Review on Challenges and Opportunities of Protected Area Management in Ethiopia

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Abstract
Protected areas are designated areas that are protected due to their ecological, cultural, or other values. It plays a vital role in biodiversity conservation. Ethiopia have more than 55 protected areas which cover 17.1% of the country, ranked third in African country next to Tanzania and Uganda, those are protected in order to gain benefits for livelihoods at local, regional and country level but the value obtained from the protected areas is very low when it is compared to other African countries like Kenya, Tanzania and South Africa. People out approach" protected area management to participatory protected area management, wildlife development, conservation and utilization proclamations, diversified floral and faunal species are major opportunities for PA management in Ethiopia. Even it has various opportunities in different part; the areas have been challenged largely by natural and human-induced constraints. The review revealed that grazing, expansion of farmland, cutting living tree, conflict, inadequate coordination among stakeholder are the major management problems of the PAs. Ecotourism use diverse nature, landscapes and biodiversity as major tourist attractions. Protected areas such as national parks are becoming major ecotourism sites.
Keywords: Protected Area, Ecotourism, Wildlife, Biodiversity, Ethiopia

1. Introduction

Protected areas (PAs) are policy instruments for preservation and sustainable use of natural resources; vital tool to achieve conservation and sustainable development. It safeguard biological and cultural diversity, help to improve the livelihoods of local communities, provide the homelands for many indigenous peoples and bring countless benefits to society in general Dudley, N, 2008).

Protected areas are designated areas that are protected due to their ecological, cultural, or other values. There are numerous protected areas throughout the world, all of which differ according to their category and level of protection, national legislation regulating their protection, rules of international organizations, etc. Currently, there are over 147,000 protected areas in the world, covering the total area of 19.3 million km^2, which is 13 % of Earth's total land area, or approximately the size of the entire African continent. In contrast, only 0.8 % of the global ocean area constitutes protected marine areas(Danijela A. 2017).

Protected areas globally are estimated to hold 312 Gt of carbon or at least 15% of terrestrial carbon storage. Effective management of existing protected areas increases in importance when the need to maintain existing carbon stocks is taken into account. Indeed, poor management of protected areas can rapidly turn carbon stocks into carbon sources with deforestation leading to increased release of carbon dioxide and degradation of wetlands leading to increased release of methane. Protected areas can also provide testing grounds for sustainable management linked to religious practices. Many protected areas contain sacred natural sites(Mp & Msi 2010).

Protected areas play a vital role in biodiversity conservation. Over the past 25 years, the number of protected areas in developing countries has grown. However, as population increases at an alarming rate, protected areas will be negatively impacted, as the increased population requires increased energy demands. If not all, at least, in part, the energy demands are usually met by massive use of resources within protected areas (Amenu 2016).

Ethiopia is a landlocked country with an area of 1.13 million km² (of which 1.12 million km² are land). Ethiopia has over 6,000 species of vascular plant (with 625 endemic species and 669 near-endemic species, and one endemic plant genus), 860 avian species (16 endemic species and two endemic genera), 279 species of mammal (35 endemic species and six endemic genera), 201 species of reptile (14 endemic species), 23 species of amphibians (23 endemic species), 150 freshwater fish (6 endemic species)(Amare 2015).

There are a number of charismatic flagship species, most notably the gelada (an endemic genus, *Theropithecus*, and the world's only grazing primate), the mountain Nyala, the Ethiopian wolf, the walia ibex and the giant lobelia. The global significance of the area has been recognized through Conservation International's Biodiversity Hotspots. The country spans two Hotspots: the Horn of Africa and the Ethiopian Highlands (which is included in the Eastern Afro-montane Hotspot)(Young J, 2012).

Ethiopia is the home of important biodiversity due to its range in physiographic and climatic features with altitudes ranging from 116 meters below sea level in the Dallol region to 4,620 meters above sea level on Ras Dejen(Teressa 2017). It has so far established several protected areas which include 21 national parks, 4

sanctuaries, 8 wildlife reserves, 20 controlled hunting areas, six open hunting areas, six community conservation areas and 58 national forest priority areas. In Ethiopia, protected areas cover 17.1% of the country. They play key roles in economic, ecological and social structure of the community(Young J, 2012).

Recently in Ethiopia efforts have been made for the establishment of national park, wildlife sanctuaries and reserves in order to gain benefits for livelihoods at local, regional and country level but the value obtained from the protected areas is very low when it is compared to other African countries like Kenya, Tanzania and South Africa. Most of the protected areas of the country face a serious threat from illegal poaching, deforestation, farming and conflicts on competing park resources (Chanie and Tesfaye 2015).

