

Community partnership as an approach to reducing environmental degradation

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Abstract: Desertification is a phenomenon of natural environmental degradation that threatens ecosystems globally. Numerous studies have explored the natural and human factors contributing to environmental degradation. Human activities can potentially accelerate or mitigate environmental degradation, particularly in marginal areas. When resources in these areas fail to meet the needs of local populations, human migration ensues, leading to the loss of vital human potential necessary for preserving biodiversity and ecosystems. This migration accelerates environmental degradation. Therefore, addressing the needs of local residents and improving their standard of living by leveraging the natural environment's potential is crucial. This approach fosters a strong connection between the population and their communities, encouraging efforts to preserve and develop environmental resources as a foundation for sustainability. Consequently, strategies for developing marginal areas and conserving their environmental and human resources should be prioritized in policies aimed at combating environmental degradation and the associated desertification problems linked to human migration. Discussing development projects based on community participation as an approach to growth in isolated areas to protect them from environmental degradation with a comparative analysis methodology, examining five case studies from Arab, regional, and international contexts in similar areas. The aim is to identify their characteristics and success factors, highlighting the role of community partnership in conserving the environment. Various aspects are discussed, including the administrative structure, participating parties in financing, strategies, scope of work, and the returns and benefits from these experiences, followed by a deductive approach to extract research results from the outputs of the previous analysis processes.

Keywords: *Community partnership, Desertification, Environmental degradation, Remote areas.*

1. Introduction

The environment and its problems are among the most prominent topics attracting the attention of various bodies, including the communities of humanities and social sciences, due to their direct impact on human life. Environmental issues arising from imbalances in ecosystems have prompted international and local efforts to research their causes and mitigate them.

Earth is experiencing dangerous transformations in geology, climate, and the environment, primarily due to negative human behavior, disrespect for biological balance, and pollution from various activities.

The conservation of the natural environment requires both material and human resources, achieved through the creation of resource-generating activities that ensure self-financing. One such activity is ecotourism, which has recently emerged as a highly successful means of economic recovery and facilitating communication with nature.

Interest in the degradation of arid environments and desertification began with the international conference organized by the United Nations in Nairobi in 1977. Prior to this, scientists had warned of

this dangerous type of environmental degradation, but it remained largely unnoticed by the public. Studies identify several causes of environmental degradation, including drought, poor agricultural management, soil degradation, use of wood fuel, wasteful water practices, wind-blown sand movement, locust swarms, overfishing, poor environmental management, overgrazing, population growth, and urban expansion. Any one of these factors can significantly accelerate the process of environmental degradation.

2. Desertification

Desertification arises from the interaction between natural and human factors that affect the environment. The Earth Summit in Rio de Janeiro defined desertification as: “land degradation in arid, semi-arid, and dry sub-humid areas resulting from a number of factors including climate fluctuations and human activities” (UNEP, 1992). Researchers have divided the causes of desertification into two main categories: climatic causes and human activities. Continuous drought is a significant factor in accelerating desertification. However, prolonged rainfall in arid environments can also contribute by increasing livestock herds and expanding agriculture beyond the area’s capacity, leading to deterioration (United Nations, 1977). Human activities contributing to desertification include irrigated agriculture and soil salinity problems, overgrazing and nomadic lifestyles, cutting and collecting wood, overexploitation of groundwater, the effects of wars, migration from rural areas to cities, and increased pollution and global warming.

Dregne (1976) proposed a comprehensive program to combat desertification, emphasizing the need for national commitment from the outset and continuous follow-up until completion. The program advocates directing reform efforts to areas with the best conditions to maximize success, thereby boosting the economy. It also stresses the importance of community participation, the establishment of small-scale industries based on agriculture, and the improvement of the national economic and educational infrastructure. Dregne highlights that the stages of the program should be implemented sequentially, as each stage is crucial and indispensable.

These ideas will be explored and discussed within the applied study of the case studies. The research will analyze factors related to community partnership that contribute to environmental protection. When the host community recognizes the value of their culture and traditions and leverages their local potential, they develop a sense of pride and belonging. This fosters a model of community connection to a sustainable system and way of life.

3. Community Partnership

Citizens play a crucial role in protecting the environment. National programs for environmental protection will not succeed without the full support and conviction of citizens regarding their importance. In third-world countries, where most development is focused on urban centers, migration from remote areas to cities in search of a better life increases. This migration reduces the rural workforce and leaves natural and agricultural resources to gradually deteriorate. Citizen awareness of the importance of environmental conservation is the fundamental pillar in this field.

Community partnership holds an important position in studying and analyzing contemporary environmental problems. Community members, who understand their problems and needs, should be encouraged to participate in local environmental initiatives (Boonlert, 2005). Community partnership also provides the community with the opportunity to express their opinions to decision-makers. This principle is based on the acceptance of diverse opinions and coordination with all groups. There are three important conditions for achieving community partnership: freedom, ability, and will. Cohen and Uphoff (1980) suggested levels of application for the community partnership process to successfully implement related activities at the levels of decision-making, implementation, benefits, and evaluation. Community partnership in developing and implementing activities depends on the quality and levels of activities that the community must contribute to, along with other stakeholders from institutions, governments, the private sector, and individuals. However, the needs of the community must be the

primary goal, and the participation of individuals is necessary at all stages of the process (Virojtrairatt, 2010). The types of community partnerships for stakeholders can be divided into three categories: participation of the private sector, participation of non-governmental organizations and individuals, and participation of governmental institutions and the public sector.

