

Chapter 6

Ecotourism Potential and Challenges at Lake Natron Ramsar Site, Tanzania



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Abstract Ecotourism is thought to carry the promise to generate funds for conservation and provide alternative livelihood opportunities that are consistent with conservation of nature. However, lack of careful ecotourism planning and appropriate management in protected areas may result in environmental deterioration and inequitable development among the local communities. This paper analyzes the ecotourism potential and challenges in contributing to local sustainable management and conservation of Lake Natron Ramsar Site. Data were gathered through questionnaire surveys to area's residents and foreign tourists, interviews with key informants, and field site observation. Findings show that Lake Natron has immense tourist attraction potentials that are important for ecotourism development. However, lack of a general management plan, inadequate funding at the operational level, lack of mechanisms to secure a fair distribution of ecotourism benefits, and poorly developed tourism infrastructural facilities to support diverse segments of tourists were identified as the main challenges associated with the management of ecotourism in the area. The paper suggests a design of an effective management structure that can effectively address the obstacles and ensure that ecotourism achieves its long-term economic and conservation goals.

Keywords Ecotourism · Lake Natron · Potential · Attractions · Challenges · Tanzania

6.1 Introduction

Protected areas in African countries offer attractions that have become the cornerstone of tourism. These protected areas provide a range of economic development opportunities through various recreational events such as game viewing, hunting

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safaris, nature walking or climbing, bird-watching, and enjoyment of aesthetic scenic beauty (Boo 1993; Alers et al. 2007). However, Srikosamatara and Brockelman (2002) report that protected areas in developing countries are faced with a number of generic problems that threaten the long-term survival of biodiversity.

Ecotourism is acknowledged as a suitable category of tourism in protected areas because it helps to ensure preservation of resources and generates economic revenue from land set aside for conservation. The International Ecotourism Society (2015) defines ecotourism as a “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education.” However, Tisdell (2003) argues the actual gain from ecotourism is dependent on its effective planning and management. Studies have also shown that the revenue generated from ecotourism is particularly relevant to tropical developing countries whose incomes largely depend on revenues derived from its natural resources (Davenport et al. 2002; Kirkby et al. 2010). Davenport et al. (2002) further argue that governments of such countries are under great pressure to maximize rents from all lands and, without tourism revenue, they can rarely justify allocating adequate levels of funding for biodiversity conservation.

Tanzania is known for its rich biodiversity and unique flora and fauna. The country has designated over 30% of its land to a protected area network with the overall objective of biodiversity conservation and socioeconomic development of its people (MNRT 2007). For example, Lake Natron, in the Northeastern part of Tanzania, is one of the well-known protected areas in Tanzania that is managed for conservation and ecotourism. The lake shares a trans-boundary ecosystem with Kenya within the Great Rift Valley of the eastern African lakes and straddles two districts. The Ngorongoro District comprises the western half of the lake, and the newly established Longido District encompasses the eastern half (RAM 2008). Due to its ecological significance for water bird conservation, Tanzania recorded Lake Natron as a second Ramsar Site in 2001. The lake is the only significant and regular breeding site in East Africa, for approximately 2.5 million lesser flamingo (*Phoenicopterus minor*), accounting for 75% of the global population (BirdLife International 2007). Despite its biodiversity potential that is of exceptional value to the tourists, Lake Natron is facing a number of obstacles associated with the management of ecotourism. Some of these obstacles include lack of a general management plan to ensure development activities are compatible with conservation goals, inadequate funding of at the operation level, lack of mechanisms to secure a fair distribution of ecotourism benefits, and poorly developed tourism infrastructural facilities to support ecotourism operations. This paper provides an in-depth understanding of ecotourism at Lake Natron by exploring its current potential in contributing to conservation and the welfare of the local communities. The paper also explores the challenges associated with the management of ecotourism in the area.

6.2 Methods

6.2.1 *Data Sources and Study Population*

The study made use of both primary and secondary data sources. Primary data were obtained from various stakeholders who are either directly or indirectly involved in the management of Lake Natron. These include the local communities living in the adjacent villages to the lake, international tourists visiting the area, and key informants such as selected government officials, community leaders, tour operators, and nongovernment officials. Secondary data were acquired from textbooks, relevant journals, documents compiled by the various institutions, and community records located in the respective village government offices.