However, these protected areas in the country now a day are degrading and facing different challenges due to growth of population and settlement, illegal agricultural expansion, habitat loss and destruction, grazing, deforestation, soil degradation and misuse of natural resource in the country(Mulualem and Tesfahunegny 2016). On other hand lack of comprehensible national and international policies, less commitment from government organs, shortage of finances, and requirement of education to raise awareness are the other challenges of protected areas in the country(Ababa *et al*., 2012)

1.1 Concepts of Protected Area and Its Categories

The IUCN definition of protected areas stated that "A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values"(Dudley 2008:8). More than 161,991 areas have been recently accounted as PAs in the World Database of Protected Areas and the number persists to enlarge(Woods 2008).

Table 1 Categories of protected areas and targeted management objectives

Category	Type	Primarily management objective
Ia	Strict Natural Reserve	Scientific purposes
Ib	Wilderness Area	Wilderness protection
II	National Park	Ecosystem protection and recreation
III	Natural Monument	Conservation of specific natural feature
IV	Management Area (Habitat/Species)	Conservation through management intervention
V	Landscape/seascape protection	landscape/seascape conservation or recreation
VI	Managed Resource Protected Area	sustainable use of natural resources

Source: - Dudley (2012)Guidelines for Applying Protected Area Management Categories

The first three categories were established mainly for biological diversity and natural formations without human intervention while category four, five and six allow intervention of humans. A national Park is described as a category II protected area type in which land and/or sea designated mainly for ecosystem protection and recreation through maintaining the ecological sustainability of ecosystems for present generation and without consuming share of future generations (IUCN, 1994).

1.2 Conservation and conflicts in protected area management

Protected areas are created throughout the world to conserve biological diversity, protect critical watersheds, prevent overexploitation of forest resources, and preserve scenic natural areas. In Africa, the need to conserve wild- life whose numbers were drastically declining due to increased hunting, led to the establishment of formally protected areas starting early in the twentieth century(Teferra and Beyene 2014). Such conservation policy was introduced by colonial powers and later on expanded by the conservation experts. Nevertheless, their establishment overlooked the livelihood bases of local people, and the gazetting of national parks is in a direct conflict with local people's livelihoods. These conflicts have challenged practitioners to seek new methods for reconciling the trade-offs between national conservation policies and local people's demand to sustain livelihoods(Reddy & Workneh 2014).

Conflict exists in national parks for various reasons. One is the lack of attention to the process of involving local people and the other is excessive care for the protected area in the planning, management, and decision-making. The second reason is that communities nearby the park can have their own economic interests that

contradict with the objective of protected areas. A third source of conflict could be lack of participation in the process and thus a lack of sense of ownership in the outcomes. The designation of protected areas in Ethiopia follows the classical approach characterized by a top–down approach that emphasizes establishment and enforcement of legislation and the assumption of ownership of wildlife resources by the state (Hillman 1993). As a result, local communities are faced with a rapidly diminishing natural resource base. Disagreement between local communities and conservation authorities has escalated and law enforcement has become less practical and more costly(Teferra and Beyene 2014).

2. Role of Protected Area
A protected are may be a wetland, a tropical or deciduous forest, a cultivated landscape of value, an alpine region, a savannah, a marine area or any number of other types of natural or partially modified ecosystems or indeed any combination of types of ecosystems(Birhan and Gebreyes 2015).

Protected areas are the critical tool to conserve biodiversity in the face of the global crisis of species extinction and the loss of the world's natural capacity to support all life and human existence. As well, they serve to protect major ecosystem services essential to wildlife. It also acts as life's buffers while serving as sanctuaries and strongholds of species in the face of climate change. Retaining the full complement of species keeps diseases in check and curbs the expansion of pests(Eshetu 2014).

2.1   Role of Protected Area for Sustainable Ecotourism Development
Ecotourism use diverse nature, landscapes and biodiversity as major tourist attractions. Protected areas such as national parks are becoming major ecotourism sites. Regardless of their emphasis on conservation efforts, at present Ethiopian national parks are recognized as important places for sustainable ecotourism(Getahun and Yeshanew 2016).

At some ecotourism destinations, residents benefit from revenue sharing programs that either provides cash payments or, more commonly, funding for community projects such as wells or schools. It also provides new markets for locally produced goods, increased government revenues through fees and taxes paid by visitors, and serves as insurance for the protected areas from being converted to other land use types(Birhan and Gebreyes 2015).

PA based ecotourism creates enormous opportunities for conservation, protection and sustainable use of natural resources through the involvement of the local people. If ecotourism needs to be sustainable, it should make positive contribution to environmental conservation with an emphasis on economic benefit to the local community(Prasad n.d.)

