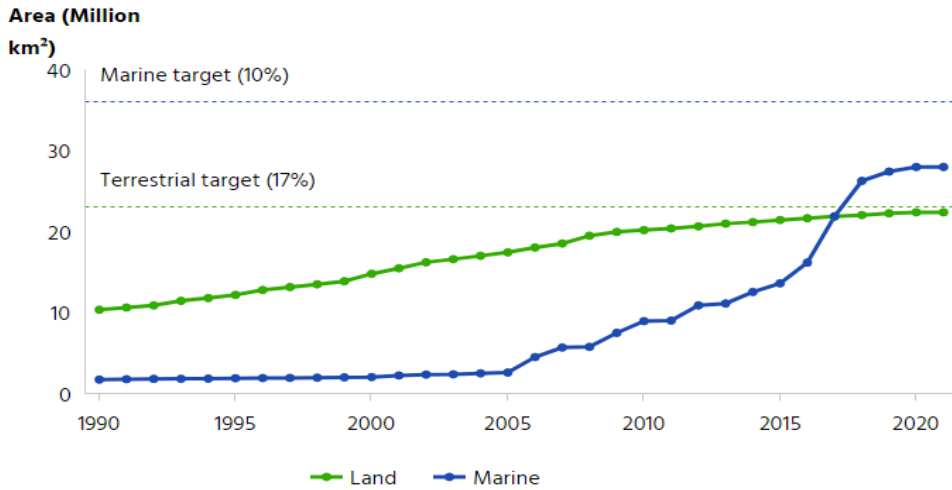
According to the important role of different protected area categories in the protection of natural and cultural resources, there has been a significant increase in the number and extent of protected areas around the world.

Since the creation of the first national park in the world, Yellowstone, in 1872, the number has increased year over year, and according to the latest statistics in the Protected Planet database, 293 985 land and marine sites have been listed (275 570 terrestrial and 18 415 marine) in 244 countries, covering over than 22 million square kilometers, 16.06% of the continental

surface and 8.16% of the oceans are currently officially protected. (WDPA, 2024)

These rates are close to reaching the global goal set in 2010 by the Convention on Biological Diversity (CBD) under the Aichi Biodiversity Targets, which aimed to cover at least 17 percent of terrestrial and inland water areas and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, by 2020. (See figure1)

Figure number (01): Percentage of Terrestrial and Marine Protected Areas and Aichi Target 11, 1990-2020



Source: (UNEP-WCMC and IUCN, 2021)

While the global goal for 2020 set by the Convention on Biological Diversity under the Aichi Biodiversity Targets for terrestrial protected areas is nearly reached, this is a little less for marine areas. But we also notice from the figure that since 2010, an additional 2.1 million square kilometers of terrestrial ecosystems and 18.8 million square kilometers of coastal waters have been placed within protected areas. However, we must not only focus on increasing the size of protected areas but also on the effectiveness of these areas in protecting and conserving ecological diversity. And with this in mind, a Green List of Protected Areas was launched (as a global standard for protected area management) at the 6th World Parks Congress organized by IUCN in Sydney, Australia, in 2014. It intends to reaffirm and fully value the contribution of protected areas to biodiversity conservation, climate change adaptation, population health and well-being, territories' governance, and more generally, to respond to the challenges of development.

2- Protected areas in Algeria

2-1- Why protected areas in Algeria?

Algeria is an exceptional ecological entity in the biosphere, made up of Mediterranean, steppe, and Saharan-type ecosystems. Here are the ecosystems that one can find in Algeria:

- Marine and coastal ecosystems;
- Wetland ecosystems;
- Mountain ecosystems;
- Forest ecosystems;
- Steppe ecosystems;
- Saharan ecosystems.