6.2.2 *Sampling Procedures and Sample Size*

The household survey involved selection of the study villages using purposive sampling. The purposive sampling technique, as the name suggests, requires the researcher to purposefully select the units that are investigated based on their judgment on particular characteristics that will adequately answer research questions (Palys 2008). Three villages out of seven were purposely selected based on the understanding that the local communities in each of the villages are heterogeneous in terms of the economic activities practiced activities that may influence their development preferences and the values attached to the lake and its surrounding environment. The sampling units (the heads of households) who participated in the survey as respondents were selected from the identified villages through a systematic sampling approach (Saunders et al. 2007). Using the villages' register books, the first household was randomly selected, and then subsequent households were chosen using a systematic interval until the desired sample size was reached. In total, 316 heads of households in the sampled study villages were surveyed.

Convenience sampling method was used to select a tourist sample. Convenience sampling is a non-probability sampling where the sampling units that are selected for inclusion in the sample are the easiest to access or conveniently available (Dörnyei 2007). The survey was carried out attempting to minimize any inconvenience to respondents during their holiday experience. To elicit interest in the research project, the researcher approached potential respondent(s) at appropriate locations, such as restaurants, where tourists were more likely to be comfortable spending time talking. In total, 155 tourists were surveyed. This study also purposely selected the key informants based on their knowledge on the research matter.

6.2.3 Data Collection Methods

Questionnaire survey was used to collect quantitative data from local residents living in the villages adjacent to the lake and international tourists visiting the area. Key informant interviews were also used to collect qualitative data from key informants such as government officials, village leaders, and tour operators. In addition, field site observation was employed in order to get detailed understanding of the social and biophysical settings.

6.2.4 Data Analysis

Data analysis for this study consisted of two parts. The first part involved the analysis of quantitative data using Statistical Package for Social Science (SPSS) version 20, whereby descriptive statistics were run to generate mean values, frequency counts, and percentages. The SPSS software program has been reported as suitable for dealing with numerical or quantitative data (Jennings 2001). The second part of the study required the use of content analysis to analyze qualitative data from interviews.

In this study, the content of interview data was classified into important themes of analysis that were identified to reflect the objectives of the study. Each theme presented an “idea,” and all data related to a particular theme were included under that premise. The ideas were evaluated by making comparisons of responses and determining how frequently each of the categories appeared in order to draw conclusions.

6.3 Results and Discussions

6.3.1 Ecotourism Attractions and Activities at Lake Natron

Field site observation revealed that tourist attractions at Lake Natron area are primarily based on the naturally endowed resources of water bird species particularly the large population of the lesser flamingos and the beautiful landscape scenery containing diverse wildlife species of tourism importance. Apart from the lesser flamingos that are considered a key attraction in the area, Lake Natron also offers habitat for more than 100,000 other water birds, as well as supporting a small population of large mammals in the scenic area (RAM 2008). Another popular tourist attraction in the area is the *Mountain of God* (the Oldoinyo Lengai Mountain), the highest active volcano in Africa (ESIA 2007). The presence of mineral-rich hot springs and waterfalls in the area also add to the existing ecotourism potential. Besides the natural sites, Lake Natron area holds cultural significance because of

the unique Maasai culture. The escarpment bordering the lake on the western side also encompasses archeological sites that are characterized by some faunal remains (Domínguez-Rodrigo et al. 2002). The locations of various ecotourism attractions are shown in Fig. 6.1.

Tourist survey data revealed that tourists visiting Lake Natron participate in various ecotourism activities such as bird-watching, nature-walking through the landscape, hiking the Oldoinyo Lengai Mountain, and visiting the Maasai Cultural *bomas* to learn about their traditional way of life and buy mementos. Other activities include visiting the Lake’s hot springs and archeological sites, such as the Engaresero footprint, in order to appreciate the signs of the earliest humans.