According to (Getahun and Yeshanew 2016), Awash National Park has spectacular scenic resources suitable for ecotourism product development. Among them five distinctive land and physical features used as tourist attractions are Mt. Fentalle, the LalaSala plain, Kudu Valley, the Awash fall and reverie forests, and the hot springs.

Availability of cultural and archaeological resources in and around PA is also important for the development of ecotourism in Ethiopia. For Example, Awash national park is not too far from the archaeological site Hadar where Lucy, the fossil of one of the oldest hominid species in Ethiopia was discovered, is located in the Afar Triangle of Ethiopian Rift Valley. Another Late Stone Age anthropological site (11,000-15,000 years ago) is also found around the shores of Lake Basaka in the AwNP (Getahun and Yeshanew 2016).

3.   Opportunities of Protected Area Managements in Ethiopia
3.1 Changes from "People out Approach" Protected Area Management to Participatory Protected Area Management
Ethiopia possesses considerable biodiversity and natural resources, as well as many endemic species; however, its wildlife conservation policy has changed with changing regimes. It has had, however, only limited success protecting some of these natural assets since establishing conservation and protected area program in 1965, due to the country's prolonged engagement in various armed conflicts. Moreover, given the potential of the park and biodiversity, the extent of protected areas and biodiversity conservation of the country is negligible lacking protected area networks and management plans (Overview of Selected Biodiversity Indicators, 2010). To ensure long-term success of conservation efforts supportive relationship between communities and protected area nearby is crucial; however failure to ensure participation of locals; absence of alternative livelihood and widespread poverty, human settlement, grazing, absence of legally recognized boundaries of protected areas were persistent in Ethiopian protected area (Eshetu 2014)where local community used to utilize the land until they were declared protected areas.

According to (Teressa 2017), due to country's experiences of armed conflict in previous regimes and development of negative attitudes towards conservation practices and benefits gained from development nearby the PA, the history of PA such as Senkele Sanctuary shows changes from Exclusionary approach to

capitalization of traditional institutions. As a result of effective of utilization of Gada system as collective measure with strict rules and regulation, the number of Swayne¨s in Senkele sanctuary is increasing. If people get an opportunity to share their opinions on conservation and the process to do so is created for them, it leads to the better understanding of values, attitudes and the potential to find solutions to conflicts(Teferra & Beyene 2014).

Recognition of the relationship between local community and natural resource is very important in sustainability of protected area management and conservation goals where long standing tensions over land use, local utilization of nature, failed consideration to traditional resource usage and human wild life conflict may limit the local acceptance of conservation strategies. Moreover, Ethiopian protected area management and conservation strategies change with the change in political ideology and in regime(Teressa 2017).

3.2 Proclamation and Regulations of Wildlife Managements

Proclamation Number 541/2007 development, conservation and utilization of wildlife and regulation No 163/2008 wildlife development, conservation and utilization is other opportunities for management of protected area. Towards a attaining the objective of the conservation and management of PA the promulgation of the declaration of the proclamation and regulation of wildlife development and utilization has paramount importance whichgive due emphasis to the tripartite role of the government, the community and investors and developmental NGOs(Seifu M., 2011).

3.3 The Presence of Diversified Wildlife

Ethiopia 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 Afromontane and the Horn of Africa hotspots(Tefera, M. 2011).

The biogeography of the country characterized by two features; namely the arid horn of Africa (Ogaden) and mosaic highland plateau and results extremely rich and distinctive flora and fauna. This wildlife diversity is a great attraction of tourists; nature based tourism to support the country's economy and for future protected area management to the country. The country has a diverse and contrasting from the desert of the Dankil Depression, the lowest dry land points on earth at 116 m below sea level to Ras Dashen Mountain (the second peak and roof of Africa) at 4543 m above sea level(Tefera, M. 2011). The country has more than 1.3 million hectares (of which 1.12 million are land) with variety of climate, topography and vegetation supports high endemic flora and fauna of the country that attracts regional and global tourists(Tefera, M. 2011).

3.3.1 Faunal Diversity

Unlike the flora of Ethiopia, the fauna is not well investigated and documented. However, I tried to compile documents obtained from different literature to show the mammalian diversity that could contribute for tourism information and conservation development strategies. Currently, around 320 species of mammal including 39 endemics (both small and large mammals), 918 birds with 19 endemic species, 240 reptiles (16 endemics), 71 amphibians (30 endemics) and 172 freshwater fishes with 38 endemics and more than 1225 insects recorded in Ethiopia (Table 3) (Amare 2015). Therefore, Ethiopia has one of the most diverse mammalian faunas in Africa and the great attractions of its wildlife heritage.

Table 2 Wildlife (fauna/flora) resources of Ethiopia.