Each ecosystem is home to a large number of endemic plant and animal species. Unfortunately, this exceptional ecological heritage has already been largely degraded, even squandered by millennia of unthinking exploitation of its natural resources. Among the most important risk factors leading to the loss of this natural and wild environment are overexploitation, clearing, fire, wetland dewatering and degradation, erosion, desertification, population growth, and socio-economic development. (ABDELGUERFI, 2003) The intensity of these risks differs from one ecosystem to another: (LAOUAR, n.d)

-Marine and coastal ecosystems:

The Algerian coast is an overexploited and fragile environment. It is subject to different threats, both natural and other factors deriving from anthropogenic activity: the weight of population and urbanization (two-thirds of the Algerian population currently live on the coastal fringe, which represents only 4% of the national territory), the concentration of industrial activity and economic infrastructure, the pressure on agricultural land structures that have recorded considerable losses generated by urban and economic development, and the concentration of seaside tourism in the coastal zone (80% of expansion areas and tourist sites are located in the 14 coastal wilayas).

- Wetland ecosystems:

In addition to urbanization, intensive agriculture, and pollution, wetlands are subject to threats linked to the development of basic infrastructure (dams, highways) and to a low level of resources mobilized for the benefit of aquatic ecosystems.

-Forest ecosystems:

Thus, despite the natural vulnerability that characterizes the Mediterranean forest, the Algerian forest continues to undergo repeated pressures considerably reducing its vegetal, hydric, and edaphic potentialities, such as fires, overgrazing, logging, clearing, and erosion.

- Mountain ecosystems:

The mountain environment is subject to strong pastoral pressure, clearings, and abusive exploitation of resources, which leads to the generalization of erosion. The surface subject to erosion (unstable to highly unstable areas) represents 40% of the mountain area, which creates desertification threats that can profoundly alter the ecosystem.

- Steppe ecosystems:

Steppe ecosystems are subject to an intensified process of desertification, with a significant decline in vegetation cover and a decrease in pastoral productivity. They are also confronted with multiple threats, such as climatic hazards, overgrazing, cultural practices, illegal hunting, and poaching.

- Saharan ecosystems:

The Saharan ecosystem is experiencing real threats. Despite the vastness of the Saharan territory and the low population density, these threats include: difficult climatic conditions; wind erosion and overgrazing, particularly in oasis environments; unbalanced development of urban centers; salinization of soils; floods and poor drainage of oases; poaching and illegal hunting.

2-2- The main protected areas in Algeria:

In light of this serious ecological situation in Algeria, the need to implement measures to protect and preserve biodiversity is strongly needed.

Among the measures deployed, a network of protected areas is set up: 9 national parks, 5 cultural parks including 3 recently established, 5 nature reserves, 4 hunting reserves.

In addition to 50 wetlands (BOUMENDJEL & all, 2018) (2958000 hectares) ranked on the wetland's list of international importance, and many of them are outside protected areas.

The following table (Table n02) includes the main protected areas classified in Algeria as well as their main tourist characteristics and potentials.

Table number (02): the main protected areas in Algeria

Protected area	Region	Area (Ha)	Creation date	Particularities and Tourist potentials
National parks (NP)				
Coastal Parks				
Elkala NP	El teref	80000 Ha	1983	<ul style="list-style-type: none"> -Very Diverse fauna and flora due to the presence of four ecosystems (marine, lacustrine, forest, and dune). -An internationally recognized wetland (5 of them are on the Ramsar List, including a classified biosphere reserve in 1990).
Gouraya NP	Bejaia	2080 Ha	1984	<ul style="list-style-type: none"> - A reservoir of biodiversity. - Sites and natural landscapes of unique cliffs in Algeria. - Important historical and archaeological monuments. -Classified Man and Biosphere Reserve.
Taza NP	Jijel	3807 Ha	1984	<ul style="list-style-type: none"> - Geomorphologic feature (caves and cliffs), 9km from spectacular coasts, beaches, and cornices. - The highest rate of afforestation in Algeria, with a great biological diversity (the only classified area that shelters pure and mixed oaks), in addition to a rich fauna.
Mountain Parks				
Théniet El Had NP	Tissemsilt	3425 Ha	1983	<ul style="list-style-type: none"> - Beautiful high forests of Cedar and Pistachio Atlas, a cork oak mounted at more than 1600 m, and a very diverse fauna. - Most beautiful mountain view from the summit of Kef Siga (1714 m) - Rock engravings dating back more than 8000 years.
Djurdj-ura NP	Tizi Ouzou and Bouira	18850 Ha	1983	<ul style="list-style-type: none"> - Rocky escarpments of rare beauty. - Faunistic and floristic richness (from lawns to the most beautiful millennial forests of cedar). - Makabé and Leopard Cave, and the deepest chasm in Africa. - One of the richest bird parks in Algeria. - Classified Man and Biosphere Reserve.
Chréa NP	Blida	26600 Ha	1983	<ul style="list-style-type: none"> - Impressive gorges and waterfalls. - 100years old plants made of yew and holly mixed with cedars. - Very rich fauna (brook of the magot monkey). - Classified Man and Biosphere Reserve

