

The Diversity of Ecology and Nature Reserves as an Ecotourism Attraction in Jordan

Jamal El-Harami¹

¹Al-Zaytoonah University of Jordan, Amman, Jordan

Abstract. This article aims to explore ranges of mountains in Jordan which contain various types of tourist attractions exemplified by high green mountains in the Central Region, Ajloun, which are covered by many different trees. Alongside these mountains there is a large animal reservation and a tourist lodging built by using wood. This article will examine the effects of eco-tourism on the local community economically and socially. A completely different range of desert mountains in the South Region, in Wadi Rum, which is an eco-tourism attraction, will be tackled in this paper to discuss various components of tourist attractions such as mountain climbing, hiking and desert exploration. The article shows the influence of such tourism in improving life standards of local community and the sustainability of tourism in both geographical areas and their proximity to archaeological sites which can be included in tourist programs. The methodology of this article is descriptive and supported by field trips and meetings with members of local communities.

1 Introduction

Jordan is known for its rich assortment of historical, religious and geographical attractions which are spread throughout the country. These tourist attractions include Petra, Jerash, Ajloun, Baptism Site at the Dead Sea and other Islamic sites, such as; Qasr Amra, Wadi Rum in the south, and many others. Jordan's population is around 6.2 million and the land covers nearly 89,213 thousand square kilometers, approximately 75% of that space being taken up by desert. Most of the country occupies a plateau of between 700m. and 1000m. above sea level, with a few mountainous areas. Plant species that can be found include Cedar, Cactus, Eucalyptus and Pine, Olive trees and fruit producing trees, such as; apricot, plums, figs, pomegranates, grape vines, etc. Fauna in Jordan includes mongoose, lynx, striped hyenas, gazelles, various foxes and wolves, different kinds of birds.

Tourism is of vital importance to the national economy of Jordan. It is the Kingdom's largest export sector, its second largest private sector employer, and its second highest producer of foreign exchange. Tourist number in 2013 reached around 8 million in 2013 and tourism receipts reached 2883.6 JD million, more than 13% of GDP.

Jordan is keen on diversifying types of tourism by including mountain tourist attractions which are spread in areas in the north and south of the country, where each has its own characteristic. Ajloun mountains in the north are the largest mountains covered by many kinds of trees, such as: pine and eucalyptus and cedar. In the vicinity of these mountains many cultural and religious monuments dating to thousands of years do exist. In the south there is Wadi Rum mountains rising hundreds of

meters among desert sandy areas where many sports are performed around the year, such as: mountain climbing, trekking and camping. In the middle in Tafilah region there is Dana Nature Reserve which combines breathtaking mountain views and wild life tourism products in Jordan and a well known ecotourism destinations. Jordan has recently become very popular for international tourists and local inhabitants.

2 Literature Review

Ecotourism has been a major topic for researchers concerned with tourism and its wide range of products in many parts of the world. Ecotourism has grown as a consequence of dis-satisfaction with conventional forms of tourism which have, in a general sense, ignored social and ecological elements of foreign regions in favor of a more anthropocentric and strictly profit centered approach to the delivery of tourism products [1].

The terms ecotourism and nature-based tourism are often used interchangeably in the published literature. Popular tourism literature and marketing materials offer many other terms that are used interchangeably with ecotourism and nature-based tourism [2], such as; green tourism, sustainable tourism, alternative tourism, ethical tourism, responsible tourism, conservative tourism and others. These terms create confusion for what they mean.

2.1 Study Problem

The interest in Ecotourism in Jordan is relatively recent in comparison with other countries in the world. The Ministry of Tourism and Antiquities in Jordan began to diversify tourism products by including natural reserves whose number reached seven supervised by Wild Jordan, a branch of RCSN. The study includes three major reserves starting from north to south of Jordan. They are Ajloun Reserve, Dana Biosphere Reserve and Wadi Rum Reserve.

2.2 Study Importance

The main motivation of the study is focusing on the components and characteristics of these reserves which make them sustainable ecotourism's attractions which will add to various tourism products in Jordan.

2.3 Study Aims

The study aims toward knowing the importance of natural reserves in Jordan and their role in improving the life style of local communities and the protection of nature and sustainability of sites, by providing an economic incentives for conservation and raising awareness of environment.

3 Methodology

This work adopts the descriptive methodology where it traces the major concepts and origins of ecotourism discussed in the published literature by many researchers. Thoughts on eco-tourism in Jordan are a result of previous studies, personal communications with those in charge of tourist attractions and material collected upon many visits and observations of the components of these mountain tourist attractions in Jordan.

