

Eco-Tourism Potentials of Abijata-Shalla Lakes National Park (ASLNP), Central Rift-Valley of Ethiopia

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Abstract

Abijata Shalla Lakes National Park is one of the thirteen federally administered protected areas in Ethiopia. Though it's one of the most severely degraded protected area and the natural resources of the area are facing a high risk by anthropogenic activities, there are still potentials for ecotourism at the Park. As a result, the main intention of this research was assessing the Eco-tourism potentials of the Park, based on natural attractions, cultural features, and tourism activities; from the perspective of identifying conservation challenges hindering the management activity to endorse possible mitigation strategies. For the better success of the study both qualitative and quantitative research designs were applied. Primary and secondary information sources have also been used; the primarily data collection was made using direct observation (personal record) which is supported by a Digital camera (Nikon D3200) and Binocular (Nikon action 10X50). Secondary data has been collected from a wide range of sources within the current literature on the topic. Additionally, an Oral discussion was made with knowledgeable informants who were selected purposefully. Information gathered were then analysed qualitatively descriptive and explanatory methods of analysis to come up with results and discussions. The analyses of the study revealed that; The headquarter of the park (the ostrich farm), the Humo viewpoint, the three lakes (Abijata, Shalla and Chitu), Fike mountain, the pelican shore, the stratified landscapes, lava caves, numerous hot springs and spectacular Shalla and Abijata sunsets, different wild animals (mammals and birds) and cultural living style of the local community as some of the principal and unique features to attract Eco-tourists. On the other hand; illegal human settlement, farm/grazing land expansion, deforestation, overgrazing, mineral extraction, diversion of rivers the feed the Lakes for irrigation purposes and extraction of water from the lakes are detected as the major problem contributors to the degradations of natural resources of the area. Hence immediate intervention is highly recommended for instigation.

Keywords: Anthropogenic, Challenges, Ecotourism, Conservation, Tourism

1. Introduction

Tourism is one of the largest and rapidly growing industries in the world (UNWTC, 2010). WTO has also described tourism as “one of the most important economic, social, cultural and political phenomena of the twentieth century”. Though noted for its tourism potential, the industry has been for some time recognized as a potential contributor towards the economics of developing countries (Eadington and Smith. 1994; Ashley and Roe. 1998; Ceballos-Lascurain. 1996; Mowforth and Munt. 1998). Africa's underdeveloped tourism sector is attracting only 4.81% (40.7 million) of the total tourist arrivals in the world. The situation in Ethiopia is even worse; it is one of the poorly performing countries in terms of tourist arrivals (Yabibal Mulualem, 2010). On the one hand, tourism potential in Ethiopia is diversified; it is one of the top 25 biodiversity-rich countries in the world, and hosts two of the world's 34 biodiversity hotspots, namely: The Eastern Afro-montane and the Horn of Africa hotspots (James. 2012; EBI. 2014). Ethiopia is also one of the countries with most diverse mammalian faunas in Africa (Vreugdenhil et al., 2012; Young, J. 2012).

Ecotourism was originally conceived in the narrowest sense at giving tourists an experience with nature (Nash. 1996). Some view ecotourism when it primarily contributes towards promoting conservation of the environment through local incentives (King and Stewart 1996, Valentine 1993, Western 1993). Others have expanded the term to include cultural heritage assets (Ziffer 1989), which demonstrates the importance that social and cultural heritage has on nature-based experiences. As IUCN Ecotourism Programme, “Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, to enjoy and appreciate nature that promotes conservation, has low negative visitor impact, and provides for the beneficially active socio-economic involvement of local populations”. Eco-tourism helps educate travellers, provides funds for conservations, directly benefits the economic development and political empowerment of local communities, and fosters respect for different cultures and human rights (www.unwto.org, 2011). Tourism can also be viewed as a global activity providing service sector employment, revenue, and general economic impacts. The concept of ecotourism is a new phenomenon too and it is difficult to explain its significant achievement since the approach of ecotourism is not widely disseminated in Ethiopia (Adem Gobena, 2008).

Abijata Shalla Lakes National Park (the study area) is one of the protected areas in Ethiopia which was established as a national park in 1969 in response to two important missions carried out in 1963 and 1964-65. The first missions led by Huxley noted the spectacular ornithological impressions of the site and recommended that the area become a national park. Soon after the trip by Huxley, a UNESCO mission led by the late L. H.