Economic development can significantly contribute to environmental protection when it is tailored to the local environment and community through proper planning and management. This is particularly effective in areas with natural beauty, interesting terrain, abundant wildlife, clean air, and clean water, which support the establishment of development projects. Respecting the physical and cultural environment and promoting non-destructive and non-degrading forms of tourism can provide financial contributions to the protection of natural environments and cultures.

Goodwin also emphasized the economic dimension in his definition of ecotourism: Ecotourism is tourism with a low impact on nature that contributes to the conservation of species and customs. This can be achieved either directly, by contributing to conservation efforts, or indirectly, by providing the local community with sufficient income. This income incentivizes the local population to protect wildlife and heritage areas as valuable sources of income.

4. Case Studies

4.1. *Expeditions (Pamirs of Tajikistan)*

The Eastern Pamir region of Tajikistan is located in the high deserts, in the southern part of the Republic of Tajikistan, and is considered a very remote and economically degraded region (Watanabe, Anarbaev, Ochiai, Izumiyama, & Gaunavinaka, 2009). This area boasts a unique landscape and a rich local cultural environment. It includes some of the highest mountains in the world. The Murgab Ecotourism Association (META) was established in 2003 with UNESCO's support to develop and promote sustainable community-based tourism in the region.

In 2012, META became a largely self-sufficient tourism development agency based on its members. META members bring a variety of activities, all based in the Alishor, Murghab, Rangkol, and Karakol regions along the Pamir Highway. They include 40 homestays, 20 tented accommodation operations, 35 tour transport companies, and 12 tour guide companies.

META generates revenue from membership fees and annual calendar sales, which it uses to support a range of training courses, business services, and social programs in collaboration with the social enterprise, etc4CA.

To promote tourism-related economic development, META and etc4CA have provided training courses covering tourism market analysis, understanding and achieving visitor satisfaction, and maintaining attractive tourist destinations. These two social enterprises have also provided direct business support through individual consultations, development and maintenance of web-based tourism resources, and social media marketing. META has supported small tourism businesses in the remote Pamir Mountains by purchasing camping and trekking equipment, which it rents to local drivers and guides during the tourist season at subsidized prices that they otherwise would not be able to afford. This program has enabled local guides to generate economic income by organizing mountain treks. META's social programs directly address poverty and promote social justice. META markets handicrafts such as embroidery, carpet mats, and other mat products, helping to sustain traditions and crafts while diversifying economic opportunities for women. These social programs benefit the entire community, not just tourism entrepreneurs.

Table 1.
Exploratory trips in the Eastern Pamirs, Tajikistan (researchers).

1	Participating parties in financing	META Association consisting of:
		40houses for accommodation and 20 mat tents
		35tourist transport companies
		12tourist guide companies
2	Case study strategy Coordination	Social enterprise (etc4CA)
		With the social enterprise in providing:
		Training courses.
		Business support.
		Social programs for poverty and justice.
3	Field of work	Empowering women economically.
		Social media marketing.
		Training Courses
		Labor market analysis.
		Improving visitor satisfaction.
		Sustaining attractive destinations.
		Business Services
		Consultations.
		Online tourism resources.
		Social media marketing.
		Affordable camping gear rental.
		Social Programs
		Promote handicrafts online.
		Encourage visits to local producers.
4	Return	Support women and the community economy.
		Services: waste management, aesthetics, health, and renewable energy.
		Tourism Activities
5	Benefits of the experience	Safe, efficient mountain trips.
		Economic income for local guides.
		Increase in the number of visitors
		Achieve growth in revenue
		Diversity of community groups.
		Practical participation through service provision.
		Benefits for the entire local site, not just companies.
		Integrating training, business, and social programs strengthens visitor readiness.
		Marketing handicrafts and tourist visits help preserve traditions.

The integration of training courses, business support services, and social programs has enhanced the region's capacity to receive visitors, improved livelihoods, and increased social, economic, and environmental benefits. Such as the establishment of garbage dumps in villages, improved health and sanitation conditions for people living in villages, and wind energy research to enhance access to renewable energy for villages without electricity. This resulted in a 50% increase in tourist numbers in 2013 compared to 2012, with a 72% increase in revenue for META members (see Figure 1 and Table 1) (Shokirov & Dear, 2014).



Figure 1.

Yurt and activities in the Eastern Pamir region.

Source: Nomadex (2017).

4.2. Conservation of Vegetation Cover: Reviving the Rare Mangrove Trees in Senegal

A few kilometers from the city of Saint-Louis in northern Senegal, there is a strip of land covered with genetically isolated mangrove trees. These trees are crucial for the livelihood of local people and the environmental health of the area. However, due to deforestation, only 400 hectares of mangroves remain out of the original 1,200 hectares.

