

# The Contribution of GUDO Forest Conservation Culture is Key to Biodiversity Conservation.

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## Research

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# Abstract

## Background

*The Sheka people have long been sustainably managing and conserving the Sheka forest by utilizing different procedures. Shockingly, these indigenous methods for natural resource management are ordinarily absent from scientific forest management and not archived. This paper aims to document “the GUDO culture” and demonstrate how the Sheka people through their indigenous culture can provide valuable, appropriate, and effective forest conservation strategies. The GUDO is a designated forest area mostly found in the mountainous and the rocky area of the Sheka zone. It is found mostly in rocky and mountainous parts of the Sheka zone. They are cultural symbols related to indigenous beliefs and signify spiritual connections to the forestland.*

## Methods

*A framework based on ethnographic information is proposed in this paper; accordingly, Qualitative methods involving interviews and focus group discussions with villagers were used to gather data. The traditional leaders because of their rich indigenous knowledge and participation in cultural ceremonies and rituals purposively selected the participants.*

## Results

*The study found wide conservation practices (a) People’s beliefs, (b) conservation mechanisms, (c) taboos and totems, and (d) People’s knowledge of the sacred forest (e) Forbidden Forest (f) spiritual significance of sacred forests (g) Conservation and management of sacred forests (h) Cutting of trees in the sacred forest (i) Protection of the sacred forest (j) Conservation of biodiversity .*

## Conclusions

*This paper concludes that the GUDO forest conservation culture is illustrated in the Sheka people forest utilization, protection, and management. Therefore, the GUDO forest conservation culture provides important insights into the protection of various forest types and tree species, contributing to the conservation of biodiversity.*

# Introduction

Recent developments in the field of traditional forest-related knowledge have led to renewed interest in the conservation, management, and sustainable use of natural resources. This interest has been increasingly recognized, documented, and utilized both in developing and developed countries (Parrotta, 2000; Parrotta & Troper, 2012; Menzies & Butler, 2000). The role of indigenous knowledge in forest conservation in Africa has also been recognized in recent years. Its potential contribution to Africa’s ecology has not been well studied. Recently, very few studies have been conducted to depict the contribution of traditional knowledge to biodiversity, climate change; and combating desertification.

Traditional forest-related knowledge has upheld the occupations, culture, personalities, and the woodland and farming assets of the neighbourhood and indigenous networks everywhere throughout the world (Parrotta and Troper, 2012). Traditional forest-related knowledge (TFRK) is of specific significance to indigenous networks, people groups, and countries (Martinez Cobo, 1986/7). Numerous specialists have put accentuation on incorporating traditional forest-related knowledge and scientific knowledge for the protection of timberland nature forests (Michel & Gayton, 2002, Menzies, & Butler, 2006).

Human interactions with nature have shaped both the attitudes and behaviors of people towards nature (Cristancho and Vining, 2004). Thus, every culture has a system of beliefs that guides their interactions with nature. One of the traditional forest management practices commonly found in Sheka zone is GUDO. GUDO is a designated forest area mostly found in the mountainous and the rocky areas of the Sheka zone. Today, deforestation is one of the major environmental challenges affecting the world however; the Sheka people through their indigenous knowledge of forest conservation strategies can sustainably manage the Sheka forest.

The Sheka people have long been sustainably managing and conserving the Sheka forest by utilizing different procedures. Shockingly, these indigenous methods for normal asset administration and nearby adjustment techniques are ordinarily absent from scientific forest management and not archived. “The GUDO culture” demonstrates how the Sheka people through their indigenous culture can provide valuable, appropriate and effective forest conservation strategies.

This article explores the contribution of GUDO forest conservation culture as a means to biodiversity conservation in the Ethiopian context. Focusing on the spiritual connections to the GUDO sacred forest, this article critically analyses how culture and spiritual connections to the

GUDO sacred forest contribute to biodiversity conservation. Therefore, the GUDO forest conservation culture provides important insights into the protection of various forest types and tree species, contributing to the conservation of biodiversity.

## Methods

### Study area

The Sheka Zone is located at about 670km from Addis Ababa. It is found in the South Nations Nationalities and Peoples Regional State. The Sheka zone shares boundaries with the Oromia Regional State in the North, Bench Maji Zone in the South, Gambella Regional State in the West, and Kefa Zone in the east. The total area of Sheka was 2175327 ha. Geographically, the Sheka Zone lies between 7°24'–7°52' N latitude and 35°31'–35°35'E longitude. The Zone has three woredas namely: Masha, Andracha, and Yeki. In the Zone, there are 56 rural and seven urban peasant associations (Pas) in three woredas.

### Data Collection and Analysis

The study made used both qualitative and quantitative data. Quantitative data were collected through administration of questionnaires to the head of the household and interviews with key informants within the selected area. Qualitative data were collected through key informant interviews (KIIs) and focused group discussions (FGDs). Data for this study were obtained through an interview conducted over 4 weeks in July and August 2019. The first aim of the survey was to explore respondents' knowledge and practice of traditional forest-related knowledge of the GUDO sacred forests and investigate their awareness of the GUDO sacred forest conservation culture, and forest allocation, benefit-sharing, and management practices in the GUDO sacred forest. Second, respondents' perceptions of the GUDO sacred forest and management practices of the GUDO sacred forest were explored.