Main Category	Sub Category	# of Species	# of Endemic Species
	Mammal	320	39
	Birds	918	19
Vertebrates	Reptiles	240	16
	Amphibians	71	30
	Fish	172	38
Invertebrates	Insects	Arthropod 1225	7 (Butterflies)
Vascular Plants		6500	625

Source: - Amare, A. (2015) Wildlife Resources of Ethiopia: Opportunities, Challenges and Future Directions: From Ecotourism, Perspective

3.3.2 Floral Diversity

The floral part of Ethiopia varies from montane forests with coniferous and broadleaved forests, vast savannah, steppes and to deserts are interrupted by lakes with *acacia commiphora* woodland ecosystem, crossed by rivers and streams accompanied by galley forests. The flora and topography also provides another excitement for tourists. However Ethiopia has diverse floral diversity, more than 6500 species of vascular plants (with 625 endemic species and 669 near-endemic species, and one endemic plant genus) and ranked the fifth largest floral

country in tropical Africa(Young J, 2012).

3.4 Expansion of Protected Area; Potential for Tourist Destination

Protected areas are the main focus for the maintenance of biological diversity and contribute for economic developments of a nation. The forest cover of Ethiopia declined from 47% to only 3% for the past few decades due to ever increasing population and anthropogenic effect(Amare 2015). Ethiopia had more than55 protected areas covers currently about have more than 17.1% of its land, ranked third in African country next to Tanzania and Uganda (Amare 2015). This crisis seems under recovering slowly in the future. The country is one of few countries where the establishments of protected areas are increasing. For example, Ethiopia had only two protected areas (namely; Awash and Simien Mountains National Park) before 40 years and today has more than 55 protected areas (including 21 national parks) (Figure 1) to protect and conserve the natural ecosystems and wildlife heritage of the country (Table 4). Conversely, those protected areas are exposed to severe pressure, which threatens their existence and sustainability due to anthropogenic effects(Amare 2015).

Table 3 protected areas of Ethiopia.

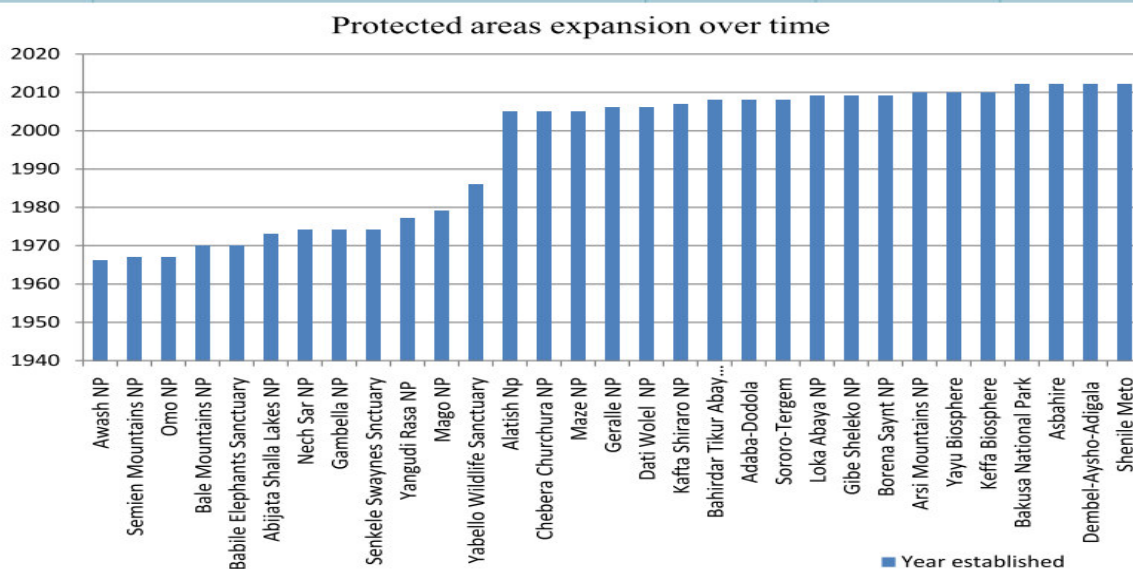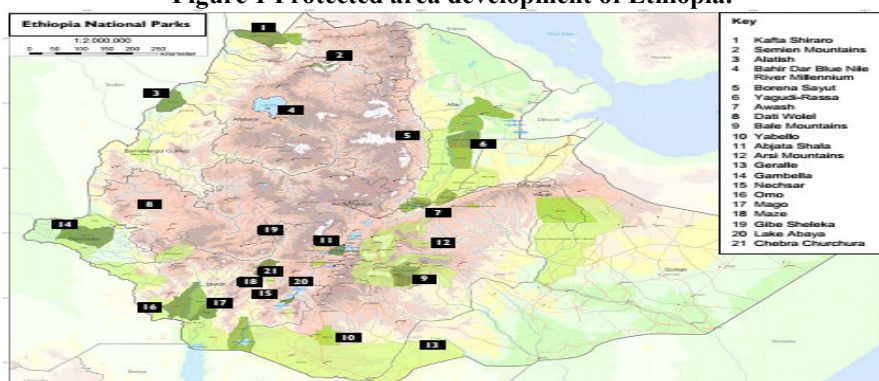| No	Protected Area	Federal	Region	Total
1	National Parks	11	10	21
2	Wildlife Sanctuaries	2	1	3
3	Wildlife Reserves	1	2	3
4	Controlled Hunting Areas	-	18	18
5	Open Hunting Areas	-	7	7
6	Community Conservation Areas	-	3	3