In addition, field site observations found that ecotourism activities are predominantly located in the southern part of Lake Natron, specifically in Engaresero village and around Mount Oldoinyo Lengai. It was further revealed that Engaresero village is the only village that has ecotourism facilities that provide different services to tourists. The household survey data showed that only 18% of local residents engage in various ecotourism-related activities such as working as lodge employees, local tour guiding, as well as making and selling local handicrafts to the visitors. These activities provide local people with opportunities to benefit directly from tourism activities conducted in the area.

Currently, Lake Natron plays a pivotal role in supporting tourism in northern Tanzania and has the potential to serve as a major tourist destination for ecotourism

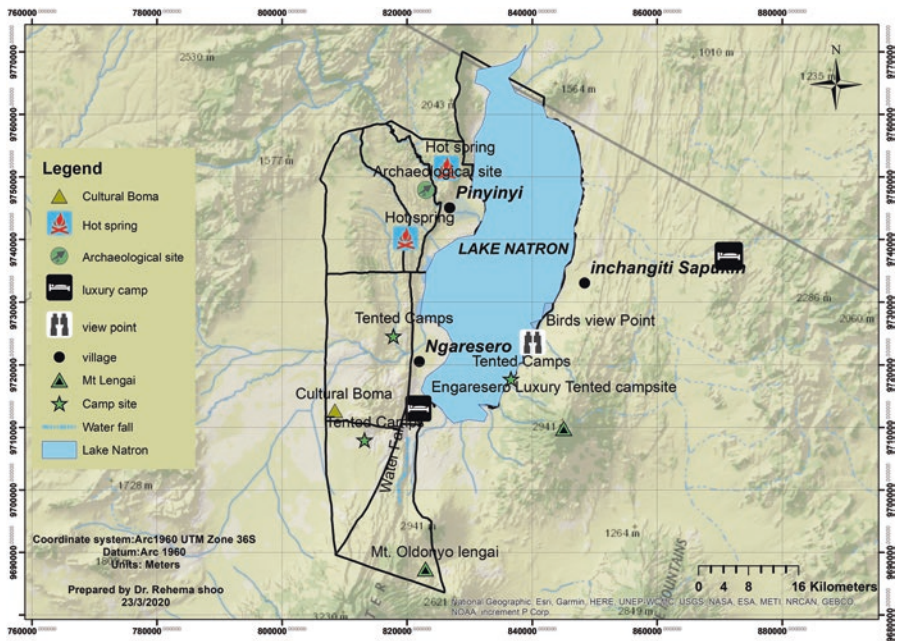


Fig. 6.1 Location of tourist attractions at Lake Natron

activities, especially for those tourists interested in walking safaris and watching flamingos (BirdLife International 2012).

6.3.2 *Tourist Ranking of Ecotourism Attractions at Lake Natron*

In an attempt to determine the importance of specific attractions at Lake Natron to foreign tourists, respondents were asked to rank the selected attractions using a 3-point Likert scale (1 being the most important attraction; 3 being the least important). Table 6.1 reports the frequency and mean values as a result of tourists ranking. Findings indicate that three out of eight attractions were more important to the tourists compared to the rest of attractions. These three attractions are the birds, local culture, and the Oldoinyo Lengai Mountain. The mean scores for such attractions were considerably lower than 2, indicating that most tourists perceived these attractions to be either very important or important. Birds were highly ranked ($M = 1.4$, $SD = 0.68$), followed by the local culture ($M = 1.64$, $SD = 0.92$), and the Oldoinyo Lengai Mountain ($M = 1.81$, $SD = 0.94$). Attractions such as waterfalls or the Rift Valley were less important as demonstrated by higher mean scores of 2.66 and 2.90, respectively.