In 2003, the UNDP, the Global Environment Facility, and the Government of Senegal partnered to fund the establishment of 26 community national reserves across Senegal, including one for the Saint-Louis mangroves. This reserve covers 12 villages with a population of about 1,200. For the program to succeed, it required residents to take full responsibility and ownership of the reserve.

The project included an extensive awareness campaign with visits, outreach meetings, and radio spots explaining the initiative. Five new hydraulic motors were installed to manage the area's water, ensuring the mangroves remained healthy. As a result, a rare species of mangrove, *Avicennia africana*, was restored using a special planting technique by women in the village of Gandon, within the community national reserve. With most working-age men living and working elsewhere, women have led the reforestation of 2,000 hectares of mangroves, which are now attracting back carp, oysters, and honeybees that had previously disappeared.

In St. Louis, the program helped villagers set up and manage a Takaful savings and lending account. In 2011, the account had a balance of \$323,000, benefiting 1,140 beneficiaries. It also provided people with 171 beehives and a motorized fishing boat for ecotourism tours. See Figure (2) and Table (2). (United Nations Development Programme (UNDP), 2012).



Figure 2.
Rare Mangrove trees in Senegal.

Table 2.

Conservation of the vegetation cover (reviving rare mangrove trees in Senegal) (researchers).

1	Participating parties Funding	<ul style="list-style-type: none"> - United Nations Development Program. - Global Environment Facility. - Government of Senegal
2	Case study strategy	<ul style="list-style-type: none"> <input type="checkbox"/> Financing 26 community reserves across 12 villages for 12,000 people. <input type="checkbox"/> Residents are fully responsible for tree revival with full ownership rights.
3	Scope of work	<ul style="list-style-type: none"> <input type="checkbox"/> Awareness campaigns and meetings with project leaders. <input type="checkbox"/> Water management to preserve trees. <input type="checkbox"/> Women's participation in tree planting.
4	Return	<ul style="list-style-type: none"> <input type="checkbox"/> Financial return through savings and lending accounts. <input type="checkbox"/> Promoting ecotourism. <input type="checkbox"/> Reviving mangroves and restoring biodiversity. <input type="checkbox"/> Encouraging eco-friendly living.
5	Benefits of the Experience	<ul style="list-style-type: none"> <input type="checkbox"/> Empowering locals in management and ownership. <input type="checkbox"/> Women's active role. <input type="checkbox"/> Democratic decision-making in cooperatives.

4.3. Sports and Camping Activities: National Park in Mount Kenya

Mount Kenya is one of the least visited national parks, with an average of 25,600 visitors per year. Tourism in the area has been characterized by low levels of visitor activity and accommodation, with activities and lodging largely limited to a few commercial tour operators and hotel chains based in Nairobi. Although these companies employ some local porters, such tourism contributes little to the region's economy or sustainable development. However, community-based tourism has the potential to stabilize the livelihoods of rural households and contribute to community well-being, with 5,000 people employed as guides and porters in the national park.

Each visitor is provided with two porters to carry personal belongings, sleeping bags, tents, ropes, and utensils for preparing food.

The Guides and Porters Safari Club (GPSC) is one of twelve similar cooperatives around Mount Kenya. As a non-profit organization with a democratically elected structure, GPSC ensures that the benefits of the project are distributed equitably among all community members. Working as a guide or porter is a significant source of income in the area. The requirement for visitors to be accompanied by a licensed guide and a certain number of porters necessitates a large workforce.

Most of the profits are invested in improving the human capital of households. A welfare and support fund for needy individuals enhances social welfare, with a high proportion of expenditures paid

directly to members as salaries and other benefits. However, expenditures for welfare services have sometimes exceeded revenues, causing GPSC to depend on external support for major investments, such as those from international cooperation and development institutions.

Although this type of tourism empowers individuals, it involves only a small fraction of the total households. Community-based tourism, integrated democratic decision-making structures, and social benefit systems for community members are considered models for sustainable tourism. Community-based tourism with integrated democratic decision-making structures and social benefit systems for community members, as illustrated here, is a model for sustainable tourism. It can certainly act as a catalyst for sustainable regional development in the Mount Kenya region if visitors use this form of tourism directly rather than having their travel pre-arranged by companies in Nairobi. Promoting community-based tourism through international development assistance can therefore ultimately contribute to sustainable regional development. Although visitor numbers are relatively small, the workforce needs of alpine tourism in the mountainous African tropics are significantly higher than in other areas.(see Figure 3 and Table 3, Steinicke and Neuburger (2014)).