Figure 1 Protected area development of Ethiopia.

Source: - Ethiopian Protected Areas A 'Snapshot' 2012

Figure 2 national parks of Ethiopia and their location

4.   Challenges to Conservation and Protected Area Management in Ethiopia

Ethiopia is exceptionally high in biodiversity but exceptionally low in capacity for biodiversity conservation or protected area management. Critically, there are over 80 million people in Ethiopia, 85% in rural areas, and 80% in the highlands. The vast majority are almost completely dependent on natural resources for their livelihoods. Consequently, 97% of the original highland vegetation has already been lost in recent decades due to encroaching agriculture, grazing and settlement by agro-pastoral communities. Impoverished resource-dependent local populations are still increasing in Ethiopia, both within and adjacent to National Parks and other areas with high biodiversity value. Finally, montane ecosystems are the most vulnerable on the planet to climate change over the next 50-90 years. Implementing sustainable and climate-smart conservation for the benefit of biodiversity and people alike is of utmost importance(Mutanga and Vengesayi 2015).

Unfortunately, Ethiopia's capacity for conservation management is one of the lowest in the world after decades of underinvestment by the international community and Government alike. The Ethiopian Wildlife Authority's budget for protected areas is the third lowest globally (just 0.5% of the average) and is 3% of that considered necessary for effective management. However in recent years the link between the environment and poverty are becoming higher profile and this has elevated the environment up the political agenda and there is substantial increase in political will for biodiversity conservation(Chanie and Tesfaye 2015).

Even so, the legal framework for conservation is poor, with most National Parks still ungazetted and only an emerging framework for community-managed conservation areas. Whilst Ethiopian wildlife policy advocates the right for stakeholder participation in resource management, in reality there is little participation from local government or communities. Thus, the sector of society most dependent on natural resources has no ownership and little involvement in their management. Aside from SMNP, protected areas receive little income from tourism or other sources, thus monetary benefits to communities are also limited. Additionally, government and community agencies are understaffed, undertrained, under rewarded and have little experience and thus have low capacity for conservation or engagement with communities(Getahun and Yeshanew 2016).

The situation in the Simien Mountains Ecosystem (SME), with the Simien Mountains National Park (SMNP) currently typifies these issues. Nearly 4% of the park is under agricultural land and an estimated 436 households living within the park boundary. Local communities depend on the park's grazing land and a recent 2012 dry season census suggest that livestock densities are about 3 times that recommended for such high altitudes, at 1.6 TLU (tropical livestock units) per hectare. This amounts to some 300,000 head of livestock, mostly sheep or goats. Although this settlement issue dates back to the time of the park's creation and the 2008 boundary realignment removed most settlements, the use of natural resources is currently unsustainable(EWCA 2015).

According to (Birhan and Gebreyes 2015) as with many developing countries, PA and wildlife management and conservation activities in Ethiopia are constrained by limited personnel, equipment, and software, funding and training. Constraints are classified into four categories which are; political, economic, social and biological constraints. Social constraints included negative perceptions of wild life and, lack of capacity to achieve conservation, lack of environmental awareness, rising human populations, and social changes leading to subdivision of land and consequent habitat fragmentation. Habitat destruction, fragmentation, poaching, and lack of proper management are among the various problems that are decimating or threatening the quality and quantity of wild biodiversities in Ethiopia. In many cases, the absence of adequate survey data to monitor wildlife populations and distributions prevents timely management and conservation decisions that could ultimately save a species or population.

Resource degradation is evident with extensive soil erosion, poor yields and depauperate grassland diversity. Intrinsic population growth in these communities is accentuating the issue year on year, (for example the Gich population has increased four-fold in 40 years) and food insecurity is increasing in these already impoverished communities. Whilst tourism in the park has grown with around 17,000 visitors in 2012, and it is providing substantial benefits to local communities and the central treasury, the scale of its expansion is now threatening to degrade the resources on which a positive visitor experience depends(EWCA 2014).Common challenges for managing PA are below:-

4.1 Human-wild life conflict

Conflicts over natural resources between the communities living adjacent to protected area and tourism development have increased in recent years because of changes in land use and accompanying new ideas about wildlife resource management and utilization. Human-wildlife conflict is a major concern of most people living next to protected areas in developing countries due to their subsistent live(Reddy & Workneh 2014).