The most important observation that should be highlighted regarding tourists' preferences for attractions is that birds were the most preferred attraction compared to the rest of attractions in the area. Based on this finding, certain managerial conclusions can be drawn. Protection of birds should be emphasized in the marketing and management of Lake Natron as a tourism destination. As Backman and Pott (1993) argue, many bird-watchers may spend more money on their trip in their quest to see rare birds or as many species as possible. Also, Lee et al. (2009) found that people experienced in bird-watching have a 20% larger willingness to pay for such services. Based on this premise, there can be no doubt that bird-watching has

Table 6.1 The frequency and mean ranking of attractions at Lake Natron by tourists on a 3-point Likert scale (1 being the most important attribute; 3 being the least important)

Attractions	Ranking			Mean	SD	Min.	Max.
	1 N	2 N	3 N				
Birds	94	46	15	1.40	0.68	1.39	1.60
People and culture	70	35	50	1.64	0.92	1.70	2.09
Mountain	63	36	56	1.81	0.94	2.01	2.31
Landscape	45	25	85	2.27	0.87	2.13	2.41
Lake Natron	32	40	83	2.35	0.79	2.22	2.47
Waterfalls	27	0	128	2.66	0.75	2.55	2.78
Large mammals	18	60	77	2.50	0.69	2.39	2.61
Rift Valley	6	1	148	2.90	0.42	2.84	2.97

potential to become a significant tourism market segment if it is promoted at Lake Natron.

6.3.3 Impact of Ecotourism at Lake Natron

This study sought to determine different ways in which ecotourism contributes in the conservation of Lake Natron resources as well supporting the livelihoods of the local communities. Interviews with village leaders at Lake Natron revealed that some of the ecotourism revenues from entrance fees and tourist activity fees are used to pay for the protection and management of tourist resources in the area through conducting anti-poaching activities. Data also indicate that the Ngorongoro District Council, through the village environmental committees, have organized meetings aimed at raising local community awareness on environmental values in order to heighten local understanding of the value of nature. The environmental awareness meetings are believed to influence local changes from the current unsustainable practices into environmentally conscious behavior and activities. Village leaders further revealed that ecotourism at Lake Natron directly supports local livelihoods by providing employment opportunities and indirectly through percentage shares that the village obtains from the entrance gate fees and land rent fees paid by lodge investors. The villages, especially the Engaresero village, make use of tourism revenues accrued at the village level to develop various community development projects. A number of social development projects including the construction of a cattle dam, nursery school, teachers' houses, health center, classrooms for a primary school, dormitory for a secondary school, culverts, and bridges were noted. Some children from destitute families have also been sponsored to pursue secondary education as a result of ecotourism income. Other benefits cited by village leaders include donations made by tour operators and lodge investors that include books for schools, medicines, and sleeping beds for the health center.

6.3.4 Perceived Importance of Ecotourism by Local Residents

The importance of ecotourism to the local residents at Lake Natron was determined by asking respondents to rank the statements on a 3-point Likert scale ranging from 1 point as "very important" to 3 points as "least important." Table 6.2 summarizes the responses of resident perception. The majority of households, totaling 95 (90.5%), in the Engaresero village (Mean = 1.01, SD = 0.62) were of the opinion that ecotourism has provided better social infrastructures; 77 (73.3%) (Mean = 1.68, SD = 1.02) of respondents believe that ecotourism has created jobs for the local people; 81 (77%) (Mean = 1.30, SD = 1.27) of households acknowledge the role of ecotourism in increasing medical and educational opportunities. Noting a divergent view, over 95% of household respondents in I/Sapukin village strongly believe that

Table 6.2 Perceived importance of ecotourism by local residents on 3-point Likert scale ranging from 1 (very important) to 3 (least important)

	Engaresero village (n = 105)					I/Sapukin village (n = 99)					Pinyinyi village (n = 112)				
	1	2	3	Mean ^a	SD	1	2	3	Mean	SD	1	2	3	Mean	SD
	n	n	n			n	n	n			n	n	n		
Improved social infrastructure	65	30	10	1.01	0.62	0	2	97	2.66	0.87	1	43	68	1.87	0.93
Provision of job opportunities	14	63	28	1.68	1.02	0	1	98	2.85	0.81	0	3	109	2.94	1.40
Provision medical and educational opportunities	26	55	24	1.30	1.27	0	0	99	2.96	0.75	0	0	112	2.98	0.67

^aThe higher mean score indicates lower importance

ecotourism has not provided economic benefits. Although a large proportion of respondents in Pinyinyi village, 45 (40%), were neutral in their opinion regarding the statement that ecotourism has improved their social infrastructure, the majority (over 90%) of household respondents did not acknowledge the contribution of ecotourism in either creating jobs or increasing medical and educational opportunities.