Brown and Grim wood examined the possibilities of a national park and corroborated the mission of Huxley. Bolton. M (1969), who was a wildlife advisor to the Ethiopian Government in the 1960's carried out a four-month survey of the area and with his recommendations, the site become a national park.

2. The Study Area

Location: Abijata Shalla Lakes National Park (ASLNP) is found in the central portion of the Ethiopian Great Rift-Valley, in Oromia Region, 207Km South of Addis Ababa via Shashemane asphalt road (Hirut Sintayehu, 2012). Geographically the park is located between 7°22'4.8" to 7°42'47.7" N and longitudes 38°22'32.8" to 38°40'36.4" E at an elevation ranging from 1540m to 2075m above sea level (Fekadu Tefera and Rezenom Almw, 2002).

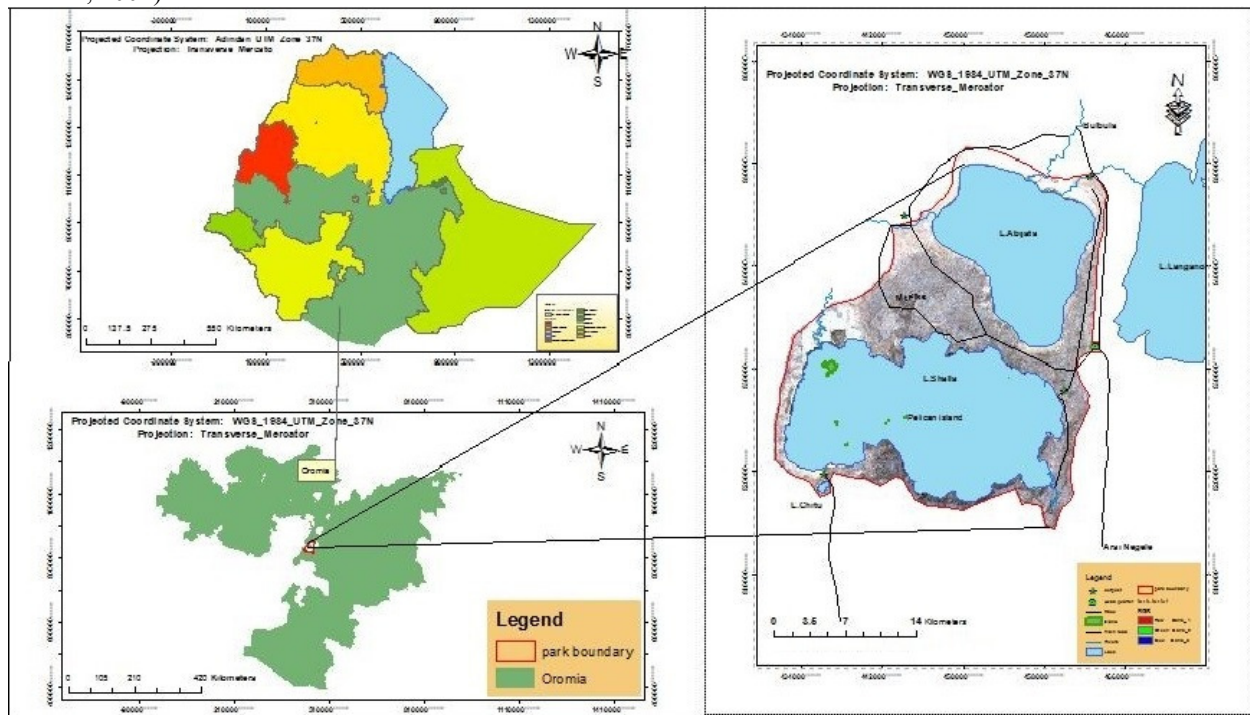


Figure 1. Location map of the study area (Source: Adem Mohammed, 2006)

The Park encompass an area of 887 km², of which 505km²is water body (principally by the alkaline lakes, Abijata, Shalla, and Chitu) and their shorelines, and 382 km² is land or terrestrial ecosystem, which comprise the acacia woodland, acacia bushland, scrubland and grassland vegetation and the rocky outcrops (Rezenom Almw, 2012). The two lakes (Abijata and Shalla), are separated by three kilometers of hilly land (Bethlehem Abebe, 2013). The climate of ASLNP falls within the ecological-climate zone III semi-arid (Rezenom Almw, 2012). Rainfalls period is between March, April, June, and September, averaging 500 mm (CPI, 2000). Average annual temperature is 20.1°C; with a mean maximum of 26.6°C and mean minimum of 13.5°C (EWNHS, 1996).