4 The Concept of Ecotourism: Origins and Definitions

The first appearance of the word “ecotourism” in English language as a hyphenated term (i.e., ‘ecotourism’) was used by [3]. Hector Ceballos – Lascurian used the Spanish word ecotourism earlier in the decade where he is accredited to be the first to coin the phrase in the early 1980s [4]. He defined it as a ‘traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas’.[5]

Most recently Fennel says that the term ecotourism has been traced back to the work of Hetzer (1965) who used it to explain the intricate relationship between tourists and the environments and cultures in which they interact. Hetzer identified four fundamental pillars that needed to be followed for a more responsible form of tourism. These included:

1. Minimum environmental impact.
2. Minimum impact on and maximum respect for host cultures.
3. Maximum economic benefits to the host country’s grassroots.
4. Maximum ‘recreational’ satisfaction to participating tourists.

Ecotourism has been the subject of several studies by researchers who defined it in different ways ranging from the general to the specific. A chronological sample of definitions proposed by a variety of ecotourism researchers [6] reflects the intensity of articles concerning ecotourism. Goodwin offers his definition by saying that ecotourism is a low-impact nature tourism which contributes to the maintenance of species and habitats either directly through a contribution to conservation and/or indirectly by providing revenue to the local community sufficient for local people to value, and therefore protect, their wildlife heritage area as a source of income.

A close examination of the above definitions of ecotourism reveals that the concept consists of four core criteria:

1. Ecotourism is a form of tourism and a product user should therefore meet the basic criteria used to define the ‘tourist’ to qualify as an eco-tourist.
2. Ecotourism attractions are based primarily on the natural environment and include the cultural attributes that are associated with this environment.
3. Ecotourism provides experiences focused on learning, education and appreciation.
4. Ecotourism must be oriented to be environmentally and socio-culturally sustainable and keeping the best practice.

Fennel concludes that the literature points to the fact that ecotourism is one aspect of nature-oriented tourism which includes many other types of tourism and outdoor recreation. Ecotourism occurs in and depends on a natural setting and many include cultural elements where they occur in a natural settings. The conservation of the natural resource is essential to the planning, development and management of ecotourism.

Characteristics of ecotourism according to Honey [7] comprise of travel to natural destinations, minimize impact, build environmental awareness, provide direct financial benefits for conservation, provide financial benefits and empowerment for local people, respect local culture and support human rights and democratic movements.

Dawson [8] mentions that in the past decade ecotourism and nature-based tourism have been the subject of many conference, professional journals, books and project reports which all resulted by giving numerous definitions and varied frames of reference as to what constitutes either ecotourism or nature-based tourism.

Despite all the various definitions which share many elements proposed by scholars and organizations to define ecotourism, it remains safe to say that each nature-based tourism can offer the suitable definition according to what it contains and represents to the visitor and the geographical location. There is still no universal agreement on the definition of ecotourism. One of the most popular definitions of ecotourism is the one given by the International Ecotourism Society (TIES). The Society defines ecotourism as “the responsible travel in natural areas that conserves the environment and sustains the well being of local people”. TIES Website [9].

5 Characteristics and Principles of Ecotourism

Scholars argued in various ways to clarify the major characteristics of ecotourism. Among them Wallace and Pierce (1996) suggest this tourism may be said to be true ecotourism if it addresses six principles:

1. It entails a type of use that minimizes negative impacts to the environment and to local people.
2. It increases the awareness and understanding of an area's natural and cultural systems and the subsequent involvement of visitors in issues affecting those systems.
3. It contributes to the conservation and management of legally protected and other natural areas.
4. It maximizes the early and long-term participation of local people in the decision-making process that determines the kind and amount of tourism that should occur.
5. It directs economic and other benefits to local people that complement rather than overwhelm or replace traditional practices (farming, fishing, social systems, etc.).
6. It provides special opportunities for local people and nature tourism employees to utilize and visit natural areas and learn more about the wonders that other visitors come to see.

5.1 Ecotourism in Jordan

Jordan is well known for being the place of many ancient civilization and rich in its natural, cultural, and historical heritage. Alongside this cultural richness Jordan has a bio-diversity reflected in its mountains, valleys and desert. Nature reserves constitute rich ecotourism destinations which are designated as an ecotourism sites such as Ajloun Forest Reserve, Dana Reserve, Wadi Rum Reserve and others. Ecotourism practices in Jordan have been generally limited to nature reserves.