Protected areas in Algeria: which tourism potential?

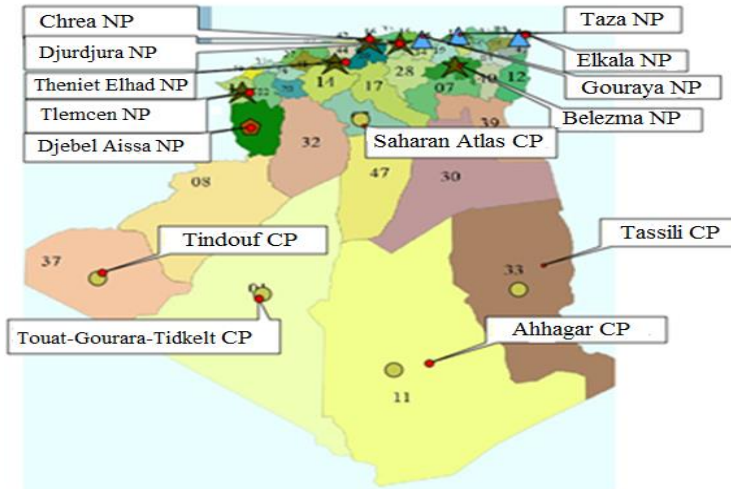
Belezma NP	Batna	26250 Ha	1984	<ul style="list-style-type: none"> -Magnificent Atlas cedar stands in an area of great Saharan and Mediterranean influences. - Remarkable flora and fauna. - Thermal springs and archaeological sites, especially Roman.
Tlemcen NP	Tlemcen	8225 Ha	1993	<ul style="list-style-type: none"> - A flora represented mainly by forests, where there is 110-year-old reforestation and a diversified fauna. - Very important archaeological, speleological, and natural riches (mosques and caves).
Steppe Parks				
Djebel Aissa NP	Naama	24400 Ha	2003	<ul style="list-style-type: none"> - Tellian-type vegetation contains a list of endemic endangered species, a highly diverse fauna, and nearly 25 bird species listed as bird species to be protected. - Montains Ksours contain about fifty rock engraving stations.
Cultural Parks (CP) Saharan Parks				
Tassili CP	Illizi	300,000 expanded in 1987 to 13,820,000 Ha	1972	<ul style="list-style-type: none"> - Rich cultural heritage (15000 rock paintings and engravings, and archaeological remains) - The last cypresses of Duprez, large mammals, the Barbary sheep, gazelles, and fish in gueltas. - World Heritage listed in 1982 -Classified Man and Biosphere Reserve in 1986 by MAB.
Ahaggar CP	Tamanrasset	45,000,000 Ha expanded to 63,388,700 Ha	1987	<ul style="list-style-type: none"> - Contains archaeological sites dating from 600,000 to 1 million years ago. - Features the highest mountain in Algeria (Tahat Mountain 2918 m). - For more than 3 billion years, has a unique and dense natural heritage (geology, flora, fauna, and landscapes of national and international importance). - Recognized by Birdlife International as 'important area for bird protection' (IBA).
Saharan Atlas CP	M'sila, and other provinces	6,393,000 Ha	2008	<ul style="list-style-type: none"> - Very rich in natural sites and archaeological heritage, especially rock, with hundreds of engraving stations located in the main mountainous massifs that constitute it.