Flora and fauna: The park features, Semi-arid acacia woodland, bush land, shrub land and open plains; which are crucial components of the park ecosystem, keeping the highly fragile soil of the area intact. The major attractive fauna is bird species (Fekadu Tefera and Rezenom Almw, 2002). As a Study by Rezenom Almw (2002) 453 bird species (52.5% of the country total) are found in this park. Additionally, Mammal species like; Grant's gazelle, Bohor Reedbuck, Warthog, Greater Kudu, Caracal, Colobus, Aardvark, Hyenas and Black-backed Jackals are common and widespread.

Socio-economy: The people who settled in and around the park are the ethnic group of Oromo-Arsi. Pastorals and subsistence farming are mainly dominating the socio-economic conditions in ASLNP and the surrounding areas (Feyera Senbeta and Fekedu Tefera, 2001). Being among the major socio-economic problems, highly increasing size of population and livestock density, could account for the deterioration of the general situation of ASLNP. The park is unsuitable for agriculture and heavy grazing but the local people use it for these purposes (EWNHS, 1996).

3. Methods

The major activities of the study were done while I was working in the park as wildlife tourism expert since 2007E.C. Both qualitative and quantitative research designs were applied for the better success of the study following Sigh (2004). Primary and secondary information sources have also been used; the primarily data collection was made using direct observation (personal record) which is supported through Nikon D3200 Digital

camera, Nikon action 10x50 Binocular and Garmin 60 GPS. Secondary data for this research has been collected from a wide range of sources within the current literatures on the topic. Additionally, Oral discussion was made with twenty-one (21) knowledgeable informants who were selected purposefully. Three (3) park wardens (chief warden, tourism and community services warden and wildlife and their habitats research and monitoring warden), Four (4) experts from the park (two tourism experts, one ecologist and one sociologist), Two (2) tourism experts from tourism and culture office of Arsi Negele Woreda, Two (2) tourism experts from west Arsi zone tourism and culture office and Ten (10) elders from the local area. The sample size was determined based on the quality of information obtained from the informants. Information gathered were then analysed qualitatively descriptive and explanatory methods of analysis to come up with results and discussions. The findings then presented using simple statistical tools.

4. Results and Discussion

Assessment on Eco-Tourism Potentials at Abijata Shalla Lakes National Park (ASLNP), was made based on natural attractions, cultural features, and tourism activities; from the perspective of identifying conservation challenges hindering the management activity and to indorse possible mitigation strategies.

4.1. Ecotourism Potentials of Abijata Shalla Lakes National Park

At Abijata Shalla lakes national park, six major tourist attracting sites were identified. Namely: The HQ of the park, The Humo view point, Lake Abijata, Lake Shalla, Lake Chitu and Mount Fike area (Table 1). Additionally, the varied resources including stratified landscape, lava caves, numerous hot springs and spectacular Shalla and Abijata sunsets and different wild animals are some of the principal and quality which makes the parks unique features to attract eco tourists.

Table 1. Major tourist attracting sites within ASLNP

Major Attraction	Distance from HQ	What to see	What to do
Head Quarter	-	Ostrich's, Mammals including Grant gazelles, Warthogs and Bohor and Acacia forest cover	Game Viewing, Photography, Camping and Traditional coffee ceremony
View Point	5km	Two lakes together, Scenery of Park landscapes and Acacia woodland	Sun-set Viewing, Camping, Handcraft shopping and Photography
Lake Abijata	6km	Lake Abijata, Different terrestrial & wetland Bird species	Lake Shore Walking, Sun-set Viewing, Bird watching and Photography
Lake Shalla	9km	The Blue black colored Lake Shalla, Hot-springs, Different Bird species and Scenery of Mountain chains	Hot-spring Viewing, Lake Shore Walking, Sun-set Viewing, Bird watching, Photography and Camping
Lake Chitu	82km	Lake Chitu, Lesser flamingos and Eco lodge	Sun-set Viewing, Bird watching, Photography and Camping
Mount Fike	24km	Greater kudu, Three lake of the park, Islands on lake Shalla and Park landscapes	Game Viewing, Photography, Camping and Hiking

Source: Self survey.