Perceived importance of ecotourism by local residents in protected areas has been noted as an important factor associated with the residents' attitudes toward protection of such areas (Singh et al. 2007). Household questionnaire surveys at Lake Natron found that local residents' perceptions on the importance of ecotourism varied among the surveyed villages. Most of the residents living in Engaresero village had a relatively positive perception of ecotourism compared to the rest of the study villages. This finding is not surprising because ecotourism benefits at Lake Natron are largely confined in Engaresero village where tourist activities take place due to the presence of tourism facilities. The local residents in Engaresero benefit from ecotourism either directly through employment opportunities and/or indirectly through improved social services and infrastructure. With the exception of Engaresero village, the rest of the study villages viewed ecotourism less favorably, possibly because they realize that ecotourism has not brought them equitable and sufficient benefits. This situation pose challenges for implementing conservation programs in the area as the majority of local residents are likely to have little or no incentive to protect the area because they do not benefit from tourism.

6.4 Challenges of Managing Ecotourism at Lake Natron

In spite of the importance of Lake Natron area for conservation and tourism, this study revealed a number of management challenges that imperil ecotourism development. Some of these obstacles operate at higher national levels, and others

originate directly from its management practices. According to Nelson (2003), these challenges undermine the ecotourism potential of Lake Natron and create an uncertain environment for community and private sector investments in resource management and tourism development. The main challenges are explained below.

6.4.1 Lack of a General Management Plan

Interviews with the Ramsar Site manager revealed that most of the challenges at Lake Natron are aggravated by the lack of a management plan to ensure management decisions are based on a clear understanding of the area's conservation goals and its long-term vision. The urgency for a management plan for Lake Natron is increased by the existence of widespread threats (both current and potential) from the development activities that are not compatible with the conservation objectives and values of the area. Yanda and Madulu (2005) report that the Rift Valley lakes of East Africa, including Lake Natron, have gone through significant anthropogenic land-use pressure and overexploitation of natural resources that have caused loss to the biological diversity that supports tourism. For example, a study by Gereta et al. (2003) shows that, despite the ecological importance of flamingos in Lake Natron, their survival has been threatened by unregulated anthropogenic land-use activities. The current study noted that dry season irrigation agriculture is expanding particularly for the local people living on the western side of the lake, with people utilizing water from the rivers that feed the lake. Continuing conversion of river flow to create small-scale irrigated arable land are likely to cause future environmental degradation and a subsequent loss of biodiversity resources. Degradation of the lake environment is further accelerated by the fact that majority of the local residents depend directly on the environmental resources for their basic needs. In the southern part of the lake where ecotourism activities are practiced, there is also increased population growth due to immigration, further contributing to pressure on these natural resources. Apart from the existing threats, ecotourism resources at Lake Natron have been threatened by potential threats such as the Tanzanian government plan to build a soda ash factory along the shore of the lake that will extract soda ash from the lake (BirdLife International 2012). This development activity is likely to cause an influx of people to the area increasing pressure on natural resources and resulting in the loss of suitable conditions for water birds, especially the lesser flamingos whose survival depends entirely on the lake and its unique hydrochemistry.

