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# Potentials and Opportunities of Community Tourism Venture in the Wof-Washa Dry Afromontane Hotspot Forest, North Shewa Administrative Zone, Ethiopia

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## Abstract

The Wof-Washa Dry Afromontane Hotspot Forest is one of the oldest proclaimed state forests in the central highlands of Ethiopia. The forest is endowed with mosaic of landscapes, natural and plantation forests, mosaic of cultures and traditions, the presence of historical site in the vicinity, variety of bird species, and the presence of different wild mammal species including the large body-sized endemic gelada and Menelik's bushbuck. All of these are top tourist attractions in the area. However, the forest is under serious human-and livestock-induced pressure that threatens the status of the natural biodiversity. The objective of this paper was to explore potentials and opportunities of community tourism venture in the Wof-Washa Dry Afromontane Hotspot Forest. To introduce and promote community-based ecotourism in the Wof-Washa Dry Afromontane Hotspot Forest, SUNARMA (i.e. Sustianable Natural Resources Management Association) has built tourist campsites at four different sites (namely: Kundi, Goshu-Meda, Mescha, and Liq-Marefya). Since Septermber 2017, domestic and foreign (i.e. international) tourists have started visiting the forest. For example, a total of 243 tourists so far visited the forest and about 97,386 ETB (i.e. equivalent to $ 3,536.91) was collected as a revenue from the visitng tourists. As per the agreement, the revenue was equally distributed to all members who belonged to the four community-based ecotourism cooperatives found around the forest. This suggests that introducing and promoting community-based conservation efforts that allow communities to derive economic benefits from ecotourism enhance forest conservation while at the same time providing an optimal solution to resource use conflicts. Ecotourism activity can also improve and diversify the incomes of the local people through creating job opportunities, such as tourist guiding services, souvenir selling, and horse renting all of which can help make community-based ecotourism economically viable in the Wof-Washa Dry Afromontane Hotspot Forest.

**Keywords:** Biodiversity; Birds; Community-based ecotourism; Endemic; Mosaic of cultures and landscapes; Wild mammals

## Introduction

The Wof-Washa Dry Afromontane Hotspot Forest is one of the oldest proclaimed state forests in the central highlands of Ethiopia. The forest is rich in biodiversity. For example, it is home to a number of wild plant and animal species that are unique and some of them are even endemic to Ethiopia and East Africa. As an assert, plant species, such as oregano (*Thymus serulatus*), megfra (*Lobellia rhynchopet*), and Guassa (*Festica abyssinica*), bird species including Ankober serin (*Serinus ankoberensis*), abyssinian catbird (*Parophasma galinieri*), abyssinian long-claw (*Macronyx flavicollis*), Ethiopian siskin (*Serinus nigriceps*), spot-breasted lapwing (*Vanellus melanocephalus*) and wattled ibis (*Bostrychia carunculata*), and wild mammals, such as gelada (*Theropithecus gelada*) and Menelik's bushbuck (*Juniperus procera*) are a few of the endemic species that are found in the Wof-Washa Dry Afromontane Hotspot Forest [1-4]. The Wof-Washa Dry Afromontane Hotspot Forest is also known for its very steep slopes and rugged topography. For example, there are several peaks covered by the Wof-Washa Dry Afromontane Hotspot Forest and ericaceous shrubs among which the highest is at about 3,500 m at the north-western part of the forest (Figure 1) [3-5]. All of these are top tourist attractions in the area.

The Wof-Washa Dry Afromontane Hotspot Forest is located in North Shewa Administrative Zone (about 9°45' N and 39°45' E), central highlands of Ethiopia, and some 160 km northeast of Addis Ababa in Amhara National Regonal State (Figure 2) [3,5]. The forest area is found in the highlands of the region where intensive crop cultivation has been practiced for many centuries. It is one of the few remaining forest areas and the only major natural forest in the region. It is considered one of the most threatened forest ecosystems in the Amhara National Regional State [6].