Touat-Gourara-Tidikelt CP	Adrar	3,874,000 Ha	2008	<ul style="list-style-type: none"> - Contains more than 3500 prehistoric stations and not less than 600 foggaras that are still productive (traditional irrigation system) -Classification of the Ahellil of Gourara (2008) and the Sbouaa (2015) of Timimoune on the representative list of intangible cultural heritage of humanity.
Tindouf CP	Tindouf	16,800,000 Ha	2008	<ul style="list-style-type: none"> - Contains precious treasures, including natural sites constituting a heritage and a pole of exploitable tourist development, mineral resources, vestiges, and monuments dating from prehistory.
Natural Reserves (NR)				
Macta NR	Mostaganem, Oran, Mascara	19,750 Ha	2001	<ul style="list-style-type: none"> - Homogeneous vegetation especially aquatic vegetation. - A diversified avifauna, this reserve is considered as an attractive site for Flamingos.
Mergueb NR	M'sila	13,482 Ha	1979	<ul style="list-style-type: none"> - Rare populations of Veal Gazelles and the Houbara Bustard. - Unique steppe ecosystems contain biotopes, none of which exist on a Maghreb scale.
Beni-salah NR	Guelma	2000 Ha	1973	<ul style="list-style-type: none"> -The vegetation covers about 95% of the reserve area. - Presence of Barbary deer (endangered species) - The Beni-Salah is one of the most important forest areas in the eastern region of the country.
Babors NR	Setif	2367 Ha	1984	<ul style="list-style-type: none"> - Endemic species: the Numidian Fir (Flora) and Kabyle Nuthatch (Fauna). It has a unique botanical and faunistic richness in Algeria. - A shelter for some glacial relics (<i>Populus tremula</i> and <i>Orchis nidus</i>).
Hbibba Islands Marine NR	Oran	2684 Ha	2003	<ul style="list-style-type: none"> - Generally low vegetation, with some subshrubs of Mediterranean type in the broad sense. - A very rich fauna. The rarest species identified are the Audouin's Gull, the Eleonor's Falcon, and the Cormorant Huppé.

Source: realized by the author based on ((MICLE, 1997) (ASAL, 2022) (Amayas, 2015) (ONT, 2022))

According to the table, we note that the protected areas are located in different regions covering all ecological ecosystems in the Algerian territory (see figure number 02), whose total protected area is 104531820 ha, representing 43.88% of the national territory, and this is outside the 50 classified wet sites . With such a rate, Algeria goes well beyond the global target of 17%.

Figure number (02): National and cultural parks in Algeria.



Source: realized by the author

Parks are the most important link in the national network of protected areas, and we distinguish between national parks and cultural parks. "A cultural park is a place of inseparability between the natural and the cultural. It is observed and apprehended from an ecological and cultural (eco-cultural) perspective as a cultural object and collective work in continuous recomposition, a historical product of the interrelations between the populations, their activities, their mental representations, and the environment that they share». (JORDAP, N 44, 2012)

The parks of Ahaggar and Tassili n'jjer were transformed into cultural parks by executive decree, and three other cultural parks were created in the Saharan regions in the south of the country, where there is a unique archaeological heritage (painting and rock engravings) constituting open-air museums that cannot be dissociated from their natural environment and a fauna and flora considered exceptional in the Sahara. The cultural parks cover most of the protected area in Algeria with a total surface of 104,275,700 ha, representing a proportion of 43.77% of the national