Since livestock herding and agriculture is the main source of income and livelihood in developing countries, human-wildlife conflict is more experienced in the region for natural resource consumption which brought wildlife under serious threat. Human wildlife contests begin when livestock try to win food and water against the will of wildlife in (Woyesa 2016).

Human-wildlife conflicts have been more intensive in recent decades, because of exponential human population growth and economic activities. The highest intensity of conflicts tends to occur where humans live adjacent to protected areas and Crop damage is the most prevalent form of human-wildlife conflict across the country(Hansilo and Tiki 2017).

In Ethiopia, most of the people whose farming activities are poor, local subsistence farming communities, and in some cases, commercial farms adjacent to wildlife habitats often impacted by the presence and abundance of wild pest animal species. Crop damage is an increasing source of economic loss and local frustration in subsistence agriculture settings and also promotes negative attitudes towards species of conservation value. In Ethiopia, different protected areas face many challenges due to growing populations, border conflicts, and recurring drought. Many of Ethiopian people are pastoral rural who need local access to grazing lands (Teshome and Girmay 2017).

4.2 Conflicting Perspectives between the State and Local People

Protected area involves conflict of interests and worldviews among different actors. Besides the persistence of competing interests over the territory at local, regional and national levels, there are apparent evidences of divergence in worldviews on the approaches to conservation and perspectives on development.

According to (Abelieneh A, 2017), the establishment of the park significantly affects the local people livelihoods and makes a critical challenge for the park administrators and other local government bodies and vice versa in case of Alatish national park. Thus unless the government bodies reconsider the issue in the park planning and administration process and then make some adjustments which are important for the bio diversity conservation and well- being of the local people, both the park sustainability and livelihood sustainability will be greatly at risk.

According to (Debelo 2012) Protected areas such as Nechsar national park the state and local people (Guji communities)exhibit competing interests over the park. The state exerts structural power through forced resettlement programs, territorialisation, control and surveillance of access to traditional resource areas of the local people.State intervention had created new reconstruction of identity among the Guji in that they began dichotomizing between themselves and the wildlife. Guji informants explain that the government of Ethiopia has given priority to the wildlife over the people.The Guji youth in particular have deep-rooted discontent against the state and the wildlife, which they believe are the cause for their displacement. On the contrary, the park authority accuses the Guji of encroaching upon the park through cattle trespass, hunting and setting fire to the park.

Local communities present that basic social provisions such as electricity, roads and drinking water supplies are either entirely missing or very inadequate in PA as the most pressing challenges. They reported that GO's/NGOs seeking to provide social provisions to the community were prevented by the park management with claims that it is not allowed to establish or expand social provisions in a national park's territory(Astella 2013). Lack of electricity, roads and water supplies prompts the people to opt for other means of acquiring or supplementing livelihood that are still against the park's rules and regulations(Astella 2013).

4.3 Inadequate Coordination among Stakeholders of Protected Area

The main stakeholders associated with PA are; local community, Zone and Regional Administration, government, EWCA, NGOs and other Educational Institutions. According to (Woyesa T 2016) the contradictory attitudes in NNP mainly about the size of the park, the fate of the community, the legal status of the park boundary and the conservation scheme to implement put both states in difficult state to compromise and place the park in difficult situation to achieve conservation objectives.Conservation without the consent and participation of communities affected by park establishment in NNP eroded sense of ownership and built negative perception towards any move by government to succeed in conservation effort.