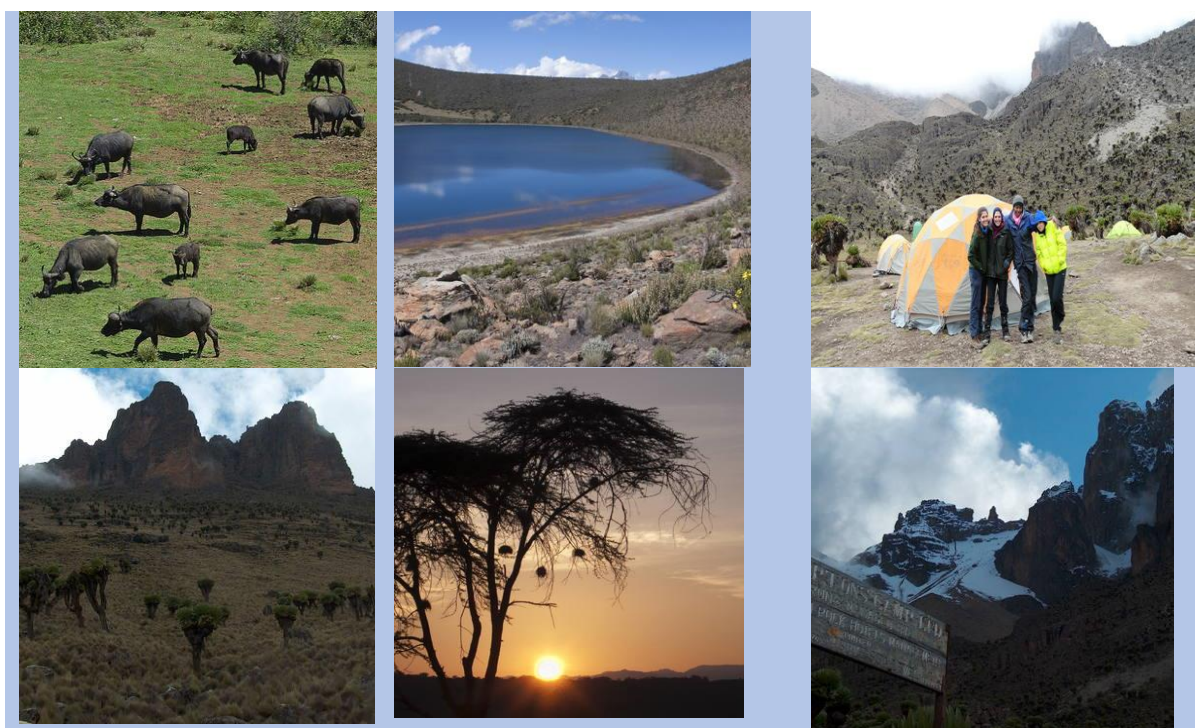


Figure 3.

National Park in the Kenya Mountains.

Source: UNESCO (2017).

Table 3.

Sports and camping activities (National Park in the Kenya Mountains) (researchers).

1	Participating Funders	- External support for major investments through international cooperation.
2	Case Study Strategy	- Establishing a fund for needy individuals. - Supporting democratic cooperatives. - Participation in the Safari Club for guides and porters.
3	Scope of Work	- Investing profits in family human capital. - Fair distribution of benefits to the community.
4	Return	- Financial return and social welfare - Empowering individuals
5	Benefits of the Experience	- Democratic decision-making in cooperatives. - Use international cooperation, especially in poor countries. - Strengthen local entities for tourism work. - Mountain tourism requires more workers than flat areas.

4.4. Livestock Conservation (Seasonal Settlements in Turkey)

The Eastern Black Sea Region, located in Turkey's northeastern corner, is characterized by mountainous terrain and agricultural activities. Historically, animal husbandry and breeding have been the most important economic activities. However, since the 1980s, there has been a significant increase in rural tourism, particularly in traditional seasonal settlements on mountain pastures known as yaylas. These yaylas were traditionally used to house herds during the summer months and have been an integral part of the nomadic cultures of Turkey for centuries.

In June, as the coastal and plain areas begin to warm up, families move to these yaylas with all their household items, including livestock. They spend the summer producing cheese and yogurt from milk, enriched by Alpine flowers and herbs. Nowadays, yaylas are increasingly used for summer recreation and tourism. Many residents continue to practice traditional herding and prepare local foods, while also welcoming guests from other parts of Turkey and the world. Visitors can enjoy locally produced cheese and experience staying in preserved rooms within traditional houses.

In the 1990s, during a period of increased investment in tourism infrastructure, the Ministry of Tourism began promoting rural tourism in the corridor. In this context, 16 yaylas were declared "tourism centers" by the Council of Ministers. The Ministry of Tourism encouraged tourism companies to invest in these areas, leading to the transformation of many yaylas in the Eastern Black Sea region into tourism centers.

The Ministry of Culture and Tourism views this as a strategic target, referring to this mountainous region as "Tourism Yaylas" and highlighting the region's objectives in the Turkey Tourism Strategy 2023 planning document. As the demand for entertainment and tourism in the corridor increased, so did the need for tourism companies and services. Improved accessibility facilitated the growth of tourism in the corridor.

Sustainable rural tourism has provided new sources of income for villagers and created new types of work related to the service sector. One positive impact of tourism development has been the increased employment of women. Local women have started their own tourism projects, significantly expanding their roles beyond domestic work and agricultural activities.