4.2. Wildlife resources of the park

4.2.1. Vegetation

Vegetation type of the rift valley region is categorized Acacia- Commiphora (small-leaved) deciduous woodland as a result it is dominated by Acacia tree species (Figure 1). Some of the common tree species in the park are *Acacia tortilies*, *Acacia seyal*, *Acacia senegal*, *Acacia etibica*, *Balanties aegpticus*, and *Ficus sycomorus*. In addition to woody species a variety of grass species also occur (Mohammed Abdi.1993).



(A) (B)
Figure 2. Partial view of different Habitat types of Abijata Shalla Lakes National Park; (A) Acacia woodland with scattered Grants gazelles, (B) Grass land with Male Ostrich (Source: EWCA (A), Zerubabel Worku, 2016 (B)).

4.2.2. Mammals

Formerly, 76 mammal species were recorded at the park, as noted by Stephenson (1978) in Debelle (2007), abundant species including Oryx (*Beisa oryx*), Swayne's Hartebeest (*Alcephalus busephalus swayeni*), Buffalo (*Syncerus caffer*), Waterbuck (*Kobus ellipsiprymnus*), Giraffe (*Giraffa camelopardalis*) and Lion (*Panthera leo*). But now a day the listed species are locally vanished (Seyum Debelle, 2007). Grant's gazelles (*Gazella granti*), Bohor Reed buck (*Redunca redunca*), and Warthog (*Phasochoras africanus*) are common around the Head Quarter, Greater Kudu (*Tragelaphus strepsiceros*) are abundant on the Goligo hills and Mount Fike (Figure 2), A solitary Caracal (*Caracal caracal*) can be seen around Humo viewpoint, Colobus (*Colobus guereza*) are plentiful immediately eastern forest edge of Lake Shalla and along the strip of Dedebea river line forest, Aardvarks (*Orycteropus afer afer*) are common throughout and can be seen during the moonlight and Hyenas (*Crocuta crocuta*) and Black-backed Jackals (*Canis mesomelas*) are common and widespread. Additionally, there are six endemic mammal species in the park; Scott's hairy bat (*myotis scotti*), white-toothed shrew (*crocidura phaeura*), Mahomet's mouse (*mus mahomet*), White-footed rat (*praomys albipes*), Ethiopian grass rat (*arvicanthis abyssinicus*), and Harrington's scrub rat (*pelomys harringtoni*) (Rezenom and Fekadu, 2002).



(A) (B)
Figure 3. Same Mammals of Abijata Shalla Lakes National Park; (A) Grants gazelle, (B) Warthogs (Source: ASLNP).

4.2.3. Birds

Even though Shibru Tedla (1994) reported that about 300 species of birds residing in ASLNP, a study by Rezenom Almaw (2002) confirmed the presence of 453 bird species in the park that represents about 52.5% of the country's total. From the total bird species of the area, 305 (67%) species are resident (including 1 Endemic and 5 Near-endemic), and 148 (33%) species are migratory. Besides, 18 and 25 species from Afro Tropical Highland Biome Species and Sommal-massi Biome Species respectively are found in this park. Based on habitat classification 317 species or 70% are terrestrial and 136 species or 30% are wetland birds (Rezenom Almaw, 2002).

Table 2. Key bird species with national and global status within the ASLNP.

No	Common Name	Scientific Name	Global Status
1	Yellow-fronted Parrot	<i>Poiciphalus flavifrons</i>	Endemic
2	Wattled Ibis	<i>Bostrychia carunculata</i>	Near-endemic
3	Black-winged Love Bird	<i>Agapornis taranta</i>	Near-endemic
4	Banded Barbet	<i>Lybius undatus</i>	Near-endemic
5	White-winged Cliff Chat	<i>Mytmecocichala semirufas</i>	Near-endemic
6	Abyssinian Black-headed Oriole	<i>Onychognathus albirostris</i>	Near-endemic
7	Thick-billed Raven	<i>Corvus crassirostris</i>	Near-endemic
8	Lesser Flamingo	<i>Phoeniconaios minor</i>	Near Threatened
9	Pallied Harrier	<i>Circus macrourus</i>	Near Threatened
10	Basra Reed Warbler	<i>Acrocephalus griseldis</i>	Near Threatened
11	Black-winged Pranticole	<i>Glareole nordmanni</i>	Near Threatened
12	Imperial Eagle	<i>Aquila heliaca</i>	Vulnerable
13	Lesser Kestrel	<i>Faco naumanni</i>	Vulnerable
14	Wattled Crane	<i>Grus carunculatus</i>	Vulnerable
15	Ferruginous Duck	<i>Aythya nyroca</i>	Vulnerable

Source: Rezenom Almaw, (2002).