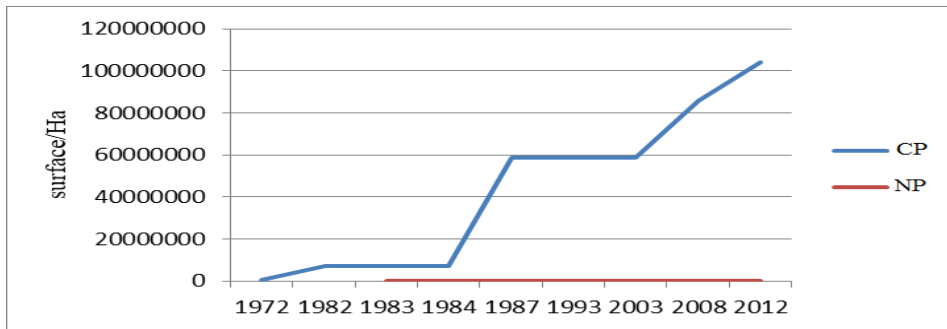
territory, compared with a surface of 189,975 ha for the other national parks located in the north of the country, which is equivalent to 0.08% of the national territory (see Table 3 and Figure 3).

Table number (03): Evolution of the surface of national and cultural parks in Algeria

	Cultural Parks (Ha)	National Parks (Ha)
1972	300000	-
1982	7200000	-
1983	7200000	125013
1984	7200000	157150
1987	58820000	157150
1993	58820000	165375
2003	58820000	189975
2008	85887000	189975
2012	104275700	189975

Source: realized by the author based on table 02

Figure 2: Evolution of the surface of national and cultural parks in Algeria



Source: realized by the author based on table 03.

And according to a report from the Spatial Planning and Environment Algerian Ministry sent to the Secretariat of the Convention on Biological Diversity, the goal is to reach in 2030 a network of protected areas covering around 50% of the national territory. Thus, no less than 25 new terrestrial protected areas are planned, including 11 biosphere reserves. These projects will concern ecological regions with habitats and critically endangered species. (CHENOUF, 2012)

3- Tourism in protected areas

3-1- Protected areas, sustainable development and tourism:

While the crucial role of creating protected areas and parks has been to protect ecosystems and conserve biodiversity first, the goal now goes well beyond that, and these parks are also considered a tool for territorial development. This approach evolved with the launch of the sustainable development concept by the United Nations World Commission on Environment and Development (WCED) in 1987. This concept is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED, 1987)

Biodiversity conservation has been integrated into the framework of sustainable development by the WCED (World Commission on Environment and Development), something that can be considered a gain for protected areas. This link has been deepened during several events: (LAUSCHE, 2012)

1. In the 1990s, IUCN developed protected area management categories that went beyond strict protection reserves and wilderness areas to include protected landscapes and areas of sustainable resource use involving more human intervention and active management, which is the link between conservation and sustainable development.
2. in 2002, when the World Summit on Sustainable Development linked biodiversity conservation, sustainable development, and the eradication of poverty;
3. and finally in 2003 at the 5th IUCN World Parks Congress, which focused on "Benefits Beyond Borders", highlighting the crucial role of protected areas for sustainable development.

These areas can therefore bring economic and social benefits in addition to their beneficial effects on conservation through various activities, of which tourism is one of the most important.

The cohabitation between tourism and the preservation of natural and cultural heritage is a priority issue of sustainable development, with the emergence of the notion of sustainable tourism, which is non-aggressive tourism with respect to the natural and cultural environment. Sustainable tourism can be defined as "a way of managing all resources to meet economic, aesthetic, and social needs and to preserve cultural integrity, ecosystems, biodiversity, and life support systems". (OMT-PNUE, 2002)

And according to Wahid Ferchichi (FERCHICHI, 2011), sustainable tourism is a broad concept that encompasses a number of environmentally friendly tourism activities that combine the need to protect the environment while encouraging the development of ecological tourism that is already diverse.

Responsible tourism is designed to respect the environment in which the idea of sustainable development manifests itself.

