

Ethiopian Protected Area Ecosystem Values and Constraints on Local Communities

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Abstract

Protected areas are managed for a variety of reasons, including the conservation of species and ecosystems, the preservation of landscapes, the protection of watersheds, and the preservation of important biological reserves, and, increasingly, the sustainable use of natural resources by local people. Although protected areas safeguard many of the world's environments and species, human encroachment is seriously deteriorating and destroying many of these regions, particularly in the tropics, including Ethiopia. Protected places may have a good or negative impact on the local society and economy. Direct revenue from environmental conservation and the maintenance of ecosystem services such as watershed protection are examples of good local community impacts. The negative consequences might range from relocation of local residents to wildlife damage to crops, as well as restricted resource availability and changes in land tenure. Individual protected areas, organizations, and countries, as well as their management categories and forms of governance, differ substantially in terms of protected area management and community involvement. All of these topics are covered in this work.

Keywords: Protected area; Community; Livelihood; Ecosystem

Introduction

Varied groups have different perspectives on protected areas. Protected areas can refer to conservationists' restricted access to livelihood resources, forced relocation, or opportunities for income generation from tourism revenues, as well as the surrounding local communities' restricted access to livelihood resources, forced relocation, or opportunities for income generation from tourism revenues [1]. A Protected Area (PA) is defined as "a clearly defined geographical place that is recognized, devoted, and managed, through legal or other effective procedures, to achieve long-term conservation of nature and related ecological services and cultural values" [2]. Protected areas are managed for a variety of reasons, including the conservation of species and ecosystems, the preservation of landscapes, scenic and historic features, tourism and recreation, education, science, and research, the protection of watersheds and important timber, fisheries, and other biological resources, and, increasingly, the sustainable use of natural resources by local people [3]. The IUCN categorizes protected area systems into six categories in its guidelines [4] to reduce the complexity of what they are.

Rural poor people's livelihoods and well-being are more vulnerable to the development of protected areas, particularly in developing nations like Ethiopia, where their livelihoods are based mostly on agriculture and natural resources. Protected areas' effects on local livelihoods have been extensively researched [5,6]. Local people's views toward conservation operations can be influenced by the positive and bad effects that protected places have on them [7]. As a result, attaining conservation and livelihood goals requires an understanding of the elements that influence the relationship between local people and PAs [8].

Ethiopia is rich in biodiversity, having a diverse range of animal and flora species. However, the potential advantage of this resource to the country's development has not been achieved. There are 21 national parks, three wildlife refuges, three wildlife reserves, six community conservation areas, two wildlife rescue centers, 20 controlled hunting zones, and six open hunting areas in the country. The country's protected areas cover 16-17 percent of the country's total territory, which is 1.11 million km² (Ethiopian Wildlife Conservation Authority, 2013) [9].

To capitalize on this enormous potential, the country has set a goal of becoming "one of Africa's top five wildlife tourism destinations by 2020." However, the majority of the country's protected areas remain subject to local communities' traditional livelihood activities such as subsistence agriculture, grazing, and timber harvesting, indicating unsustainable natural resource management [10]. Aside from their relevance for biodiversity conservation, the consequences of protected areas on local people (both good and negative) received little attention. However, the majority of studies focused on protected areas in various nations, while the consequences of protected areas on local community livelihoods in Ethiopia are rarely investigated [11]. The major goal of this study is to compile the benefits and constraints of protected areas to the life of local residents.

Literature Review

Although protected areas are intended to conserve biodiversity, they are also vital for the livelihoods of local communities, particularly indigenous peoples who reside and/or rely on the resources available in protected areas to survive [12]. Protected places are frequently perceived as isolated from their surroundings; however, this is not the case because they are exposed to a variety of external forces that affect nearby lands and vice versa. These connections may be largely ecological or physical, but they also take into account cultural, social, and economic factors. Rather, it is a type of land use that must be compatible with their environment in order for them to survive [13]. In most Eastern African countries, including Ethiopia, land use conversion is a typical occurrence due to rising people and animal populations. The conversion of natural vegetation cover to other uses,

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such as farming, grazing fields, human settlements, and urban areas, has been proven to result in biodiversity loss, deforestation, and land degradation [14]. Local agro-pastoralists and pastoralists live in and around Abijata-Shalla Lakes National Park (ASLNP), and their family economy is based mostly on agriculture and animal output. Because most of them relied on land to make a living, conflict with wildlife was more immediate and intense. Agriculture will definitely expand into previously uncultivated areas as human populations continue to grow. The necessity to safeguard natural areas from traditional uses by local people has been linked to successful conservation [15].