The demand for recreation and tourism in the corridor has increased, along with the need for tourism companies and services. Improved accessibility has spurred the growth of tourism in the corridor, despite the poor infrastructure that does not extend to these communities, which are only used for three months each year. Electricity, sewage, water, and cable TV lines do not reach these homes. Instead, water is sustainably sourced from natural mountain springs. Homes are heated using chopped wood and wood stoves, and all organic household waste is reused as fertilizer (see Figure 4 and Table 4) (Somuncu, 2014).



Figure 4.
Sustainable mountainous area development in Türkiye.
Source: Ecotraveller Guide (2012).

Table 4.
Preservation of livestock (seasonal settlements in Turkey) (Researcher).

1	Participating parties in financing	<ul style="list-style-type: none"> - The State. - Tourism companies from the local community.
2	Work strategy	<ul style="list-style-type: none"> - Reuse old facilities for new purposes. - Include them in Turkey's tourism strategic plan under the Ministry of Culture and Tourism. - Involve tourism companies in development plans. - Strengthen women's economic role.
3	Scope of work	<ul style="list-style-type: none"> - Encouraging tourism companies to invest. - Providing new types of work related to the service sector. - Employing women in projects for their families.
4	Return	<ul style="list-style-type: none"> - Financial return.
5	Benefits from the experience	<ul style="list-style-type: none"> - State participation is essential. - Securing access to mountainous areas supports tourism development.

4.5. Conservation of Biodiversity and Ecosystem (Santawani Reserve)

Santawani Resort is located in Botswana, one of the African countries, and is considered one of the smallest countries in terms of area and population, with an area of 600,370 km² and a population of about 2 million people. Santawani Resort is located about 80 km from Maun, near the southern gate of Botswana, in the heart of the Okavango Delta, with an area of 8,000 hectares (Wikipedia, 2011).

Botswana was chosen because it is one of the most well-known countries that implements sustainable development practices worldwide, as it has signed numerous international agreements supporting biodiversity conservation and sustainable tourism.

Tourism development in Botswana is focused on wildlife and the wildlife experience, and the policy in Botswana is one of high-cost, low-volume tourism with the aim of maximising income from a minimum number of visitors, minimising the risk to the country's fragile ecosystems, while maximising value through the scarcity of tourism offerings.

Several local and international non-governmental organizations work directly with community organizations in Botswana. These collaborations help ensure that tourism development does not harm

biodiversity conservation. They also support environmental and ecosystem conservation, wildlife tourism, and the sustainable use of natural resources. Additionally, these efforts aim to alleviate poverty, address environmental degradation, and raise awareness of biodiversity and ecotourism (Kalikawe, 2001).

Built in a nature reserve using local building materials and employing local labor (Kalikawe, 2001), this is the first ecotourism destination to be fully managed by the local community. The resort is owned by the community and managed by the Sankuyo Tshwaragano Management Trust (STMT), which comprises 400 local families. This marks the first instance of a community-based organization directly benefiting from tourism in the area. The resort employs around 20 community members who have gained hospitality management skills from working in other resorts and camps in the Okavango (Sampéré, 2004).

The project aims to alleviate poverty by providing financial incentives to the local community and encouraging participation in sustainable development (African Wildlife Foundation, 2005). It utilizes indigenous knowledge and traditional land management systems (see Figure 5 and Table 5).



Building with local building materials and traditional methods at Santawani Resort



Santawani Nature Reserve - Okavango Delta



Wildlife and safari trips in Santawani Resort



Using local labor in the tours

Figure 5.
Conservation of biodiversity and ecosystem (Santawani Reserve).

Table 5.
Conservation of biodiversity and ecosystem (Santawani Reserve) (Researcher).

1	Participating Entities	Funding	<ul style="list-style-type: none"> - The Government of Botswana leased the resort to local community members. - Local community participation. - African funding: African Wildlife Foundation (AWF), African Development Foundation (ADF). - International funding: USAID.
2	Case Study Strategy		<ul style="list-style-type: none"> - Conduct site surveys, population studies, and environmental impact assessments before implementation. - Use locally produced building materials to support the economy and protect the environment. - Employ and train local labor to develop management and planning skills. - Generate income through cultural tours and local food experiences. - Allocate part of Santawani Lodge profits to improve community facilities and living standards. - Distribute resort proceeds to health, education, social centers, tourism training, and orphanages. - Encourage preservation of the environment, cultural heritage, and community identity.
3	Scope of Work		<ul style="list-style-type: none"> - Encouraging tourism companies to invest - Using local labor - Employing women in projects for their families
4	Return		<ul style="list-style-type: none"> - Financial return - Preserving wildlife and lands
5	Benefits of the Experience		<ul style="list-style-type: none"> - Use part of profits to improve local facilities and services. - Ensure women's participation and state involvement. - Resort presence supports wildlife conservation. - Awareness, training, and involving locals in tourism with shared financial returns strengthen community belonging and project sustainability. - Generate direct economic benefits by employing local labor and engaging Bushman tribes for cultural tours and traditional product displays.