The early history of ecotourism in Jordan is attributed to His Majesty the Late King Hussein who was behind the creation of the Royal Society for the Conservation of Nature (RSCN) in 1996 which is a non-government organization devoted to the conservation of Jordan's natural environment. Jordan signed the declaration of the International Year of Ecotourism in 2002, A World Ecotourism Summit held in Quebec. Ecotourism practice options were considered when planning for natural tourism destinations in order to improve its contribution to the local and national economic development. An ecotourism booklet was published in April 2004 by Jordan Tourism Board (JTB), with the cooperation of the Royal Society for the Conservation of Nature (RSCN) and the Jordan Royal Ecological Diving Society (JREDS). The booklet gives a brief description for all ecotourism sites in Jordan and what has been done to enhance and develop the site. The booklet contained some important and useful ecotourism guidelines for visitors to educate tourists about the main ecotourism principles. These guidelines include:

1. Respect the cultural and traditions of the local community.
2. Purchase local products.
3. Use energy conservations practices.
4. Follow directions and rules of the reserves.
5. Use water conservations practices.
6. Do not use natural water resources since they might not be clean.
7. Do not hike alone in the dark.

As part of the program, Wild Jordan in Amman was created to formulate and enforce ecotourism programs in the preserved sites in order to help local communities economics and to establish their small enterprises and sell their local products. [10]

Ecotourism practices in preserved areas include protecting sites, securing jobs, community involvement, and sustainability. Johnson [11] ecotourism has generated tremendous revenue for the country and the rural communities in the nature reserves. The RSCN has a 100% local employment policy in all their protected areas, resulting in ecotourism directly supporting around 160.000 families throughout Jordan. Through income-generating projects with ecotourism, communities living around nature reserves earned 2.3 million USD in 2012.[12]

In Jordan what makes ecotourism a success is the involvement of local communities in these nature reserves. They lead tours and hike, and work in lodges and restaurants and transport people and resources. In the past local people depended on hunting and herding for living. Wide variety of jobs became available to people living near nature reserves which decreased hunting activities. As a result animals are used as tourist attractions rather than food. USAID helped the town of Dana near the reserve to rebuild fifty-seven historic houses whose goal was to bring back the community member to left the poor town in search of work. Ecotourism effects reduce poverty, protect environment and restore heritage [13]. This study will concentrate on the following three mountain nature reserves in Jordan

5.1.1 Ajloun Forest Reserve

A beautiful nature reserve is located in Ajloun Governorate in the North of Jordan. A Mediterranean-like hill country, ranging from 600-1100m. above sea level. It consists of 13 square kilometers of mountains covered by open woodlands that are home to a diverse collection of plant and animal species. It was established in 1987 to help conserve the Evergreen Oak Forest ecosystem.

Ajloun Reserve

This nature reserve forest is important because its trees account for 1% of Jordan's forests. These trees have been important to local people for their wood, scenic beauty and medicine and food. RSCN manages this reserve who started a captive breeding program intended to reintroduce the locally extinct Roe Deer in 1989. Rich history is reflected in the many archaeological sites in the surrounding areas. A wide variety of animals inhabit the woodland such as badgers, foxes and wild bears, and also many birds like the great tit, gold finch, turtle dove, hooded crow and jay.

Deforestation and desertification over the past 200 years led to the decline in numbers of the roe deer. Three roe deer were introduced to the captive breeding enclosure in Ajloun in 1988, brought from a similar habitat in Turkey. Today there are sixteen roe deer at Ajloun.

Visitors to Ajloun nature reserve can enjoy two trails:

- a. Easy Trail: It is a scenic viewpoint about (2 km) and takes 1-2 hours. This trail starts from the campsite and reaches the summit of a nearby hill overlooking the reserve. The return trip goes past the breeding enclosures of the roe deer.
- b. Moderate Trail: This trail consists of a Rockrose (8 km), and needs 4-5 hours to do. The visitor passes across heavily wooded valley ridges, villages and olive orchards and offers beautiful panoramic views of the West Bank and Syria.

In 2000, Ajloun Forest Reserve was announced by, Birdlife International and RSCN as an important area in Jordan. Ajloun Forest Reserve has one of the most effective outreach and public awareness programs in Jordan which led to raise awareness of local communities, emphasizing the importance of the reserve and its maintenance.