4.4 Illegal Activities that Threats Protected Areas of Ethiopia

According to (Neko N. 2014) major threats for management of PA mainly in Maze NP are grazing, uncontrolled fire, expansion of farming, hunting, cutting living tree and, conflicts between the park management and local communities, population explosion, and expansion of built up area fig 1 . These problems result in soil erosion, vegetation degradation, wildlife depletion and deforestation.
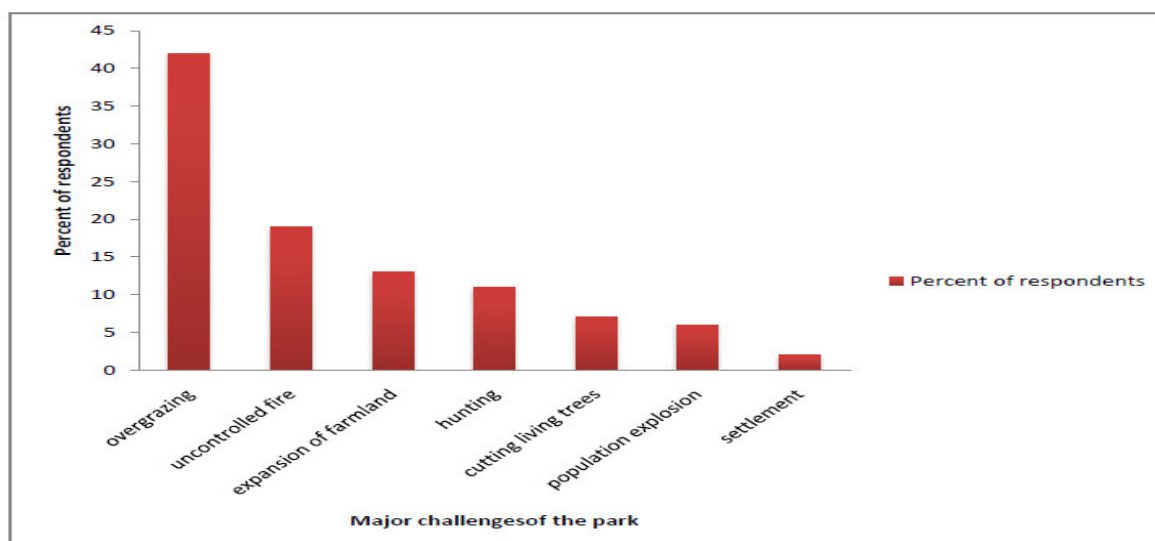
Source: - Negese N, 2014 Challenges of Protecting Protected Area in Ethiopia: The Case of Maze National Park, in SNNPR in GamoGofa Zone

Figure 3 Major threats for managing protected area in Maze NP

According to (Chanie & Tesfaye 2015) illegal activities such as illegal fishing (100%), fuel wood collection (100%), charcoal production (92%) and grass cutting (88%) as the major threats for NSNP. Deforestation, through fuelwood collection and charcoal production (for cooking purpose and house building), followed by grass cutting and illegal fire were the prominent threats to NSNP.

Table 4 Illegal Activities that threats biodiversity in NSNP

Variables	Value in percentage	
	Protection staff	Villagers
Livestock grazing	76.0	37.8
Illegal fire	84.0	37.0
Deforestation	76.0	37.0
Poaching	80.0	9.6
Fuel wood collection	100.0	58.5
Charcoal Production	92.0	28.9
Settlement	72.0	9.6
Illegal fishing	100.0	44
Grass cutting	88.0	40

Source: - Solomon Chanieand Dereje Tesfaye, 2015 Threats of biodiversity conservation and ecotourism activities in Nechsar National Park, Ethiopia

According to(Amare., 2015), the major threats of protected areas (GhibeSheleko National park) are urbanization, agricultural expansion, accessibility and resource extraction. Very few participants living around the park knew the park had already been established but they still regarded the land as their property and considered cutting trees for house construction and building agricultural equipment to be their right. This seems to be due to their limited awareness about protected area management and an inability to get equal benefits from the ecosystem. Local communities knew the park provided ecosystem services, such as recreation (natural views and wild animals), hot spring, and small streams as sources of holy water and fishing activities as a source of food. However, they need extra benefits that directly impact their livelihood. If they do not obtain enough benefits, they may read just the protected area in some ways that affect the conservation goals and increase species extinction in the park.

According to (Wassie 2011), agricultural expansion, cattle grazing by pastoral nomads and local people, poaching, excessive harvesting and uses of resources (for constriction of house and households, and for fire wood), over and illegal fishing by local community and outsiders, uncontrolled fire, trade in wildlife products etc are major treats of both parks of Alatish and Dinder which cause for biodiversity lose in alarming rate.

According to (Birhan and Gebreyes 2015) encroachment from the surrounding communities is currently among the major problems of parks like Semen Mountain national park, Awash National park, Bale mountain National Park, Borena-Saynt national park and Nechsar national park.

4.5 Attitude and Perceptions of Local Residents toward the Protected Area

Protected areas are interpreted differently by different groups. For conservationists, they are an effective measure for protecting biodiversity; and for the surrounding local communities, protected areas can signify restricted access to livelihood resources, forced relocation, or opportunities for income generation through tourism revenues(Kumssa T and Bekele A., 2014). Today, more and more conservationists believe that conservation efforts not supported by the local people living in the surrounding lands are bound to fail. Thus, in addition to enforcements of conservation policy by law, a strategy that will stimulate public support for conservation and increase opportunities for the community to share the benefits must be developed.Understanding human attitudes and the potential for wildlife conflicts in the context of protected area management is critically important in designing long-term conservation strategies(Nishizaki 2014).