4.6. Conservation of the Natural Heritage, Heritage, and Environmental Life (Dana Reserve in Jordan)

This reserve is located in Jordan and contains four vital geographical regions, and is considered one of the most diverse areas in Jordan in terms of ecosystems and plant patterns (Wikipedia, 2011).

The reserve is also characterized by a unique and extensive diversity of wildlife. The differences in the region's geology, soil, and rocks have contributed to the presence of diverse plant life, accompanied by a variety of vertebrates and invertebrates. The region is considered to be of global importance (Jordanian Ministry of Education, 2009).

The project aims to conserve the natural heritage and cultural heritage of the region, exploit the natural and cultural resources in the region in a way that maintains their sustainability, benefit from ecotourism to stimulate and develop society, and promote cooperative work within society (Al-Khawaldeh, 2001).

98 archaeological sites have been recorded in this reserve, some of which date back to the Stone Age through the Roman and Byzantine periods until the early Islamic era (Jordanian Ministry of Education, 2009).

The current architectural heritage dates back 500 years, and this heritage is characterized by its components from the local environment, such as local stone, clay, and wood used in construction. This village is the only witness to the construction style that prevailed in most Jordanian villages until the end of the nineteenth century (Al-Khawaldeh, 2001).

In 1989, the first steps to establish the Dana Nature Reserve were taken by the "Royal Society for the Conservation of Nature," a voluntary non-governmental organization. In 1994, the organization developed the first management plan for the Dana Nature Reserve to preserve its biodiversity and to

make the Dana Biosphere Reserve an integrated model for environmental conservation and socio-economic development. This initiative was funded by the "Global Environment Fund."

The association determined the plan, objectives, strategies, and priorities that ultimately seek to find a balance between protecting the nature reserve and meeting the needs of the local population. This strategy is based on the concept of dividing the reserve into areas, with the identification of areas where recreational activities can be held and others where no activities should be held, maintaining them as they are (Wikipedia, 2011).

The project to preserve the architectural heritage of the reserve included all types of partnerships, as various sectors of society participated, especially youth who played a major role, while women participated in an intermediate role due to customs and traditions and the poor educational level in particular. Several parties participated in planning, financing, and implementing some programs that require financing or technical expertise, especially those involving investment projects, such as governmental and non-governmental bodies, international financing institutions, the private sector, international agencies, and local initiatives (Al-Khawaldeh, 2001).

The project included several main axes that were applied for the first time in Jordan:

- Field environmental studies of the characteristics and natural advantages of the reserve: It included 16 comprehensive studies of all the vital and environmental components of the reserve, in which dozens of young Jordanian researchers participated. The studies included surveys of animals, plants, soil, and water, as well as the economic and social characteristics of the local population. These studies provided comprehensive information that helped in preparing the modern administrative plan for the reserve, which was the first of its kind in its comprehensiveness and precise details, and became a model for all administrative plans for reserves in Jordan (Arab Environment Website, 2002).
- Ensuring sustainability for the project: The association focused on qualifying local residents and finding sources of income that contribute to raising the standard of living in the village and encouraging its residents to return to it. This was done through:
- Ecotourism: Tourist facilities were built inspired by heritage and are compatible with the environment. The village was rebuilt with its original stones and in its old construction method to preserve its character and heritage. Sixty-five houses were constructed in the village and converted into economic tourist homes. The main street of the village was paved with stones, and the village mosque was built similarly to imitate the old style. A cold and fresh water spring was also established for the valley, and many young men and local residents were trained to work as tourist guides or in the administrative sites of the reserve. The project was successful, and the reserve attracted tens of thousands of visitors annually. Al-Rummanah Camp in Dana Reserve exemplifies ecotourism, utilizing and preserving available environmental resources from encroachment. The campsite includes areas for bird and wildlife observation, as well as stargazing at night. Al-Rummanah Camp offers visitors 20 tents for a maximum of one day, accommodating up to 75 visitors, with the visiting season from March to October each year. In 1997, income from ecotourism was sufficient to cover the costs of maintaining the reserve. (Tafilah Electronic Portal). The skills of the local population, especially women, were invested in producing traditional handicrafts and pottery, crafted with local designs from local sources of clay, mud, and silver jewelry. Organic farming was practiced without pesticides, and honey and jam were produced from these organic crops. The income contributed to covering all current expenses in the reserve, leading to reverse migration to the village, while providing job opportunities and fostering economic activity (Arab Environment Website, 2002).