• **Ostrich's**

There are a group of captive ostriches (both Massai and Somali races) at 1km² fenced area of the parks head quarter which are one of the principal attraction for the park (Figure 4 (A)).



(A)



(B)

Figure 4. Picture of (A) Male and Female Ostrich's, (B) An Ostrich egg at HQ of Abijata Shalla Lakes National Park (Source: EWCA (A), Zerubabel Worku, 2016 (B)).

4.3. The lakes

4.3.1. Lake Abijata

Lake Abijata is very shallow alkaline lake located at 7°32'-7°39' N and 38°32'- 38°38' E at an altitude of about 1,600 masl and covers an area of 104 km² (Daniel Worku, 2003). The depth is currently estimated to be less than 7m, reducing from the original 14 m over time of 35 years (Daniel Worku, 2003). It is highly productive valley lake and serves as major feeding site for wetland bird species. Specially, flamingos can be seen scattered over most of its surface along the edges where their algal food source concentrates. Three rivers feed Lake Abijata; Gogessa, Bulbula and Hora Kello. The Lake receives inflows from Lakes Ziway and Langano via the Bulbula and Horakelo Rivers respectively. Gogessa River is the over flow from Jiddo River. Jiddo River is a river which surrounds some of the western boundary of the Park and flows in to Lake Shalla. Lake Abijata has no outlet, and it loses its water by evaporation and extraction by Soda Ash Company. The stream mouths at the lake are sources of relatively fresh water, much frequented by water birds for drinking and bathing. The Lake is surrounded by gentle, grass covered slopes and acacia woodlands. The land at the lakes shore is muddy, next to the muddy floor there is bare land which is more stable.

4.3.2. Lake Shalla

Lake Shalla, with an area of 329km² (28 km long and 15 km wide) is the deepest (266 m) lake of Ethiopia. One of the unique characteristics of the lake is the blue-black colour of the water which makes it different from the rest of the Rift-valley Lakes. Lake Shalla is a "lake of scenic beauty". There are nine islands on the lake of which at least four (Cormorant Island, Abdims Island, Pelican Island and Sacred Island) are important breeding sites for birds (Daniel Worku, 2003). The islands of Lake Shalla used to be important breeding sites for

cormorants, storks and pelicans. Particularly the Pelican Island (Figure 5 (B)) is known as one of the few breeding sites of Great White Pelican in Africa. Lake Shalla is fed by two rivers namely Dedebea and Jiddo. At the mouth of the inflow fishes and some phytoplankton are observed hence a few white pelican's dwell there.

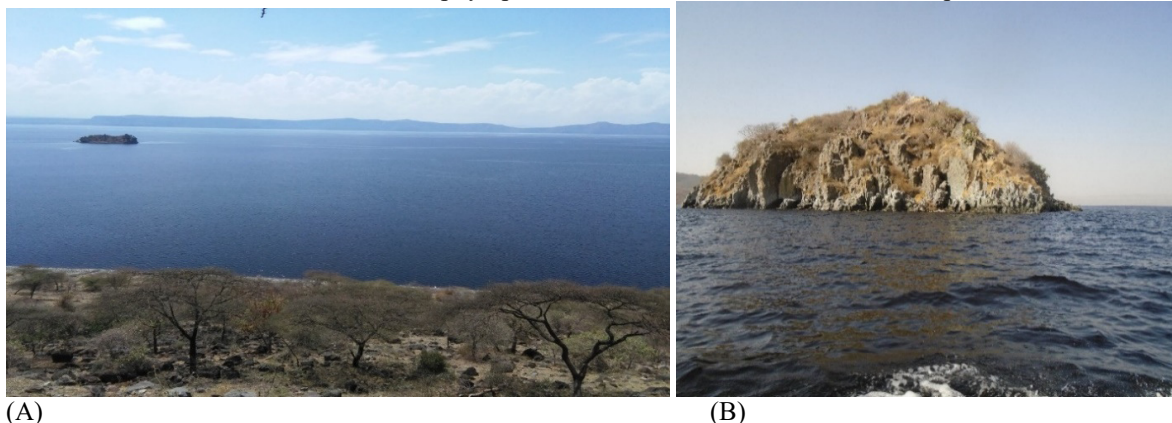


Figure 5. Partial view of lake Shalla; (A) View of Lake Shalla, (B) one of the Islands on the lake (Source: ASLNP).