The Reserve's Visitor Center has displays and information about the Reserve, and a shop sell locally made handicrafts. Visitors usually take hikes along the trails set up by the Reserve management. For accommodation there is 'An African Style' campsite is located near the visitors center. It is enclosed by oak, pistachio and wild strawberry trees and offer beautiful views of the Reserve and beyond. There are 10 four-person tented lodges available with small terraces and beds inside The campsite is open mid-March to mid-November. During winter season Ajloun region is the first to have snowfall with heavy accumulation.

The RSCN has launched three development projects in Rasun and Orjan, two nearby villages to the north of the protected areas in order to provide local people with new sources of income which will minimize their dependence on natural resources, promoting environmental conservation and boosting the rural economy.

1. The Soap House: Making soap out of olive oil is a long tradition in this region. Local women are employed to make soap by hand with added floral essences. The visitor can view the soap making process. Products are displayed for sale in the house and other places in Jordan.

2. The Calligraphy House: The RSCN has supported local women to study Arabic calligraphy in Amman, then bring such skills to the countryside. There is a silk-screening workshop where visitors can print their handiwork onto a T-shirt or card.
3. The Biscuit House: Local women are employed to produce all natural biscuits, energy bars and crisps.

The reserve and the area surrounding it are dotted with ruins. The most famous is Salahidin's Ajloun Castle, (1184 AD) and the most intriguing is the Mar Ilyas Church which one of the oldest churches in Jordan, and sacred to Ilyas, who is known in the Bible as Elijah. There is an enjoyable, guided hike from the reserve to Mar Ilyas and onto the castle.

Recently RSCN completed the construction of Ajloun Nature Academy at an old stone quarry near Ajloun Nature Reserve. The 3,000 square meter academy at the cost of \$3.9 million was funded by USAID and the E-TVET Fund. The aim of this academy is to establish an academic center to teach topics about the eco-tourism and environment, and management of eco-lodges. Courses are designed with cooperation of many European Centers and their expertise in this respect.

Jordan's first certified nature guides who finished their intensive training in South Africa will join major nature reserves in Jordan to set up training camps and deliver a training and evaluation programme for existing RSCN guides and delivering materials for the nature guide curriculum to be delivered at the Ajloun Nature Academy.

5.1.2 Dana Reserve

The Dana Reserve covers 400 square kilometers of reserve land bridging the Jordan rift valley. It was declared a reserve in 1993. It is managed by RSCN and known for its exceptional beauty, bird watching, hiking and archaeological sites. Dana Reserve is the largest and most diverse nature reserve in Jordan in terms of habitats and species. It contains more than 697 plant species, some found nowhere else, and are more than 1,000 years old and pastal cliffs stalked by sand cats, Nubian ibex and rare Syrian wolves. There are two ecotourism operations, the Rummana Campsite, and the Dana Guesthouse and Feynan is the third.

Dana Reserve

- a. Rummana Campsite was opened in 1994. It offered 'camping life' with 19 permanent platforms and tents, a kitchen and chef, and permanent bathrooms.
- b. Dana Guesthouse was opened in 1996. It is located at the base of the ancient Dana Village. RSCN turned this house into an ecotourism lodge with nine bedrooms.
- c. Feynan Lodge was designed in the shape of an ancient caravancera and the architecture and design of the building was inspired by Yemeni desert architecture. Its design was an eco-friendly, electricity-free getaway, light bulbs and hot water were powered by solar panels. All 26 rooms offered in suite bathrooms.

Among activities within Dana Reserve is guided hiking where one trail linked the guesthouse and the Rummana camp, a second trail linked the guesthouse and the Feynan Lodge.

Dana Nature Reserve is the largest and most diverse nature reserve in Jordan in terms of habitats and species. Over 45 species of mammals also inhabit the reserve. Dana Reserve supports a wide variety of wildlife; including several globally threatened species of birds, 180 kinds of birds exist in the Reserve. It has been therefore, designated both as Biosphere Reserve and Important Bird Area (IBA). Dana IBA provides essential habitat to breeding, wintering and migrating birds that breed in Europe and pass through the region twice a year.

The reserve directly or indirectly employs over 40 locals resident of Dana make quality local crafts (organic herbs, fruit rolls, jams, olive-oil soaps, candles and silver jewellery) that are sold by RSCN throughout Jordan.

Dana Reserve won four international awards for sustainable development and provides significant economic benefits. It has 50,000 visitors a year. (Source Jordanian Ministry of Tourism and Antiquities).