Ecotourism is a form of sustainable tourism in which the environment is at the center of attention and which must contribute to the preservation and protection of the natural environment of ecosystems. However, ecotourism is more than environmentally friendly tourism; it highlights local development and improves the well-being of local populations. (CHAKOUR, 2015)

The International Ecotourism Society defines ecotourism as a form of responsible travel in natural areas that contributes to the environment's protection and the well-being of local populations. (TIES, 1991) This form of tourism is, in essence, very sustainable. Its sustainability is mainly due to the fact that this activity relies on natural, environmental, and social resources in a responsible way to develop economic activity by limiting its impact on the environment.

And concerning tourism within protected areas, this activity is considered as a mean of valuing protected areas, especially parks, which remain a tourist resource and an opportunity to diversify the tourism offer. In this context, protected areas are considered as a tool for sustainable development and a way of managing nature, which reconciles conservation and economic benefits. (RIBI & all, 2007)

In the same vein, Dr. Yu-Fai Leung states that "unlike other industries and human activities, tourism in protected areas can be a positive force, amplifying the sense of responsibility and increasing the income that is vital for the long-term protection of these important conservation areas". (WCPA, 2017)

For Aylward and Lutz (AYLWARD & Lutz, 2003), ecotourism can benefit protected areas and local communities in three ways:

1. Generating money to manage and protect natural habitats and species;
2. Giving people the opportunity to benefit economically through protected areas;
3. Providing a means by which the interest of individuals (local and foreign) in conservation can be increased.

Thus, all stakeholders in protected areas (leaders and officials, local authorities, the population, tourism stakeholders, and tourists) are involved in developing a respectful tourism activity that promotes the protection of

these sensitive areas, far from all forms of mass tourism that can destroy the natural environment and contribute to its dysfunction.

3-2- Tourism forms to be developed in protected areas in Algeria:

Algeria relies heavily on the development of tourism to improve its balance of payments, reduce unemployment, and enhance the natural, cultural, and historical potential of the country while protecting it.

Tourism is one of the essential activities to be developed within protected areas in Algeria, but it differs according to the category of protected area and the main objectives that underlie its creation, and even within a single protected area according to its organization. According to Law No. 11-02 of February 17th, 2011, the Algerian protected areas are structured in three zones: (MESSALI & CHAKOUR, 2018)

- **A central area** with unique resources. Only activities related to scientific research are allowed.
- **A buffer zone** that surrounds or adjoins the central area. It is dedicated to "ecologically sustainable" practices such as ecotourism, environmental education, recreation, and applied and basic research. Although it is open to the public for discovery tours, no alteration or activities that might upset its balance are permitted.
- **A transition zone** that surrounds the buffer zone and protects the first two zones. Recreation, leisure, and tourism activities are permitted.

Protected areas in Algeria, and parks in particular, are therefore excellent sustainable tourist destinations due to their natural and cultural wealth.

Each type of protected area, and even each individual area, has specific characteristics as well as diversified and rare tourist potentials that offer a wide range of forms of tourism. These must be exercised without compromising the principles guiding sustainable tourism.

A number of elements and features are nevertheless common to all protected areas. It can therefore guarantee applicable tourist forms for all these areas and other specific forms for some areas:

-Ecotourism: is the most appropriate form of tourism to develop in all protected areas in Algeria because they contain remarkable and classified sites and ecological zones likely to constitute the attraction's poles of promising ecotourism and to create activities to open up these areas and integrate them into the sustainable development policy. Algerian protected areas are still an untouched destination, grouping together several

ecosystems and having a diversity of landscapes and natural environments between sea, forest, and desert, constituting a major component of tourism products based on nature: ecotourism at coastal and forest parks in Taza, Gouraya, and El-Kala parks, and desert ecotourism in the cultural parks of Tindouf, Tassili, etc. We can also cite other forms similar to ecotourism, such as nature tourism, green tourism, etc.