Interviews with the Ramsar site manager further revealed that poor management of the biodiversity resources at Lake Natron is partly contributed by the lack of a holistic approach among different parties (the local government council, central government, local people, investors, and non-government organizations) for access to and control of ecotourism resources. Nelson (2003) noted that the local communities, as key stakeholders in managing Lake Natron, strive to control their lands

and access to the resources therein. At the same time, district governments often try to capture a greater portion of the tourism revenue, while the central government claims the overall jurisdiction. The private sector itself is riddled with similar conflicts, as individual tourism operators negotiate for positions at the local level, and, in theory, tourist hunting conflicts with non-consumptive wildlife forms of tourism such as photographic safaris (Kobb et al. 2000). These conflicts fuel uncertainty among all stakeholders, especially the private sector, with regard to the current direction and future viability of ecotourism. In addition, different NGOs operating in the area have conflicting strategies in promoting their agenda. One commonality among all NGOs is the desire to empower the local community economically. However, while some promote livelihood security through ecotourism, others promote the same goal through encouraging increased livestock. For example, while the then Wildlife Conservation Society of Tanzania (WCST) implemented a set of environmentally friendly community micro-livelihood projects, the Oxford Committee for Famine Relief (OXFAM) works toward poverty reduction among pastoralists by improving livestock production and restocking destitute families to allow them build up herds that can sustain the household. This situation is entirely different from the integrated planning and management approach required by the ecotourism concept that tries to overcome the fragmentation inherent in existing management approaches by meeting the needs and visions of all concerned users as well as the environment (Kirkby et al. 2010). Coordinating and communicating this agenda could make their mutual interest a common objective so that Lake Natron management becomes jointly and viably managed for sustainable livelihood development and biodiversity conservation.

6.4.2 Inadequate Funding at the Operational Level

Management of ecotourism resources at Lake Natron is also characterized by insufficient allocation of the funding resources. At the moment, Lake Natron is funded entirely by government sources. The Danish International Development Agency had provided financial resources to supplement government funding for the area since 2001. However, its funding scheme has phased out. Although the government provides an annual operating budget for the implementation of various management activities in the area, it is not clear how it decides on the amount of funds that Lake Natron receives annually, as the budget tends to vary every year. As a result of insufficient funding, Lake Natron management is unable to secure long-term investment plans. Reliance on government funding has been noted as problematic for many protected areas, and insufficient budget allocations emphasize the importance of individual protected area managers to develop methods to increase their revenue using alternative means such as income from tourism sources (Thomas and Middleton 2003). Wearing and Neil (1999) argue that ecotourism should contribute to the cost of protecting and managing the natural areas. However, at the moment, ecotourism at Lake Natron does little in offsetting the management cost.

6.4.3 Lack of Mechanisms to Secure a Fair Distribution of Ecotourism Benefits

In addition to funding struggles, this study also found that Lake Natron lacks mechanisms to secure a fair distribution of ecotourism benefits, and ecotourism has created an uneven distribution of benefits among different stakeholders involved in managing the area. At the moment, the lodge owners are the primary beneficiaries of tourist spending, while many local people do not receive economic benefits due to a lack of direct contact with the tourists and the established ecotourism business enterprises. Unequal distribution of benefits among the local residents living in the villages adjacent to the lake is also attributed by the fact that ecotourism potential at Lake Natron has not been fully utilized. Field site observation discovered that ecotourism activities and benefits are confined to only one village located in the southern part of the lake. This is due to problems such as poor accessibility to other villages, lack of tourism facilities, and insufficient marketing. Likewise, most employment opportunities to the lodges were taken by men, outsiders (immigrants), and a few local elites, a situation that has effectively marginalized other groups within the community in respect to ecotourism activities. Scheyvens (1999) reports that the signs of local disempowerment are visible when ecotourism merely results in small gains and most profits go to outside operators, while others cannot find a way to share these benefits because of lack of capital and lack of appropriate skills.

It was further noted that, although local communities at Lake Natron have extensive knowledge of their areas' cultural and natural resources which are important in ecotourism, many tend to have limited access to capital and lack the necessary skills to engage in and run ecotourism businesses. High poverty levels among residents at Lake Natron, as measured by low-income levels, means villagers generally have small savings and lack access to capital necessary to initiate and establish ecotourism enterprises. Bookbinder et al. (1998) note that the ability of the members of communities to capture the benefits from ecotourism is rarely ensured if the majority lack appropriate skills to be employed in the established tourist lodges. Ecotourism as a development and conservation strategy is expected to contribute to natural resource conservation and to enhance the long-term prospects of the local communities by providing them with income-earning opportunities (Wall 1997). However, many local inhabitants in the villages surrounding Lake Natron either do not generate income, or they receive little income from ecotourism compared to other economic activities such as livestock-keeping and crop-farming.