Feynan Eco-Lodge is located on the lower entrance of the Dana Biosphere Reserve in Wadi Araba. This lodge was built in the Wadi where a previous campsite for the Natural Resource Authority built in 1960's. Architect Ammar Khammash designed this tourist lodge in 2005 upon the request from RSCN and in 2009 it has been run by Amman-based firm Eco-Hotels.

Feynan lodge consists of 26 rooms which can accommodate 60 people. Electricity is generated through solar panels which is used only in the reception office, bathrooms and kitchen, the rest of the building is lit by candles which are made by locally by hand. Local springs are the source for water used at the lodge. Vegetarian food is only served and prepared from local natural products.

5.1.3 Wadi Rum Protected Area

Wadi Rum is a nature reserve located 290 kms. South of the capital city of Amman, or 40 kms north of Aqaba at the Red Sea. It is well known around the world for its sandstone mountains and orange sand dunes leaning against them covering 720 square kilometers of desert. Most of the scenic mountains are 400 meters high containing sheer cliff headwalls caused by running rain water from the top creating beautiful canyons.

Wadi Rum nature reserve is an RSCN Reserve – a protected area of the Royal Society for Conservation of Nature. It is considered the most spectacular natural site of Jordan for its vast desert combined with massive mountain cliffs and endless skies. The highest mountain is Mount Um Dami which rises 1840 meters above sea level. It is also known as the valley of the moon.

Wadi Rum attracts an increasing number of foreign and local tourists who find in a variety of fully-equipped camp sites. Desert tours in Wadi Rum can be taken using 4 wheel drive jeeps or on camels, and are followed by a desert banquet at a Bedouin tent.

Wadi Rum is the place for horse racing or endurance races which attracts participants from many countries in the region and the world. Other sport and adventure activities are hot-air ballooning, gliding and parachuting, full moon desert marathons which are lit with flaming torches. Recently Wadi Rum was marketed by Jordan's Tourism Board as a place for meditation which takes place on the 15th of the lunar moon. Petra and Dead Sea are also marked for this type of tourism. Wadi Rum gained popularity among tourists for being the place where the movie, "Lawrence of Arabia" was filmed in 1962. It was also used as the surface of mars in the movie, "Red Planet". Wadi Rum is a classic picture of sandy desert where visitors can spend days or weeks exploring its mountains, hills, vast landscapes and sand dunes.

Wadi Rum is a place to hike, trek, rock climbing, horse and camel safari. Camping under the stars in a desert environment is considered a none forgettable experience the tourists have where they eat local traditional food, get entertained by Bedouins songs and dances and spend the night in Bedouin tents.

Spectacular natural scenes admired by tourists and visitors are:

1. Mushroom Rock which took this name because it looks much like a mushroom.
2. Seven Pillars of Wisdom formation of columns of rock, where the name came from T.E. Lawrence's book.
3. Caves and Lifestyle: Many natural and hand-cut caves some of them date to Nabataean times. Bedouins demonstrate how they used to use plants to clean their hands in the old time.
4. Castle from "Lawrence of Arabia", which was built for the movie.
5. Inscriptions on Rocks: There are many sites in Wadi Rum where visitors can find inscriptions, paintings, graffiti, and petroglyphs which date Thamudic or Nabataean periods.
6. Natural rock bridges are very common and can be climbed to the top where they give a good view to the rest of the valley.
7. Lunch preparation of a traditional made by Bedouins.
8. Panoramic site best visited at sunset when the color of the desert starts to change its shades. The view from the top of the hill surrounded by some sand dunes, a lower valley view, and uniquely cut rocks and hills.

Mountain Climbing: The first climbing expedition to Wadi Rum was in 1984.[14] by a party of English climbers, before only Bedouins were able to reach the peaks of Wadi Rum mountains often by more than one route.

Wildlife: Wadi Rum holds plants both rare and endemic to its ecosystem. A baseline survey detected the existence of the Gray Wolf, Brand Ford's Fox, the Sand Cat and the Ibex within the area. The site is an ideal area for bird watching with its 120 recorded species [15]. among which are vultures, buzzards, eagles and sparrows.

The most recent project in Wadi Rum Nature Reserve was to increase the number of Arabian Ibex was done through a gift of 25 Ibexes from the United Arab Emirates. The number of visitors to Wadi Rum in 2013 reached 110.143 according to the Jordanian Ministry of Tourism and Antiquities.