4.3.3. Lake Chitu

Lake Chitu with its pea-green water in a cup-sided crater is very small in size having only an area of 0.8km² is found in about 1.5 km south of Lake Shalla. At this lake more than 10,000 Flamingos can be seen at a time (Figure 6). This greenish small crater lake is found at the south periphery of Lake Shalla and it is a feeding ground for great number of lesser flamingos. Like the other two lakes (Abijata and Shalla) the saline nature of Chitu makes it unsuitable for drinking. There are several hot springs on the edge of the small lake and the greenish colour of the lake is due to dominance of blue green algae (spirulina).

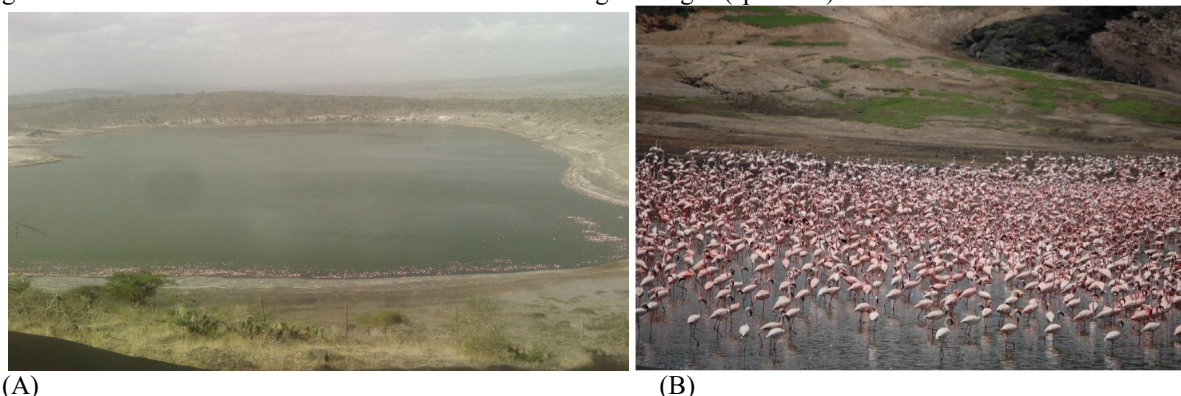


Figure 6. Partial view of lake Chitu with its birdlife; (A) Lake Chitu, (B) Greater and Lesser flamingos (Source: Zerubabel Worku, 2016 (A); ASLNP (B & C)).

4.4. Mount Fike

It is the highest peak in the park with higher altitude of 2075masl. It is located between the two lakes (Lake Abijata and Lake Shalla) in only 24km distance from the Head quarter. The peak of the mountain enables to observe three lakes which are Abijata, Shalla (inside the park) and Langanjo (outside the park). The Mountain is suitable for trekking, for those who wish to experience the pleasure of trekking. Greater Kudu (*Tragelaphus strepsiceros*), Olive Baboons (*Papio anubis*) and Klipspringer (*Oreotragus oreotragus*) are commonly observed around the mountain.

4.5. Other Attractions

4.5.1. Pelican Shore

Pelican shore is an area which is found in only 15.8km distance from the HQ. Dedebea River, also known as pelican shore is one of the Inlet Rivers that feed Lake Shalla, at the point where river Dedebea joins Lake Shalla, on the eastern shore of Lake Shalla it is usual to see flocks of pelican either feeding on or flying with fascinating modes approaching the lake (Figure 7 (A)). It was common to see Pelicans at Lake Abijata and on the other sides of Lake Shalla but nowadays Pelicans are mainly seen at the mouth of Dedebea River and Pelican island of Lake Shalla (Figure 7 (B)).



(A) (B)
Figure 7. Great white pelicans at Abijata Shalla Lakes National Park; (A) Great white Pelican at mouth of Dedeba River, (B) Breeding colony of Great White Pelican at Pelican Island (Source: ASLNP).

4.5.2. Hot springs

There are numerous hot springs in Abijata Shalla Lakes National Park. Especially the south west and eastern shores of Lake Shalla are rich in hot springs. The springs vary considerably in size and temperature with the largest/hottest with the boiling point of 97°C which is located at 9km from the parks HQ. The springs are known by their medicinal values by local inhabitants.