There are different opinions about the size of the Wof-Washa Dry Afromontane Hotspot Forest. For example, previous researchers estimated that the Wof-Washa Dry Afromontane Hotspot Forest was thought to cover an area of 3,500 ha [2-4]. However, later it was estimated that the forest covered an area of 10,000 ha FAO [7]. In another instance, a baseline survey carried out by Sustanable Natural Respources Management Association (SUNARMA) in June 2002 indicated that the natural forest remnants and woodlands of the Wof-Washa Dry Afromontane Hotspot Forest were being reduced at an alarming rate. For example, the 2002 survey showed that the natural forest cover was about 8,290 ha, a reduction of nearly 1000 ha from the 9,260 ha that was estimated in 1994 forest inventory by Department of Agriculture in North Shewa Adminstrtive Zone [6]. A forest inventory conducted by SUNARMA in March 2005 estimated that the natural

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**Figure 1:** Partial view of the Wof-Washa Dry Afromontane Hotspot Forest. (Photo by the first author, 2017).

forest cover had continued to decline down to 8,222 ha (SUNARMA, unpublished data).

The differences in the area coverage of the Wof-Washa Dry Afromontane Hotspot Forest suggested the need for further investigations about the exact boundary of the forest. Moreover, the forest is under steady human- and livestock-induced pressures which are believed to reduce the area of the forest as time goes on. The factors that are contributing to the loss of the forest and its biodiversity are complex [8,9]. However, the forest is principally threatened by the demand for agricultural land exapnasion due to the increase in human population, uncontrolled grazing and illegal timber harvesting activities that all accelerate severe forest destruction in the area [10,11]. For example, in the recent past, the demand for agricultural land by an increasing human population has removed important vegetation cover to the extent of deforesting areas not suitable even for cultivation. This is because the Wof-Washa Dry Afromontane Hotspot Forest is an integral part of the local people's livelihoods and economy [6,9-11]. So, introducing and promoting community-based conservation efforts that allow communities to derive economic benefits from ecotourism enhance forest conservation while at the same time providing an