A group of local youth volunteers worked as social researchers to study the area in terms of its social, economic, and urban conditions and characteristics, in addition to studying the potential, needs, opportunities, and obstacles. The residents participated in the restoration of old houses, and the youth contributed individually and collectively as volunteers in planning, implementing, and supervising the

various development programs. Personal relationships with different individuals and groups at the local and international levels played a role in facilitating and supporting the activities of the civil society association. This means that the first and primary role in planning and implementing the project fell on the local community (Al-Khawaldeh, 2001). One of the factors in the sustainability of this project lies in promoting it as a touristic economic center with local management. The promotion was developed by the association signing an agreement with the "Eco-Hotels Company," which manages the Feynan Lodge in compliance with the conditions of eco-tourism, in order to involve the private sector in managing the tourist sites in Dana. The magazine "National Geographic Adventure" classified the Feynan Lodge as one of the 50 best eco-lodges in the world (Royal Society for the Conservation of Nature, 2009). In the end, the Dana project succeeded in involving the local community from the first planning stage, which created a sense of belonging. By exploiting the skills of the local community, an economic return was achieved for the local community, and the architectural heritage was preserved and traditional crafts were revived, which contributed to sustainable development.



Dana Nature Reserve



Architectural Heritage in Dana Reserve



Guest House in Dana



Rummaneh Camp Dana



Investing in the skills of local people in making local handicrafts

Figure 6.

Conservation of the natural heritage, heritage, and environmental life (Dana Reserve in Jordan).

Table 6.

Conservation of the natural heritage, heritage, and environmental life (Dana Reserve in Jordan) (Researcher).

1	Participating parties in financing	<ul style="list-style-type: none"> - Project managed by the Royal Society for the Conservation of Nature. - Funding sources: local community contributions, World Bank loans, UNDP, international bodies (e.g., French agency Arvel), and the Ministry of Planning and International Cooperation.
2	Case study strategy Coordination	<ul style="list-style-type: none"> - Build association capacity and train staff and volunteers. - Women's participation is limited by traditions and education. - Construct heritage-inspired, eco-friendly tourist facilities. - Rebuild the village using traditional stones and methods to preserve character. - Involve tourism companies and activate women's economic role. - Promote environmental tourism and position the reserve as an economic hub through agreements with eco-hotels and private sector involvement under sustainability conditions.
3	Field of work	<ul style="list-style-type: none"> - Conduct environmental and field studies on reserve characteristics and advantages. - Survey animals, plants, soil, water, and local socio-economic conditions. - Train locals as tour guides, artisans, organic farmers, and in restoring traditional houses. - Preserve attractive tourist destinations. - Convert 65 houses into tourist homes and build camps to attract visitors.
4	Return	<ul style="list-style-type: none"> - Generate economic benefits for the local community. - Increase visitor numbers and revenue growth. - Preserve natural and cultural heritage for sustainability. - Promote organic crops and products.
5	Benefits of the experience	<ul style="list-style-type: none"> - Engage young volunteers in comprehensive environmental and socio-economic studies to build community belonging. - Reduce unemployment by utilizing local skills for crafts, house restoration, and village rebuilding. - Provide awareness, training, and involve locals in tourism with shared financial returns to strengthen project sustainability. - Ensure social, economic, and environmental benefits for the community, not companies; promote handicrafts and cultural tourism to preserve traditions. - Empower locals in management and ownership with the active participation of women.

5. Comparative Analysis

By studying the tables of the previous case studies, the general characteristics of development projects in the study areas can be deduced:

5.1. Parties Involved in Financing

The financing parties varied among three main groups, as shown in Table 7:

1. The Local Community: This includes cooperatives and local tourism companies. Examples are:
 - The Meta Association (Case 1)
 - The Safari Club and cooperatives (Case 3)
 - Local tourism companies (Case 4)
 - Local community members (Case 5)
2. Governmental Bodies: These include:
 - The government of Senegal (Case 2)
 - The government of Turkey (Case 4)
 - The government of Botswana (Case 5)
3. International Institutions: These include:
 - The United Nations Development Program (Case 2)
 - The International Cooperation Foundation for the Poorest Countries (Case 3, Kenya)
 - The African Development Foundation (AWF) (Case 5)

It is noted that these parties worked jointly rather than individually, with the local community playing a fundamental role in all cases, often in the form of general or specialized women's cooperatives.

Table 7.

Comparative analysis of the case studies (Participating parties in financing).

Case studies				1	2	3	4	5	6
Participating parties in financing				Expeditions (Pamir, Tajikistan)	Vegetation conservation, mangrove restoration	Sports and camping activities (Kenya Mountains National Park)	Animal conservation (Seasonal settlements in Turkey)	Biodiversity and ecosystem conservation (Santawani Reserve)	Conservation of the natural heritage, heritage, and environmental life (Dana Reserve in Jordan)
1	Local community from cooperatives or local companies, or individuals	•	•	•	•	•	•	•	
2	Government agencies				•	•	•	•	
3	International institutions			•		•		•	

5.2. Development Strategy in Case Studies (as shown in Table 8):

1. Supporting human capital:
 - Vocational training courses
 - Literacy courses
 - Language courses.

These initiatives aim to develop the capabilities of the local community.

2. Direct financial support:
 - Support for equipment and commercial services, as seen in the first case in Tajikistan.
 - Financial support from internal or external sources, such as international investments in the third case in Kenya.