Protected Area Values for the Local Community

Many academics and organisations think that protected areas should contribute to the local community's socioeconomic growth. The value of ecological services (such as climate stabilization, carbon sequestration, provision of clean water, erosion management, nutrient cycling, and so on) is significantly greater than the value of direct benefits from cultural services (spiritual, recreational), tourism, and employment [16]. According to the World Bank (2010), natural ecosystems in general, and protected areas in particular, provide a variety of commodities and services, including food, medicinal plants, building materials, and soil stabilization and pure water. Another study by Coad et al. [17] Classified protected area benefits as either direct or indirect. As a result, direct benefits may include the utilization of natural resources for construction, food, medicine, or fuel, whereas indirect benefits could include watershed conservation and increased agricultural production. Benefits obtained from protected area management and infrastructure on a local scale include financial advantages from ecotourism and employment, as well as payments for environmental services. Other advantages include increased community participation in sustainable resource management and development schemes (also known as Integrated Conservation and Development Projects or ICDPs), strengthened land tenure and protection from external threats, improved conservation of essential resources, and improved recognition of community-protected areas.

Ecotourism as a source of income: Ecotourism is a holistic conservation approach that includes the preservation of protected places as well as the enhancement of community livelihoods. Local populations in and surrounding Bale Mountain National Park (BMNP), for example, engage in non-farming activities in addition to animal production and raising. Tour guiding, horseback riding, and selling handicrafts are examples of these services. Ecotourism, in this situation, is not only beneficial to local environmental protection, but it also plays a significant part in influencing local community attitudes toward sustainable natural resource use, as ecotourism provides them with direct monetary benefits [18]. Protected areas are important biodiversity conservation centers and tourism resources for a country, particularly for developing countries like Ethiopia, because they help the local community while also supporting the upkeep and restoration of the protected regions [19].

Supporting and regulating services: Creating and maintaining soils, primary production, sustaining hydrological cycles, runoff control, soil erosion avoidance, and storing and cycling vital nutrients are all examples of supporting and regulating functions. Rivers, for example, can provide far more environmental benefits than just water quality. Flooding, which is exacerbated by land use changes especially in regions where vegetation has been destroyed, can result in erosion and higher sediment loads (Reza Azmi). Land and forest restoration is a cross-cutting policy necessity in Ethiopia, with the benefits of ecosystem services becoming more established. Ecosystem-

based approaches can also be used to facilitate adaptation in protected areas. This involves preventing or decreasing the consequences of natural disasters like droughts and floods, improving water supplies, addressing climate-related health issues, safeguarding food supplies, and preserving biodiversity to preserve ecosystem resilience [20].

Provisioning Reed Material: People can earn a living by providing services (e.g., grazing resources, forest products, fish resources, wild food products), etc. Because they are largely direct benefits with apparent economic implications, it is typically possible to identify and quantify the provisioning services offered by protected places. Local communities' reliance on protected area resources is evident, and one of the most significant benefits of protected areas for local people may be the preservation of forest and other resources for future generations. If provisioning services are to be accessed by local communities today, there must be a balance between resource restriction and resource utilization to achieve this noble goal. Natural ecosystems that are well-managed play an important role in food security, especially for the poorest members of society, many of whom still live on a subsistence level and rely on a variety of edible crops from protected areas [21].