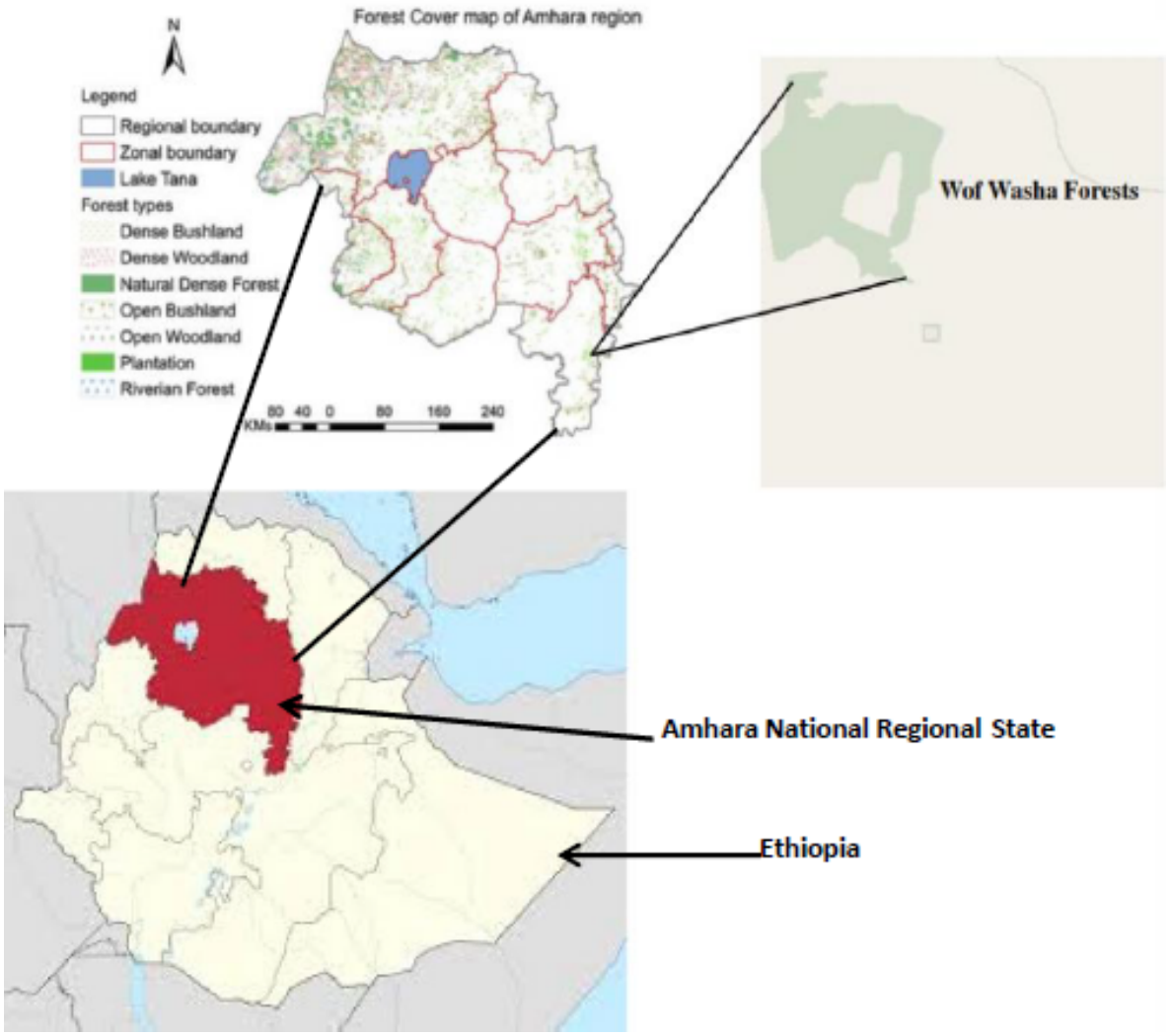


**Figure 2**: Map showing the location of the Wof-Washa Dry Afromontane Hotspot Forest in the Amhara National Regional State.

optimal solution to resource use conflicts. Ecotourism activity can also improve and diversify the incomes of the local people through creating job opportunities, such as tourist guiding services, souvenir selling, and horse renting all of which can help make community-based ecotourism economically viable in the Wof-Washa Dry Afromontane Hotspot Forest [10,12-15]. Therefore, the objective of this paper was to explore the potentials and opportunities of community tourism venture in the Wof-Washa Dry Afromontane Hotspot Forest, North Sehwa Administarative Zone, Ethiopia.

## Biodiversity Status in the Wof-Washa Dry Afromontane Hotspot Forest

### Flora

Studies conducted to detemine the floristic composition of the forest revealed that about 252 species of plants were so far recorded in the Wof-Washa Dry Afromontane Hotspot Forest: 33 (13%) tree species, 18 (7%) shrub species and 201 (80%) herb species. Among these, 29 plant species (about 12%) are endemic to Ethiopia while 7 species (3%) are nearly endemic (SUNARMA, unpublished data). A recent vegetation inventory coducted by Tilahun in 2017 (unpublished data) suggested that the number of plant species in the Wof-Washa Dry Afromontane Hotspot Forest increased to 394 species: 50 (13%) tree species, 72 (18%) shrub species, 254 (64%) herb species, and 18 (5%) liana species. This shows that the taxonomic inventory conducted in the forest is not yet completed.

The common woody plant species in the Wof-Washa Dry Afromontane Hotspot Forest include *Juniperus procera* Hochst. ex Endl, *Afrocarpus falcatus* Thunberg, *Cynoglossum amplifolium Hochst.* ex DC., *Polyscias fulva* (Hiern) Harms, *Hypericum revolutum* Vahl, *Vernonia amygdalina* Del., *Vernonia rueppellii* Sch.-Bip., *Ekebergia capensis* Sparrm., *Bersama abyssinica* Fresen., *Ficus sur* Forssk., *Maesa lanceolata* Forssk., *Myrsine africana* L., *Dovyalis abyssinic*a (A. Rich.) Warb., *Olea africana* Miller, *Olea hochstetteri* Bak., *Celtis africana* Burm. f., *Hagenia abyssinica* (Bruce) Gmel., *Prunus africana* (Hook. f.) Kalkm., *Allophylus abyssinicus* (Hochst.) Radlk., *Rosa abyssinica* Lindley, and *Galium simense* Fresen [3,5].

### Wild mammal species

The Wof-Washa Dry Afromontane Hotspot Forest provides shelter, food, and breeding sites for a number of wild mammal species including anubis baboon (*Papio anubis*), gelada (*Theropithecus gelada*), Menelik's bushbuck (*Tragelaphus scriptus meneliki*), common duiker (*Sylvicapra grimmia*), colobus monkey (*Colobus guereza*), grivet monkey (*Ceropithecus aethiops*), klipspringer (*Oreotragus oreotragus*), spotted hyena (*Crocuta crocuta*), leopard (*Panthera pardus*), rock hyrax (*Procavia capensis*), common jackal (*Canis mesomelas*), common warthog (*Phacochoerus africanus*), African civet (*Civettictis civetta*), porcupine (*Hystrix cristata*), serval cat (*Felis serval*), Abyssinian genet (*Genetta abyssinica*), caracal (*Felis caracal*), Starck's hare (*Lepus starckii*), honey badger (*Mellivora capensis*), and bush pig (*Potamochoerus larvatus*) [3].