3. Providing direct contact between local residents and tourists:
 - This fosters cultural exchange, increases self-confidence, and enhances the sense of belonging among the local population.
4. Exploiting the region's heritage strengths:
 - Re-employing old buildings: For example, the use of yaylas in Tajikistan (first case) and Turkish yurts (fourth case).
 - Exploiting traditional crafts, such as making mats and tents in Tajikistan. All cases emphasized the importance of reviving and preserving traditional crafts as major tourist attractions. The sustainable development plan is linked to the site's ancient heritage, focusing on re-exploiting, employing, and reviving it.
5. Utilizing the site's natural resources in a traditional way:
 - Preserving traditional methods of preparing local products, which serve as a key driver for development. This is exemplified in the fourth case in Turkey, where cheese and yogurt are made from milk and alpine flowers.
6. Providing investment opportunities in development projects:
 - In tourism projects: This appeared in all cases of projects related to the movement of tourists to the site; we find guides, porters, drivers, traders, producers, coordinating visits to cooperatives, organizing tourist tours, and preparing products and foods.
 - In the field of services: It is necessary to direct part of the investments in the field of improving local services for local residents and tourists alike, such as renewable energy sources, ease of access to the site, infrastructure services, and cleanliness.
7. Activating the role of women economically: Women played a fundamental role in the tourism development strategy, and this was exemplified in the cases of Tajikistan and Turkey. Their role was demonstrated through direct intervention in cultural, economic, and social development, involving strong participation in family-specific tourism economic projects, direct contact with tourists, and developing their capabilities by learning languages, crafts, and traditional products specific to the region.
8. Opening international, regional, and local communication channels for advertising and marketing: This emphasizes the importance of transferring local experience to the global level through the optimal use of social media channels, search engines, and websites of local projects. The goal is to ensure the dissemination of the local potential of the place on an international level, attracting more tourism, whether domestic or foreign, and marketing products.

Table 8.
Comparative analysis of the Development strategies used in case studies.

Case studies			1	2	3	4	5	6
Development strategies used in case studies			Expeditions (Pamir, Tajikistan)	Vegetation conservation, mangrove restoration	Sports and camping activities (Kenya Mountains National Park)	Animal conservation (Seasonal settlements in Turkey)	Biodiversity and ecosystem conservation (Santawani Reserve)	Conservation of the natural heritage, and environmental life (Dana Reserve in Jordan)
1	Human Capital Support	Professional training courses	●	●	●			
		Educational courses such as language education		●	●			
2	Financial Support	Direct local support			●			
		Equipment supports and service provision	●					
		Wildlife and land conservation		●			●	
3	Providing direct contact between locals and tourists			●			●	
4	Exploiting the strengths of the region	Re-employing old facilities	●			●		
		Exploiting heritage sites					●	
		Exploiting traditional crafts	●			●		
5	Traditional exploitation of natural resources			●			●	
6	Providing investment opportunities	Investment projects related to tourism	●		●	●	●	
		Projects related to service facilities	●			●	●	
7	Activating the economic role of women		●	●		●		
8	Open international, regional, and local channels for advertising and marketing.		●	●			●	

6. Results

Through the theoretical and applied study of the previous cases, the important role played by community partnership in development becomes clear. For community participation to effectively reduce environmental degradation, it must have the following characteristics:

1. Pivotal role of the local community: The local community, in all its categories, must play a central role in the development process, either independently or in partnership with governmental or international bodies.
2. Integration into national strategy: The local community development plan should be included in the national development strategy.
3. Focus on marginal areas: Strategies for developing marginal areas and preserving their environmental and human resources should be prioritized in policies to combat environmental degradation and the resulting desertification problems associated with migration from these areas.
4. Community participation as a development entry point: Community participation should be considered a key approach for development in remote areas to protect them from environmental degradation.
5. Balanced system: Adopt a balanced system that integrates the local community, the environment, and visitors, ensuring benefits and protecting the rights of all.

6. Democratic organizational structure: The local community should be organized on a democratic basis through public or specialized cooperatives.
7. Development of human capital: It is essential to develop local human capital through various professional, training, and language courses, preparing them for direct engagement with tourism activities without intermediaries, and relying on local labor.
8. Preservation of traditional crafts: Traditional crafts and methods of preparing local products should be preserved as fundamental components of economic development.
9. Attention to services and infrastructure: Services and infrastructure should be developed alongside environmental conservation projects.
10. Role of women: Emphasize the role of women as key players in economic, cultural, social, and environmental development plans.
11. Utilizing social media and search channels: Leverage social media and search engines to market eco-tourism sites, attract more visitors, and promote traditional craft products and the natural environment of the site.
12. Preserving vegetation: Focus on preserving vegetation, especially rare species such as mangrove trees.
13. Promoting eco-tourism: Encourage eco-tourism by organizing exploratory trips, camping, and sports activities.

After all:

"Providing an economic base in remote communities based on their natural human potential, meeting the needs of their diverse populations, and raising their standard of living is the cornerstone that ensures the connection of man to his society, motivates him to preserve his environment, ensures his stability in it, and prevents it from being exposed to environmental degradation and desertification that follows."

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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