4.5.3. Viewpoints and sunset

Both the "Shalla Sunset" "from the Humo hill over Lake Shalla with stratified horizon, and the "Abijata Sunset" from its viewpoints reflecting on Lake Abijata are extremely astonishing at the park (Figure 8 (B)).



(A) (B)
Figure 8. Partial view of the Landscape and Sunset at Abijata Shalla Lakes National Park; (A) View of Forest cover around lake Shalla, (B) Sunsets view at Lake Shalla (Source: Zerubabel Worku, 2016 (A) and ASLNP (B)).

4.5.4. The Local Community

The people who settled around the park are ethnic group of Oromo-Arsi. They have their own unique dressing style (Figure 9 (A)), wedding ceremony, local handicrafts, traditional foods, and time-honoured ruling system of Abba Gada. Some of the known traditional foods are called "Chechebsa" and "Chico" with traditional coffee ceremony. They are welcoming and friendly people and endowed with traditional way of living.



Figure 9. Local Community around Abijata Shalla Lakes National Park; (A) local women with their cultural dressing style performing cultural music, (B) Traditionally built living house (Source: ASLNP).

4.6. Tourism Activity of the Park

Looking back 29 years from now, the number of domestic and international visitors of Abijata Shalla lakes National Park has gradually increased (Figure 10). The recreational opportunities inside the park and its surroundings, Biophysical attractions, Proximity, Accessibility, Accommodation facilities, peace and stability of the area are believed to be the reasons behind. Since the establishment of the Park, the highest number of visitors is recorded to be 16,877 on 2009 E.C While 14,954 and 13,444 visitors were recorded as the second and third on the years 2006E.C and 2008 E.C respectively (Figure 10). As it is clearly seen in Figure10 and Figure11; an increase in an income of the park is directly related with an increase in the number visitors. But on 2007E.C, even though the number visitors are less than that of 2008/9E.C, the income gained was higher, this revealed the fact that rather than the total number of visitors, the income level of the Park is dependent on number of foreign residents and foreign tourists due to the high difference on the entrance fee.

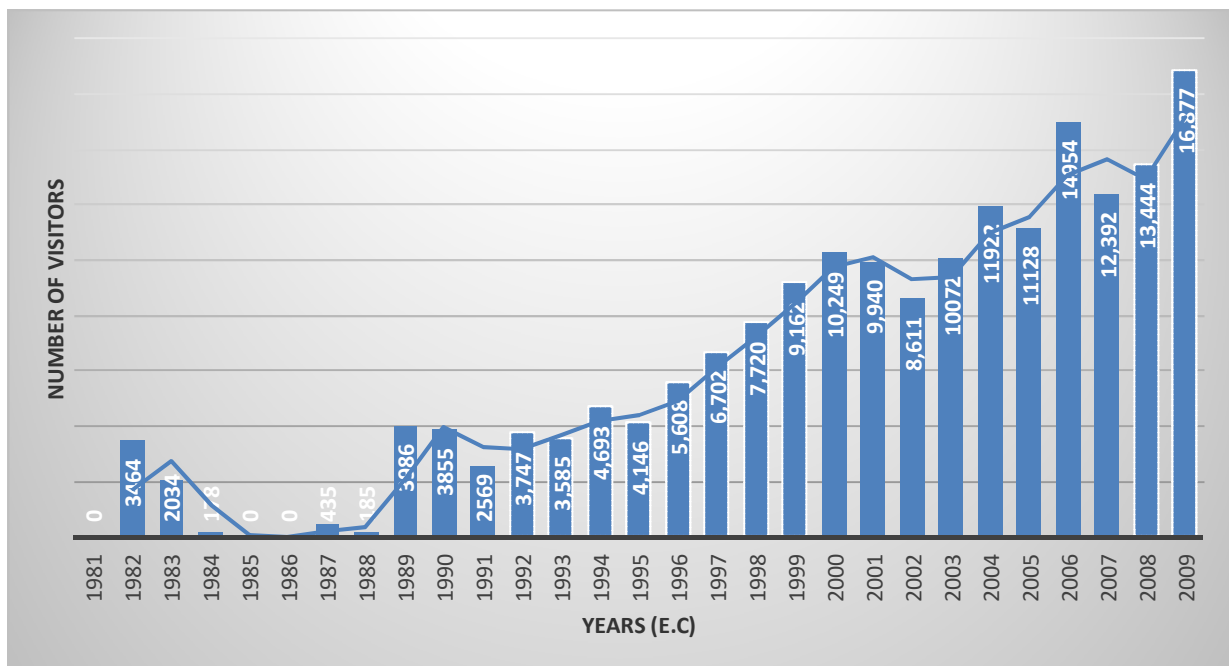


Figure 10. Tourist flow and its trend for the last 29 years at ASLNP (Source: Data compiled from; ASLNP, EWCA and Self survey).