## Bird species

The Wof-Washa Dry Afromontane Hotspot Forest is also known for a number of bird species, where some of the endemic bird species in the forest include Ankober serin (Serinus ankoberensis), abyssinian catbird (Parophasma galinieri), abyssinian long-claw (Macronyx flavicollis), Ethiopian siskin (Serinus nigriceps), spot-breasted lapwing (Vanellus melanocephalus) and wattled ibis (Bostrychia carunculata) [1]. Moreover, the escarpment of the Wof-Washa Dry Afromontane Hotspot Forest was regarded as one of Ethiopia's important bird areas. For example, the forest supports important communities of ruppell's chat (Myrmecocichla melaena), scarce swift (Schoutedenapus myoptilus), lammergeyer (Gypaetus barbatus), mountain buzzard (Buteo oreophilus), peregrine falcon (Falco peregrinus), red-breasted sparrow-hawk (Accipiter rufiventris), alpine swift (Tachymarptis melba), crag martin (Ptyonoprogne rupestri), and blue rock thrush (Monticola solitarius) [16].

## Tourism Venture in the Wof-Washa Dry Afromontane Hotspot Forests

The previaling plant, wild mammal, and bird species are some of the top tourist attractions for the incoming visitors who are interested in visiting the Wof-Washa Dry Afromontane Hotspot Forest. Moreover, the gorgeous landscape on which the forest has grown is attractive scenery for the arriving tourists in the forest. Mosaic of landscapes, natural and plantation forests, mosaic of cultures and traditions, the presence of historical site in the vicinity (e.g. Menelik's Palace in Ankober), variety of bird species, and the presence of different wild mammal species including the large body-sized endemic gelada and Menelik's bushbuck are also among the top tourist attractions in the area (Figure 3) [3,10].

### Community-based ecotourism development in the Wof-Washa Dry Afromontane hotspot forest

Sustanable Natural Respources Management Association (SUNARMA) has started developing a community-based ecotourism project since January 2014 in the Wof-Washa Dry Afromontane Hotspot Forest. For example, being funded by the Critical Ecosytem Partneship Fund (CEPF), SUNARMA has built tourist campsites at four different sites (namely: Kundi, Goshu-Meda, Mescha, and Liq-Marefya) in the forest. All of the four tourist campsites were traditional types because they were constructed with local materials and fitted out with the necessary materials (Figure 4). It is noted that some of the wood construction materials for the campsites were obtained from the dead and wind fallen trees found in the forest.

Four community-based ecotourism enterprises had been organized, registred, and legally licensed by SUNARMA under the Amhara National Regional State legal provision for Natural Resources Development, Protection and Tourism Marketing Cooperatives (NRDPTMC) guideline. Those four community-based ecotourism enterprises had a total number of 817 members (655 male and 162 female) who were above 14 years of age including job- and land-less youth (Table 1). Since September 2017, domestic and foreign (i.e. international) tourists have started visiting the Wof-Washa Dry Afromontane Hotspot Forest (Figure 5). For example, a total of 243 tourists so far visited the forest and about 97,386 ETB (i.e. equivalent to $ 3,536.91) was collected as a revenue from the visitng tourists (Table 2). As per the agreement, the revenue was equally distributed to all members who belonged to the four community-based ecotourism cooperatives found around the Wof-Washa Dry Afromontane Hotspot Forest.

Wof-Washa participatory biodiversity protection, income generation from tourist services, etc. were among the major activities engaged in Natural Resources Development, Protection and Tourism


**Figure 3**: Large body-sized endemic wild mammal species, i.e. gelada (Theropithecus gelada) (left) and bushbuck (Tragelaphus scriptus meneliki) (right), that are found in the Wof-Washa Dry Afromontane Hotspot Forest. (Photo by the first author, 2017).