Cultural services: Protected areas' cultural and social benefits are an integral part of their role in local livelihoods. McNeely [22] finds that protected places can play a critical role in maintaining cultural identity, protecting traditional landscapes, and empowering local knowledge in the prospects for social benefits of protected areas. The Nachsar National Park, for example, has a good impact on the Gamo community in a variety of ways. The park's status as a significant tourist attraction in Arba Minch has enhanced the town's infrastructure, which has increased the community's access to many services (like education, health center, etc). Furthermore, Gamo culture is well-known within the country as well as internationally. Their ethnic dance, traditional clothing, meals, and other items are well-known, which makes people proud of their heritage [23].

Constraints of Protected Area on local community

Displacement: One of the negative implications of protected areas that has been well documented in many literatures is the displacement of local inhabitants for conservation. The term "displacement" is frequently used to refer to the forcible removal of local communities from their property. However, according to Coad et al. [24], conservation displacement is the result of two processes. These include the forcible removal of individuals from their homes, economic disruption, and the exclusion of people from specific places in ways that jeopardize their livelihood. They went on to say that people living on the outskirts of a park who are unable to collect firewood or wild foods, hunt or fish, or walk to their farms on the other side of the park can no longer survive as they did previously. As a result, excluding economic activity that does not result in a move nonetheless causes that activity to be displaced elsewhere. Displacement can result in a variety of socioeconomic issues. It can have a wide range of socioeconomic consequences, including landlessness, unemployment, homelessness, marginalization, the loss of the right to use common property, and other forms of social disintegration. In 2004, for example, 500 people were relocated outside the confines of Nechisar National Park in southern Ethiopia [25].

Restrictions on resource utilization: The Protected Area of Abijata-Shalla Lakes National Park (ASLNP) in Ethiopia was rejected by the majority of the local population. They believed that a Park would jeopardize their economy by restricting their ability to increase farming and pasture area, as well as settlement, fuel wood gathering, and minor

forest product exploitation. Furthermore, many local residents had expressed their dissatisfaction with the ongoing issues relating to the restriction of their resource usage activity inside the area [26-34].

Human-Wildlife Conflicts: For years, human-wildlife conflict has caused serious harm to both humans and wild animals [27]. It happens as a result of both parties being in close proximity. Wild animals typically cause conflict when they consume resources intended for human consumption, such as crops by herbivores and livestock by carnivores. Furthermore, as they attack within settlement areas, wild creatures with Massif body sizes like as elephants, rhinos, and hippos cause structural damage to fences, electric posts, and water infrastructure. Furthermore, such enormous animals may trample fields, causing substantial damage [28]. Large herbivore mammals have harmed agricultural crops and plantations in Ethiopia, as they have in other parts of the world. Herbivores, primates, and tiny mammals from all over the world enter and exit the protected region, inflicting harm to crops and cattle. In certain sections of the country, these creatures do significant harm to agricultural crops [29, 35-40].

Conclusion

Rural poor people's livelihoods and well-being are more vulnerable to the establishment of protected areas, especially in developing nations, because their livelihoods are primarily dependent on agriculture and natural resources. Local people's perceptions of the benefits and costs of protected places can influence whether they are positive or negative about conservation efforts. In order to achieve conservation and livelihood goals, it is critical to understand the elements that influence the relationship between local people and protected areas. The ecosystem services protected within the forest area, as well as direct and indirect advantages from protected area management, are all examples of protected area benefits. Provisioning services (such as food, firewood, and water), sustaining (nutrient cycling, primary production), regulating (climate or water purification), and cultural services are examples of such advantages (spiritual, recreational). Revenue from ecotourism, direct payments for conservation, development plans, employment, secure land tenure, and protection of resources from external threats are all possible benefits of protected area management. The transfer of these benefits to local communities is, once again, heavily reliant on the mechanisms in place for benefit-sharing, such as management systems, community participation in governance, or clearly defined property rights. Displacement of local people, changes in customary land tenure, denied or restricted access to resources, job loss, human-wildlife conflict that causes crop damage, and livestock predation are some of the common negative repercussions affecting communities' livelihoods in the country. Displacement is likely the most cost of these expenses in terms of livelihoods. Changes in tenure from conventional property rights systems to government-owned land can have substantial economic consequences, especially when people are excluded from land-use decisions.

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