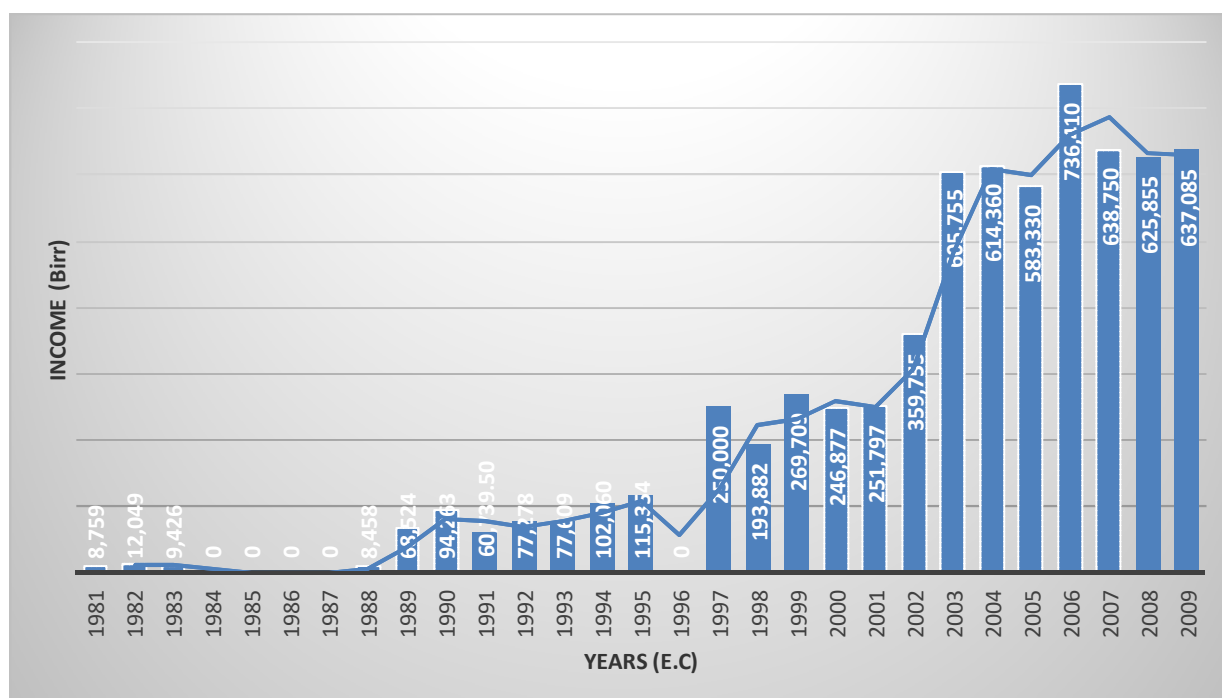


Figure 11. Income from Tourism and its Trend for the last 29 years at ASLNP (Source: Data compiled from; ASLNP, EWCA and Self survey).

5. Conclusion and Recommendation

Eco tourism potential of Abijata Shalla Lakes National Park (ASLNP) is assessed based on natural attractions, cultural features, and tourism activities. The results of the research revealed some of ecotourism potentials of ASLNP. The main ecotourism potentials of ASLNP include; The HQ of the park, The viewpoints, The three lakes (Lake Abijata, Shalla and Chitu), Fike mountain, Hot springs, pelican shore and Cultural living style of the local community. Additionally, diverse species of birds and Mammals with scenic beauty of the landscape. All the resources listed in ASLNP that contributed to attract eco tourists or bird watchers to the park. Furthermore, tourist facilities and services including camping sites, guiding services and hotels/lodges nearby contributed in an increase in tourist flow. The study also revealed that offering tourist facilities and services and creating job opportunities for members of local communities have a positive impact on tourism activities by creating a sense of ownership on the local community. On the other hand, anthropogenic pressures are identified as the main conservation challenges, Hence the park requires immediate intervention.

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