**Figure 4**: Tourists' lodges built by SUNARMA (Sustianable Natural Resources Management Association) in the Wof-Washa Dry Afromontane Hotspot Forest. (Photo by the first author, 2017).

| No | Cooperatives / Enterprises | Members | | |
|---|---|---|---|---|
| | | Male | Female | Total |
| 1 | Goshu-Ager (Goshu-Meda) NRD, Ecotourism & Marketing Cooperative | 124 | 16 | 140 |
| 2 | Ayertena (Mescha) Natural Resource Development, Ecotourism & Marketing Cooperative | 211 | 51 | 262 |
| 3 | Mehalwonz (Liq-Marefya) Natural Resource Development, Ecotourism & Marketing Cooperative | 215 | 75 | 290 |
| 4 | Kundi Wosen-Seged (Kundi) Natural Resource Development, Ecotourism & Marketing Cooperative | 105 | 20 | 125 |
| **Total members of coops** | | **655** | **162** | **817** |

(Source: SUNARMA, unpublished data)

**Table 1:** Wof-Washa community-based ecotourism cooperatives (i.e. enterprises).

Marketing Cooperatives (NRDPTMC) business and participatory forest management plans. The tourism cooperatives have engaged in real business as most of them have already completed campsite construction activities and training of waiters and tourist guides. Since September 2017, the four eco-tourism enterprises have started gaining benefit after signing an agreement with TESFA tour operators (Table 2).

To facilitate the movement of tourists, SUNARMA has proposed and developed trekking routes in the Wof-Washa Dry Afromontane Hotspot Forest (Figure 6). Moreover, to reduce illegal deforestation,

**Figure 5**: Tourists visiting the Wof-Washa community lodges in the Wof-Washa Dry Afromontane Hotspot Forest. (Photo by the first author, 2017).

| Name of Lodge | Toursits visiting the Wof-Washa Dry Afromontane Hotspot Forest since September 2017 | | Total number of tourists | Revenue collected (ETB) |
|---|---|---|---|---|
| | Domestic | Foreign | | |
| Goshu Meda | 17 | 37 | 54 | 18321 |
| Mescha | 14 | 63 | 77 | 32357 |
| Liq Marefia | 10 | 61 | 71 | 26619 |
| Kundi | 11 | 30 | 41 | 20089 |
| **Total** | **52** | **191** | **243** | **97,386** |

(Source: SUNARMA, unpublished data)

**Table 2**: The number of tourists (i.e. domestic and foreign) who visited the Wof-Washa Dry Afromontane Hotspot Forest and the total revenue collected from them.