As (Abelieneh A, 2017) in Alatish National Park, 61% of respondents responded that ANP would contribute nothing for social resilience. 69% of respondents explained the demarcation and its establishment are not considered in line with livelihood strategies and main activities. Main livelihood activities linked with the park includes fishing, beekeeping, grazing, farming and other activities. Due to this inconsiderate intervention, the livestock number, fish production, honey production and farm land size decreases as it is supported by 57%, 62%, 56% and 82% of the respondents respectively. 85% of the respondents assure that there was no training with regard to park management and administration for the local community.

According to (Kumssa T, Bekele A, 2014) in ASLNP out of the 360 respondents, 85% of respondent were unhappy on the existence of the Park whereas 12% had positive attitude and 2.4% were neutral. There was no significant difference on attitude towards the conservation area among village respondents. Gender had no association with attitude. However, support for the Park and associated policies were significantly associated with age of respondents and education. Younger respondents (≤40 years) and literate ones expressed more positive attitudes (19.17 and 64.91%, respectively) towards the Park than older respondents (4.79%) and uneducated ones (2.64%).

Table 5 Attitude of respondents towards conservation area

Demographic variables	N	Positive %	Negative %	Neutral %	x^2	df	p-value
Attitude toward conservation area							
Villages							
Galeef Qello	57	10.53	85.96	3.51			
Daka	70	12.86	84.29	2.85	1.76	6	0.938
Shalla Billa	110	14.55	83.63	1.82			
Desta Abijata	123	11.38	86.99	1.63			
Total/average	360	12.33	85.22	2.45			
Gender							
Male	216	11.11	86.57	2.32	0.64	2	0.724
Female	144	14.59	83.33	2.08			
Age							
Young	193	19.17	77.72	3.11	19.07	2	0.000
Old	167	4.79	94.02	1.19			
Education							
Uneducated	303	2.64	95.05	2.31	172.56	2	0.001
Educated	57	64.91	31.58	3.51			

Source: -Kumssa T, Bekele A (2014) Attitude and Perceptions of Local Residents toward the Protected Area of Abijata-Shalla Lakes National Park (ASLNP), Ethiopia.

5. Summary and conclusion

Ethiopia is the home of important biodiversity due to its range in physiographic and climatic features in that it has so far established more than 55 protected areas which cover 17.1% of the country, ranked third in African country next to Tanzania and Uganda. Those are 21 national parks out of which only 2 were gazetted, 4 sanctuaries, 8 wildlife reserves, 20 controlled hunting areas, six open hunting areas, six community conservation areas and 58 national forest priority areas which play key roles in economic, ecological and social structure of the community.

Currently, around 320 species of mammal including 39 endemics species, 918 birds with 19 endemic species, 240 reptiles 6 endemics, 71 amphibians 30 endemics and 172 freshwater fishes with 38 endemics and more than 6500 species of vascular plants (with 625 endemic species and 669 near-endemic species, and one endemic plant genus) and ranked the fifth largest floral country in tropical Africa.

However, these protected areas in the country now a day are degrading and facing different challenges due

to human-wildlife conflict, conflicting perspectives between the state and local people, attitude and perceptions of local residents toward the protected area, inadequate coordination among stakeholders of protected area. On other hand, growth of population and settlement, illegal agricultural expansion, habitat loss and destruction, grazing, deforestation, soil degradation, misuse of natural resource and lack of education to raise awareness are the other challenges of protected areas in the country.

There are inherent dangers in promoting tourism in protected areas. Therefore, ecotourism is regarded as the primary mechanism to supply a protected area, wildlife and surrounding communities with corresponding benefits. So, PA based ecotourism createsenormous opportunities for conservation, protection andsustainable use of natural resources through the involvement of the local people.

6. Prospects

Albeit many attempts have been taken to conserve protected area, still there is unsustainable and destructives activities are taking place. Therefore, actions such as:

- Institutional strength and capacity building work to concerning body starting from local community up to higher governmental organizations and awareness creation;
- Potential traditional knowledge of the people on the diverse uses of protected area should be strengthened;
- In the process of protected area administration managers and other responsible organ must recognize the sustainability of both the local people's livelihood and sustainability of the biodiversity;
- Increasing the awareness of local communities towards ecotourism or nature tourism is very important;
- Understanding human attitudes and the potential for wildlife conflicts in the context of protected area management is critically important in designing long-term conservation strategies; so it should be considered;
- grazing, uncontrolled fire, expansion of farming, hunting, cutting living tree and, conflicts between the park management and local communities, population explosion, and expansion of built up should be minimized;

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