- **Scientific tourism:** All protected areas are an open laboratory for scientific research by excellence in different disciplines, including wildlife sciences. Each protected area contains a significant number of fauna and flora species, and sometimes even rare and endangered species. Geologists also find trails that require and promote scientific research, such as the Rocky Mountains in Ahhagar Park, the Saharan Atlas, and Djurjura. The same goes for history, architecture, and archeology, of which several parks include archaeological sites, ksours, rock engravings, and paintings such as Tlemcen, Théniet Elhad, Djebel Aissa, and all the cultural parks.

- **Cultural tourism:** aims to exploit culture in the service of tourism by integrating culture into the economic circuit while ensuring the preservation of the attributes of national identity and cultural traditional specificities. From their nominations, all the cultural parks in Algeria have an impressive cultural heritage inseparable from their natural environment, making them the largest open-air museums in the world. They are home to sites of cultural, historical, and aesthetic interest, many of which are classified as World Heritage Sites, in addition to other national parks that also include historic monuments and important archaeological sites (Gouraya Park, Theniet-Elhed, and Tlemcen), which certainly allow offering a cultural tourist product of high quality. Not to mention the intangible heritage of the people who live in these parks and their lifestyles, which constitute a tourist product to discover separately.

- **Sports tourism:** we can enjoy sports tourism in Algerian parks through several sports activities: diving, land, and underwater trails in coastal parks; hiking and skysurfing in mountain parks (Chr ea Park and Belzma) and desert areas; and rallies (Ahhagar Park, Touat-Gourara-Tidkilt, Tindouf, etc.).

- **Adventure and discovery tourism:** adventure tourism is generally an outdoor activity that is practiced in natural areas and incorporates an element of risk. Tourism in the mountains and forests (Taza Park, Gouraya, and all parks in mountain areas) is perfectly suited to this type of tourism, especially Saharan tourism, which is characterized by the difficulty of activities and experiences to live in the desert: bivouac, hiking, safari,

mehari, and many other activities in the five cultural parks of Algeria (all cultural parks are located in the desert that covers more than 80% of the Algerian territory).

There are still other forms of tourism that can be practiced in parks, such as rural tourism, agri-tourism, spas, etc. These multiple tourist activities can be practiced all year, which makes it possible to attract tourists regularly and thus create a tourist dynamic intended to make profitable the natural and cultural inheritance and to promote other economic sectors.

But of course all the forms of tourism mentioned above must be converted to sustainability in order to reduce the negative territorial and environmental impacts of tourism, especially in these fragile and sensitive areas, to promote sustainable tourism's products and offers, and to increase the added value of the tourism economy for local populations.

Conclusion

Development-related conservation is a major issue in protected area management policy in order to meet today's needs and preserve resources for the future. Sustainable tourism is a key activity to confront this concern when ecosystems play the role of high-value sustainable tourism products. It is therefore necessary to better align actions to achieve a balance between protection and development.

The network of protected areas in Algeria covers a significant area of the national territory, which favors the adoption of a tourism development strategy that meets the requirements of sustainable development. The implementation of such a strategy can guarantee a very diversified range of sustainable tourism products since these areas cover the six ecosystems in Algeria. But most of these protected areas are fragile ecosystems subject to different social, economic, and ecological pressures, especially in the arid and semi-arid zones in the south of the country. So rigorous procedures are required to reduce the negative effects of tourism activity on these environments.

These protected areas are real laboratories in the natural systems, which can give an accurate indication of the quality of the environment and the functioning of ecosystems and living species while contributing to the diversification of the local and regional economies. The inclusion of these areas in the sustainable tourism system requires the contribution of all the actors, the mobilization of appropriate means, and the accompaniment of private investors by the public authorities while granting them fiscal advantages.