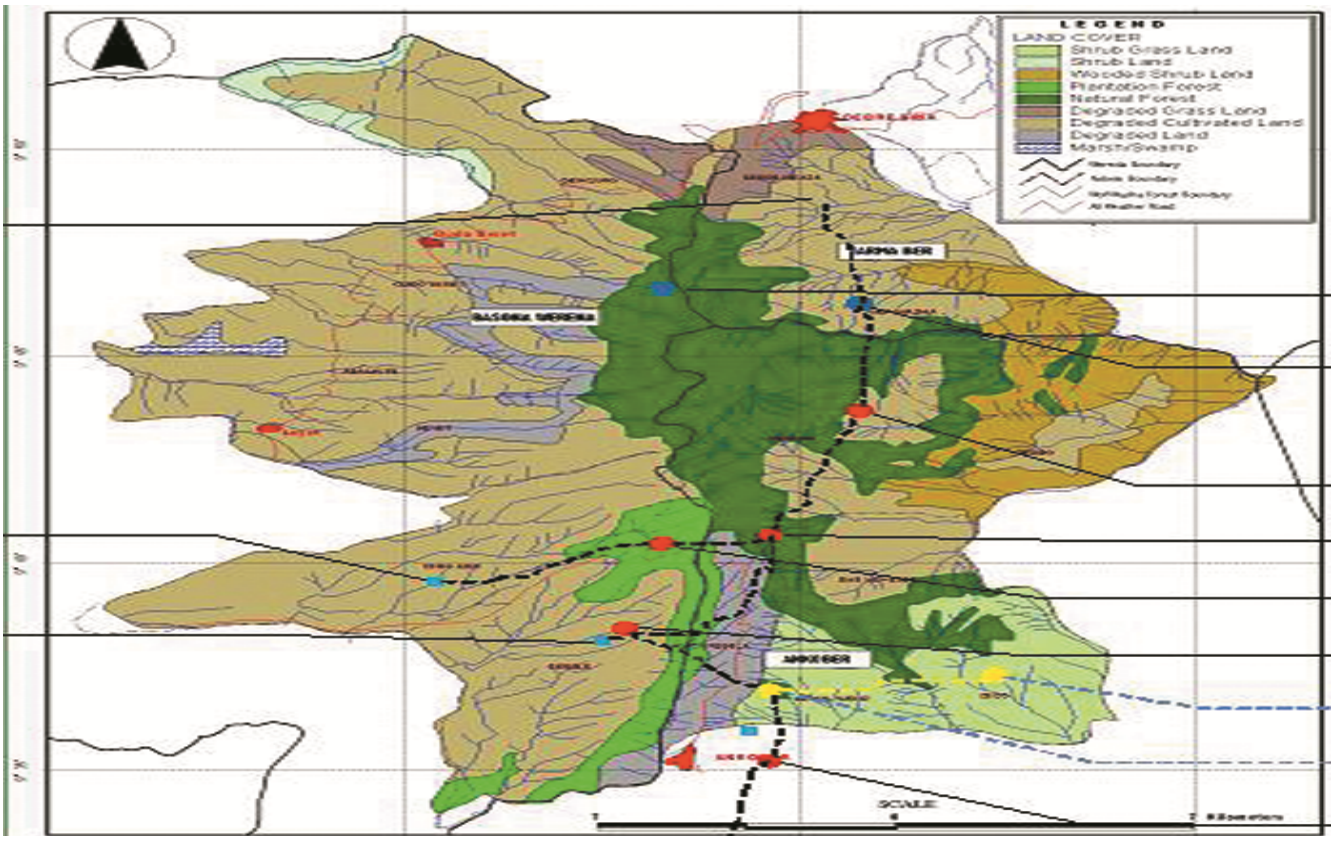


**Figure 6:** Proposed trekking routes for tourists in the Wof-Washa Dry Afromontane Hotspot Forest. (Source: SUNARMA, unpublished data).

resource use conflicts, and economic poverty in the area, being funded by the Critical Ecosystem Partnership Fund (CEPF), SUARMA has facilitated the establishment of legally licensed community-based ecotourism enterprises / cooperatives at grass root level where by the local communities have more stakes and play significant role in forest governance and biodiversity conservation around the area. For example, it had been witnessed that the implementation of community-based ecotourism project in the area contributed a lot towards reducing the threats to the Wof-Washa Dry Afromontane Hotspot Forest. Such changes are largely attributed to the tremendous efforts made by the project in the development of community-based cooperatives, numerous skill trainings on forest management and community-based tourism, repeated experience sharing tours in various places with best practices, regular monitoring and review meetings with key stakeholders and subsequent awareness creation endeavor done since the commencement of the project (SUNARMA, unpublished data). This is because such kind of institutional re-arrangement and forest governance schemes enable local communities to develop positive attitudes towards the natural forest and enhance communities' forest sense of ownership in the area [12-17]. For example, participatory field observations had proved that local communities have started participating in biodiversity conservation through respecting the boundaries of the natural forest, limit the actions of free-grazing, control poaching of wild animals and prevent illegal timber harvesting practices in the Wof-Washa Dry Afromontane Hotspot Forest (SUNARMA, unpublished data).

To enhance communities' awareness on biodiversity issues and as part of filling their technical knowledge gaps, SUNARMA has been continually building the capacity of the communities and government experts through the provision of subsequent technical trainings by focusing on biodiversity conservation principles and organizing experience learning visits in areas where similar projects take place. Those capacity development tasks help enhance communities' awareness on benefits of the biodiversity conservation and its sustainable management, passive use of the biodiversity through community-based tourism venture. For example, eco-tourism generates income collected from tourists which inturn economically supplements the livelihoods of the local communities [10,12-17]. This is because promoting the direct participation of the local people in decision-making and implementation of participatory forest management can help mitigate the potential conflicts and assure long-term public support towards the conservation of the biodiversity in the Wof-Washa Dry Afromontane Hotspot Forest [10,12,13,15,17]. For example, community support in conservation would be dramatically greater if local communities get an equitable economic benefit-sharing as part of the management of the forest [12,14,17]. Hence, introducing community-based ecotourism allows communities to derive sustainable economic benefit from ecotourism and may also empower local people and promote their active participation in biodiversity conservation through promoting social infrastructure, such as clinics, schools and clean water supply. Behavior and attitudes of local people towards biodiversity conservation can be positively influenced by increasing their knowledge [10,17]. In addition, informing the local communities about the values of the biodiversity (e.g. recreational, aesthetic, and economic) through conservation education and advocating the need for sustainable utilization may improve the positive attitudes and increase the support of local people in conservation activities [10,12,17]. More importantly, public awareness programs and conservation education can assist in improving the attitudes of young people towards the biodiverity found in the Wof-Washa Dry Afromontane Hotspot Forest [10].