6.4.4 Poorly Developed Tourism Infrastructural Facilities to Support Ecotourism Operations

Information on tourists' perceived quality of facilities and services, as well as their general perception of Lake Natron as a tourist destination, was an indispensable facet of this survey because it directly impacts the consumption of goods and

Table 6.3 Rating of facilities and services at Lake Natron by tourists (N = 155)

Facility and services	Very good	Good	Bad	Very bad
	N (%)	N (%)	N (%)	N (%)
Accommodation	26 (17)	34 (22)	82 (53)	13 (8)
Accessibility	9 (6)	65 (42)	56 (36)	25 (16)
Food and beverage	57 (37)	96 (62)	2 (2)	0
Sanitation	16 (10)	50 (32)	83 (54)	6 (4)
Guiding services	5 (3)	36 (23)	93 (60)	35 (23)
Security	10 (7)	25 (16)	99 (64)	21 (14)
Information about the site	10 (7)	26 (16)	78 (50)	43 (28)
Bird-watching facilities	2 (2)	7 (5)	55 (36)	56 (36)

services and the decision of tourists to return. Tourist survey noted poorly developed tourism infrastructural facilities to support diverse segments of tourists and ecotourism operations as one of the challenges that diminish the recreational quality of Lake Natron. Such information was obtained by asking tourists to rate different facilities and services offered at Lake Natron (see Table 6.3). Although over 90% of visitors were generally satisfied with services such as food and tour guiding, several areas for improvement were noted. According to the findings, more than 75% of the tourists complained about poor accommodation facilities, lack of bird-watching facilities, inadequate information about the site, and lack of safety precaution measures when climbing the mountain.

According to the findings, most tourists are pleased by the levels of food and beverage services provided at Lake Natron. However, the current state of essential tourist infrastructural facilities that range from information centers, sign posting, accommodation, access roads, and bird-watching facilities present an obstacle for ecotourism development at Lake Natron. Dwyer and Kim (2003) argue that the prosperity of a destination's tourism is highly related to its provision of quality services, as perceived by tourists. Lack of basic tourist facilities and low-quality services at Lake Natron may reduce the desire of tourists to return and consequently weaken the financial base of the area. Furthermore, Alegre and Jaume (2010) revealed that poor infrastructural facilities make a tourist destination less attractive, and therefore investment in proper infrastructure is a necessary precondition for a tourist destination to become appealing to an international tourist market.

On the other hand, a good quality of services received by a tourist may increase the perception of "trip value" and in turn increase the likelihood of tourists to visit the destination again or recommend the destination to prospective visitors (Chadee and Mattsson 1996). While it may be argued that lack of proper and adequate accommodation may make Lake Natron lose its competitive position as a tourist destination, large-scale investments in modern hotels and restaurants around the area will involve significant alteration of the environment and encourage overexploitation of resources, which in the long-run destroys ecotourism itself. However, Eadington and Smith (1992) argued that private investors could be encouraged to carry out proper planning prior to investing in such business. Therefore, this could

be an important aspect to note in any future proposal for the provision of sophisticated accommodation in the area.

Tourists also criticized the fact that the area does not provide safety precautionary measures for tourists climbing the very dangerous Oldoinyo Lengai Mountain. Tourists' perception of safety and security at a destination has been reported to significantly influence their choice of destination (Milman and Pizam 1995). In other words, a good safety image for the destination can attract more visitors to a particular destination. From these findings, it can be argued that more needs to be done by the management of Lake Natron to improve the destination image as far as safety is concerned. This will be necessary in order to increase tourists' length of stay and the likelihood of repeat visits. Similarly, even though birds might be plentiful in the lake, bird-watching at the lake may be challenging due to a lack of viewing facilities. It is also apparent that visitors do not learn much about Lake Natron because of poor information about the site. This calls for the need to enhance bird-watching experiences and improve information of the area by establishing bird-watching facilities, a tourist information center, and visual aids such as posters to reinforce the tourists' learning process. According to Lindsay (2003), tourists on short visits and those visiting for the first time are usually able to learn about a place very quickly if there is enough information about the site. This is important for Lake Natron, in order to improve the satisfaction of short-stay visitors especially those who often stop over very briefly while en route to other tourist destinations such as Serengeti National Park.