5.2 Jordan's National Environment Strategy

Scarce resources and fragile ecosystems in Jordan necessitated a viable and ongoing program of action covering all aspects of environmental protection. In order to preserve the region's natural heritage, Jordan became the first country in the Middle East to adopt a national environmental strategy. With the help from the International Union for the Conservation of Nature (IUCN). In May 1992 a team of over 180 Jordanian specialists completed a practical and comprehensive working document entitled National Environment Strategy for Jordan.

The strategy is predicted on the fundamental principle of sustainable development, which the report defines as "development which increasingly meets human needs, without depleting the matter and energy of the ecosystem upon which development is founded. An economy which develops sustainably would be designed to perform at a level which would allow the underlying ecosystem to function and renew itself ceaselessly".

The plan outlines five strategic initiatives for facilitating and institutionalizing long-term progress in the environmental sphere:

1. Construction of a comprehensive legal framework for environmental management.
 2. Across-the-board strengthening of existing environmental institutions and agencies, particularly the Department of the Environment and the RSCN.
 3. Giving an expanded role for Jordan's protected areas.
 4. Promotion of public awareness of and participation in environmental protection program.
 5. Giving sectorial priority to water conservation and slowing Jordan's rapid population growth.
- [16]

6 Conclusion and Recommendations

Eco-tourism is a rapidly growing market in Jordan and across the world. Jordan's Board of Tourism is active in diversifying tourism products where it looked to utilize nature in Jordan as an additional source for the many tourism products which are well known such as archaeological sites, religious shrines, health and cultural tourism.

This study investigated the components of mountain tourism and their role in improving life standards of local communities, protection and sustainability of nature reserves in Jordan.

Three reserves were chosen to illustrate the diversity of mountain tourism in Jordan. First, Ajloun Nature Reserve located in the north is the most area covered by wide variety of trees spread along high mountains and hills intertwined with many archaeological and cultural sites such as Ajloun Castle (*1184 AD*). And Mar Ilyas Church which is one of the Christian pilgrimage sites. The Ajloun Nature Reserve is a good example of eco-tourism in Jordan because it follows characteristics of eco-tourism followed in most parts of the world. In addition to its natural components it created an economic tie with the local communities. A college for eco-tourism education with open its doors this year where courses are offered to educate students in order to work in reserves in Jordan.

Second, Dana Nature Reserve is located in the Tafila Governorate where it is spread over mountains partially with many sorts of trees and shrubs combined with geological formation

overlooking Wadi Arabah. This reserve contains three major tourist attractions such as Dana Guest House, the Rummana Camsite and Feynan Eco-lodge. The reserve contains many climates, Fauna and Flora, shown in different animal species, rare plants and birds. It is also surrounded by many cultural and archaeological sites dating to thousands of years. Ancient copper mines are in a proximity of the reserve.

Third, Wadi Rum Reserve is situated in the southern part of Jordan completely different location from the previous reserves.

Wadi Rum contains many mountains (highest 1840 m.) vertical sandy rock formations, described as moon like. These mountains attract many visitors specially hikers and mountain climbers. Sand dunes are another fascinating features are seen by riding in 4x4 vehicles usually with a guide. Wadi Rum Reserve is a protected area where Arabian Ibex is being reproduced along with other sorts of animals. RSCN figures indicate that its sites received 147,000 visitors in 2013, 65% of them were foreigners. More than 16,000 people from poor rural communities were supported directly and indirectly through RSCN's tourism and small business operations.

The four young Jordanians who acquired nature guidance qualifications and accreditation from the Field Guide Association of Southern Africa will form the foundation of eco-tourism guide training in Jordan. Since eco-tourism is a rapidly growing market in Jordan and in order to develop eco-tourism successfully, Jordan needs world-class, professional nature guides who have an excellent knowledge of Jordan's ecology.

Jordan is considered pioneer in eco-tourism as illustrated in the number of nature reserves spread out in various unique locations which include mountains, forests, as well as deserts.

As for recommendations:

1. Making use of modern technology in marketing such reserves on the international level despite all current efforts in order to attract visitors locally and internationally.
2. The introduction of eco-tourism education at all levels of education will definitely benefit eco-tourism sector in terms of conservation and sustainability.
3. Unified reference and control agencies will eliminate controversy found in nature reserves management and rules.
4. Explanation of the meaning benefits of eco-tourism to the general public who live around nature reserves.
5. Endorsement of laws regarding deforestation and hunting.

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