Introducing and promoting community-based conservation efforts that allow communities to derive economic benefits from ecotourism may promote conservation while at the same time providing a solution to resource use conflicts [12,13,15,17]. Ecotourism activity can also improve and diversify the incomes of the local people through creating job opportunities, such as tourist guiding services, souvenir selling, and horse renting all of which can help make community-based ecotourism economically viable in the Wof-Washa Dry Afromontane Hotspot Forest. For example, ecotourism is an important industry to create self-employment opportunities for the local community and also to enhance greater partnership for sustainable management of the biodiversity. Improving tourist facilities (e.g. lodges, hotels, roads, solar energy, clean water, sanitation, toilets, etc.) helps promote community-based ecotourism in the Wof-Washa Dry Afromontane Hotspot Forest in the future.

The Wof-Washa Dry Afromontane Hotspot Forest is rich in biodiversity resource including mosaic of landscapes, natural and plantation forests, mosaic of cultures and traditions, the presence of historical site in the vicinity (e.g. Menelik's Palace in Ankober), variety of bird species, and the presence of different wild mammal species including the large body-sized endemic gelada and Menelik's bushbuck [3,10]. All of these are top tourist attractions in the Wof-Washa Dry Afromontane Hotspot Forest. Most importantly, Wof-Washa Dry Afromontane Hotspot Forest is situated very close to the famous tourist destination, i.e. the Guassa Community Conservation Area [1]. The forest is also found at the junction of several routes that tourists today typically follow when travelling to other attractions in the northern parts of Ethiopia. This makes it an attractive location for the establishment of more community-based ecotourism opportunities. So, developing the Wof-Washa Dry Afromontane Hotspot Forest for community-based ecotourism seems to be a promising business in the future. Developing hiking trails, more number of lodges, view points, and interpretive materials including field guides to birds, wild mammals, and plants would be valuable assets for developing community-based ecotourism in the area.

## Conclusion

The Wof-Washa Dry Afromontane Hotspot Forest is one of the oldest proclaimed state forests in the central highlands of Ethiopia. The forest is home to a number of wild plant and animal species that are unique and some of them are even endemic to Ethiopia and East Africa. Plant, mammal, and bird species are the top tourist attractions for the incoming visitors who are interested in visiting the area. Moreover, the gorgeous landscape on which the forest has grown is also attractive scenery for the arriving tourists. The Wof-Washa Dry Afromontane Hotspot Forest is rich in mosaic of cultures and traditions, the presence of historical site in the vicinity (e.g. Menelik's Palace in Ankober), the large body-sized endemic gelada and Menelik's bushbuck. The forest is situated very close to the famous tourist destination, i.e. the Guassa Community Conservation Area. It is also found at the junction of several routes that tourists today typically follow when travelling to other attractions in the northern parts of Ethiopia. This makes it an attractive location for the establishment of more community-based ecotourism opportunities in the future. So, developing hiking trails, more number of lodges, view points, and interpretive materials including field guides to birds, mammals, and plants would be valuable assets for developing community-based ecotourism in the Wof-Washa Dry Afromontane Hotspot Forest.

## Recommendation

In order to optimally utilize the potentials of tourism venture in the Wof-Washa Dry Afromontane Hotspot Forest, we would like to recommend the following points. These may ultimately help ensure the continued support of the local people towards the conservation and management of the forest and its associated biodiversity.