Bibliography

- ABDELGUERFI, A. (2003). *Rapport de Synthèse sur « La Conservation in situ et ex situ en Algérie »*. Ministère d'aménagement du territoire et d'environnement -GEF/PNUD : *Projet ALG/97/G31 I*. Algiers.
- Amayas. (2015). *Bulletin d'information sur le projet des parcs culturels Algériens, n 0*. Algérie.
- ASAL. (2022). *Agence spatiale Algérienne*. Consulté le septembre 15, 2022, sur l'Atlas des aires protégées en Algérie: www.asal.dz/files/atlas/Atlas.pdf
- AYLWARD, B., & Lutz, E. (2003). *Nature Tourism, Conservation, and Development in KwaZulu-Natal, South Africa*. World Bank Publications - Books.
- BOUMENDJEL, M., & all. (2018). Management des activités écotouristiques dans les aires protégées de la Numidie Orientale Algérienne (Nord-Est Algérie). Grilles d'audit et d'implantation des activités écotouristiques. *El-Tawassol : Economie, Administration et Droit Vol 24 - N°03* , 255.
- CHAKOUR, S. C. (2015). Réflexion autour de la relation: Aires marines protégées,écotourisme et développement durable des territoires littoraux. *REVUE DES SCIENCES ECONOMIQUES ET DE GESTION* , 67.
- CHENOUF, N. (2012). *Action Plan for Implementing the Program of Work on Protected Areas of the Convention on Biological Diversity*. Algeria.
- CMED. (1987). *"Notre Avenir Commun", Commission Mondiale Pour L'environnement Et Le Développement*. Quebec: Edition du Fleuve.
- DUDLEY, N. (2008). *Lignes directrices pour l'application des catégories de gestion aux aires protégées*. Gland, Suisse: IUCN.
- FERCHICHI, W. (2011). *Evaluation du cadre juridique et institutionnel relatif à l'écotourisme et aux aires protégées en Tunisie*. Tunis: UICN.
- HUGH, S. (1994). *Annual report: 1994*. G -land: IUCN-the World Conservation Union.
- JORDAP, N 44. (2012). *Journal officiel de la république algérienne, N44*. Algeria.
- LAOUAR, S. (n.d). *Etat de la biodiversité en Algérie, ministère d'aménagement du territoire, d'environnement et du tourisme, Algérie*. Algiers.
- LAUSCHE, B. (2012). *Lignes directrices pour la législation des aires protégées*. Gland, Suisse: UICN.
- MESSALI, S., & CHAKOUR, S. C. (2018). Gouvernance de l'environnement littorale et aires protégées en Algérie: quels instruments pour quels objectifs. *Journal of Law and Humanities - Economic Issue - 35 (02)* , 486.
- MICLE. (1997). *Ministère de l'Intérieur des Collectivités Locales et de l'Environnement, rapport intermédiaire sur la stratégie nationale de conservation et d'utilisation durable de la diversité biologique en Algérie*.

OMT-PNUE. (2002). *Organisation mondiale du tourisme, document conceptuel, Année Internationale de l'Ecotourisme 2002*. Consulté le aout 18, 2023, sur <http://www.world-tourism.org/sustainable/fr/ecotourisme/doc-omt-pnue.htm>

ONT. (2022). *Site officiel de l'office national de tourisme en Algérie*. Consulté le septembre 15, 2022, sur <http://ont.dz/decouvrir-lalgerie/parcs-nationaux>

RIBI, M., & all. (2007). La place du tourisme durable dans les aires protégées. *Atelier international sur le tourisme durable dans les aires protégées du Maroc*. Maroc: direction de la lute contre la désertification et de la protection de la nature.

TIES. (1991). *The International Ecotourism Society (TIES)*. Consulté le septembre 09, 2023, sur <http://www.ecotourism.org>

UN. (1992). *The United Nations, Convention sur la diversité biologique 1992*. Consulté le September 02, 2022, sur <https://www.cbd.int/doc/legal/cbd-fr.pdf>

UNEP-WCMC and IUCN. (2021). *Protected Planet Report 2020*. Cambridge UK and Gland, Switzerland.

WCPA. (2017). Consulté le septembre 10, 2017, sur site officiel du congrée mondial sur les aires protégées: <http://worldparkscongress.org/drupal/fr/node/180>

WDPA. (2024). *World Database on Protected Areas* . Consulté le 01 15, 2024, sur <https://www.protectedplanet.net/en/about>