In addition, interviews with the tour operators at Lake Natron recorded complaints about the poor quality of the local tour guides as many operate without any training. Recently, the Engaresero village management established a tourism office to enable the community to accrue revenue from ecotourism as a whole while providing employment to selected individuals. The office employs local guides and restricts tour operators from bringing their own guides from outside the village. This office also charges tourists the guiding fees as well as fees for each activity they participate in. However, the Engaresero village office currently lacks a plan with clear mechanisms for managing tourism. This adds cost to the tour operators who normally offer packages with tour-guided activities for which customers have already paid. With the centralized new office, tour companies now have to buy services for which they cannot guarantee quality. These interview responses give evidence for the need to undertake improvement plans relative to the current organization of tourist activities and the fee charging system.

6.5 Conclusions and Recommendations

Despite the management challenges presented above, there are many opportunities for Lake Natron to grow into a major ecotourism site and provide sufficient economic incentives for people living in the adjacent villages. Prospects for growth of ecotourism at Lake Natron are associated with its conservation status. As a

well-known Ramsar site, Lake Natron has the potential to attract international support for the conservation and wise use of its resources. However, being a Ramsar site is not sufficient to realize the full economic potential of ecotourism. It requires a meaningful management reform of existing mechanisms that can effectively address the real obstacles of ecotourism and ensure that ecotourism achieves its goal. In designing an effective management structure that can support long-term economic and environmental benefits of ecotourism, consideration should be given to the following recommendations:

Readjust the current mechanisms for the distribution of ecotourism income so that such benefits are shared equitably, and sufficient revenues are obtained to pay for necessary management costs. This requires a proper balance of the benefits derived from ecotourism activities that have the potential to increase local support for conservation, as well as increasing conservation effectiveness. The current distribution gap is likely to discourage conservation support from the local people whose activities are the main forces degrading the environment. Revenues from tourism can be increased by making Lake Natron a more interesting destination with diverse and high-quality activities and services, tempting tourists to stay longer.

Closely linked to the above point is the need to increase the capacity of communities so that they are able to take more control of ecotourism with improved participation in planning, management, and direct sharing of benefits. Skills' training is also important to support the ability of local communities to engage with the private sector in order to exploit of different ecotourism business opportunities.

Furthermore, although ecotourism requires little infrastructure, it is recommended that efforts be made to improve infrastructure and interpretation facilities that are crucial to ecotourism development. Such efforts might include, among other things, establishing an information center and a well-planned network of bird-watching facilities to provide access to various habitats and improve the bird-watching experience.

There is also a need to establish efficient and effective institutional arrangements for coordinating and strengthening collaboration among various stakeholders at national, local, and user levels. The multi-stakeholder situation of Lake Natron management means that the problems are complex, and enhancing cooperation is important to understand the interests and issues that are at stake when dealing with conservation and livelihood. It is also essential that all development plans and projects operating in the area are integrated and harmonized with the primary objective of biodiversity conservation and sustainable local development. In this regard, it is vital that the central government work closely with the district level officers who are responsible for directing and supervising all development work in the district, by integrating the management of Lake Natron in the existing local government structure and operations of the district.

Finally, a range of management activities and implementation of action plans can only be realized if adequate funding is available. The central government should ensure that Lake Natron obtains adequate funding support to enhance its environmental conservation goals by exploring other sources of funding. For example, the government through the Ministry of Natural Resources and Tourism can encourage

the area to generate more revenue from ecotourism by improving its facilities and services with the final goal of enticing tourists to stay longer at the destination. The income collected could be used to further improve the management and maintenance of the unique features of Lake Natron, as well as to maintain the place as one of the world's important lesser flamingo breeding sites.

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