Poverty is one of the rampant problems around the Wof-Washa Dry Afromontane Hotspot Forest. Thus, future conservation and management activities should be geared towards the mutual benefits of the local people and the conservation of the forest. Introducing and advocating economic benefit-sharing systems with full participation of the community in the conservation and management processes could be helpful in this regard. For example, the revenue collected from the tourist lodges could be allocated to develop social infrastructures, such as clinics, roads, clean water supplies, and schools to the local people living around the area. However, there should be an equitable benefit-sharing system to all local people residing around the forest. So, full responsibility should be given to the local people to conserve and manage the forest as their own property.

Developing a comprehensive management plan whose purpose is to guide and promote conservation and sustainable utilization of the forest is mandatory. For example, the regional and the federal governments should work hand in hand with the local people to promote conservation and participatory forest management operations towards the Wof-Washa Dry Afromontane Hotspot Forest. So, adopting and practicing appropriate principles and theories of participatory forest management or sustainable forest management are essential.

Promoting scientific research strategies and initiatives towards the Wof-Washa Dry Afromontane Hotspot Forest may help devise a good conservation and management approach towards the sustainable utilization of the biodiversity in the area.

Introducing regular patrolling activities in the forest may improve the conservation and protection of wild animals through controlling poaching and illegal habitat destruction activities. Particularly, the forest management in the area should give due emphasis to control illegal tree cutting activities for fuelwood and construction materials, free-range livestock grazing, illegal seasonal settlement inside the forest by the highlanders, and pit-sawers who illegally harvest trees both in the natural and the plantation forests. Maintenance and management of the forest enhances the availabilities and qualities of habitats for wild animals which are the top tourist attractions in the area. For example, zonation of the core forest (e.g. introducing buffer zone plantation and agroforestry practices) may reduce and/or avoid humans and livestock disturbances on the natural forest, wild animals and their habitats.

Permanently assigning qualified and experienced professionals who are capable to carry out wildlife research, monitoring, habitat and forest inventory activities is essential. Provisioning regular training opportunities could build the capacity and also improve the efficiency of the professionals to accomplish their regular task. Moreover, recruiting forest and wildlife guards among the local people can strengthen the control over illegal activities in the forest. However, the guards should get training opportunities at regular intervals because the training improves their performance.

Integrating indigenous knowledge of the local people should be one of the pillars for better management and sustainable utilization of the forest. For example, an integration of indigenous knowledge with modern conservation approaches (e.g. law enforcement) in the planning and implementation process is crucial to improve and promote local participation in conservation and management. Local knowledge not only provides relevant information on the use of the forest, but also contributes to valuable information on how to maintain and conserve the biodiversity in the area. Effective conservation and sustainable use of the biodiveirsty, therefore, needs the full involvement of many stakeholders including the local communities.

The critical issue concerning the conservation of the Wof-Washa Dry Afromontane Hotspot Forest is the development of alternative livelihoods for the local communities who largely depend on the forest and forest products. Poverty is the major problem in the area. Hence, development strategies that address both poverty alleviation and sustainable utilization of the forest are required. For example, the local communities can be supported through enhancing non-timber forest products so that their income will be improved. Establishing management system involving government and local communities, including certification of the forest, makes it possible for local authorities to better monitor natural resource utilization and conservation. Sustainable use of non-timber forest products, such as handicraft, wild honey and thyme collections, and medicinal plant extraction should be supported and encouraged by the federal and regional governments as well as by non-governmental organizations.

Enhancing collaboration with private tour operators, regular advertisment and promotional activities through broadcasting media, websites, and publications would help strengthen biodiversity conservation and community-based ecotourism venture in the Wof-Washa Dry Afromontane Hotspot Forest.

The most important component of forest conservation approach is the rehabilitation (e.g. through promoting natural regeneration by introducing appropriate silvicultural practices) of the denuded areas in and around the Wof-Washa Dry Afromontane Hotspot Forest. On these degraded areas, multi-purpose tree species (e.g. agroforestry tree species) can be planted and managed so that it creates alternative livelihoods for the local communities. At the same time, these areas buffer the Wof-Washa Dry Afromontane Hotspot Forest conservation zone and also promote sustainable use of the natural resources.

There is scarcity of land resulted from population pressure in the area. This suggests that there is a need to intensify the agricultural practices to enhance land productivity so as to meet the demands of food for the growing human population.

At the national level, Ethiopia should develop and implement land-use policy that promotes land uses according to land suitability and characteristics. So, any rural development strategy should focus towards multi-faceted approaches which consider rural development based on the carrying capacity of the natural environment.

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