### Data Analysis

Data obtained were analyzed using descriptive statistics and presented in tables, means, percentages and frequency. This was based on the information provided by the respondents. Furthermore, computer software, known as statistical package for social sciences (SPSS) version 21.0, was employed in analyzing the data.

### Results of the study

Today, deforestation is one of the major environmental challenges affecting the world; however, the Sheka people through their indigenous knowledge of forest conservation strategies can sustainably manage the Sheka forest. The Sheka people have long been sustainably managing and conserving the Sheka forest by utilizing different procedures. Shockingly, these indigenous methods for normal asset administration and nearby adjustment techniques are ordinarily absent from scientific forest management and not archived. The GUDO culture demonstrates how the Sheka people through their indigenous culture can provide valuable, appropriate, and effective forest conservation strategies. Here under the results of the analysis of "the GUDO culture" are explained in detail by considering key points (Table 1).

Table 1 Key points to consider during interviews about the sacred forest (GUDO) conservation culture among interviewees in selected villages

Statement about the sacred forest (GUDO) belief	Disagree	Neutral	Agree
Do you believe the spiritual connection between the GUDO forest conservation culture with Sheka people	5	10	85
Do you believe the GUDO forest conservation culture could manage and conserve the Sheka forest	10	10	80
Do you believe the GUDO culture help for the conservation for biodiversity	9	11	81
Do you believe the sacred forest (GUDO) very useful for the life of the human being	3	11	86
Do you believe Tender an lightening will damage the villager if tree are felled in the sacred forest (GUDO)	5	11	84
Do you believe the protection of the sacred forest (GUDO) associated with abundances of yield in the harvest season	5	12	83
Do you believe Cutting of tree in the sacred forest (GUDO) associated with loss of life and property	4	11	86
Do you believe the sacred forest (GUDO) believed to be the house of ghosts	5	10	86

### Traditional sacred forest, People's beliefs, and conservation mechanisms in the study area

Seven belief systems were identified, and seven conservation mechanisms were observed to be in practice in the area, which were relevant to sustainable conservation and management of forest resources. The sacred forest (GUDO) is the most common cultural institution in all villages and they have a direct bearing on the lives and behaviors of the people.

Table 2. Name of sacred forest, People's beliefs, and conservation mechanisms in the study area

Name of sacred forest	People's beliefs	Conservation mechanisms
GUDO sacred forest	<ul style="list-style-type: none"> <li>v Cutting of tree in the sacred forest (GUDO), believed to cause damages and loss of life and property to the villagers.</li> <li>v anyone who cuts the tree in the sacred forest (GUDO), would suffer from horrible disease</li> <li>v People worship the sacred forest (GUDO).</li> <li>v Sacred forest (GUDO) believed to be the house of ghosts.</li> <li>v Tender an lightening will damage the villager if tree are felled in the sacred forest (GUDO)</li> <li>v No cutting of tree in the sacred forest (GUDO) believed to be very useful for the life of the human being.</li> </ul>	<ul style="list-style-type: none"> <li>v Tree cutting restrictively prohibited in the sacred forest (GUDO).</li> <li>v Felling of tree is restricted for every individual of the village</li> <li>v Trees in the sacred forest (GUDO) are not unnecessarily felled</li> <li>v Trees in the sacred forest (GUDO) are allowed to grow freely.</li> <li>v Trees in the sacred forest (GUDO) are protected from any kinds of destruction.</li> <li>v The sacred forest (GUDO) entrance is not allowed</li> <li>v Trees in the sacred forest (GUDO) are protected from damage by wild animals.</li> <li>v In the Sacred forest (GUDO), do not use any parts of this tree.</li> </ul>

### People's knowledge of the sacred forest (GUDO)

The vast majority of respondents (97%) were aware of the presence of sacred forest (GUDO) in and around their village. It is found mostly in the rocky and mountainous parts of the Sheka zone. Older people (>55 years of age) could more accurately describe GUDO sacred forest than younger people could, but this difference was not significant. All research participants from Masha and Anderacha woreda knew where these GUDO sacred forest stands. All of them were worshiped at least once in the GUDO sacred forest. Participants of FGD on Gecha Town consolidated this fact: "GUDO is a protected forest area where cultural ceremonies are practiced. It is found mostly in the rocky and mountainous part of the Sheka zone" (FGD 3, 4 Jan 2016: Gecha Town). More than ten GUDO sacred forests were visited during the field visit. In Masha woreda alone, there are more than 85 GUDO cultural sites.

Table 3: Name of GUDO sacred forest sites in all kebele in Masha woreda.

No	Name of kebele	Name of GUDO (Sacred sites)
1	Atele	Gojofochi Gudo sacred forest Gawo Gudo sacred forest Agochi Gudo sacred forest Gabochoi Gudo sacred forest Shutigako Gudo sacred forest Dilafi tatino Gudo sacred forest Agatos Gudo sacred forest Andibehochi Gudo sacred forest Ganwochi Gudo sacred forest
2	Genbeka	Chajo Gudo sacred forest Shemari Gudo sacred forest Acrochi Gudo sacred forest Shenochi Gudo sacred forest Fuji Gudo sacred forest Yeroch Gudo sacred forest Grawi Dono sacred forest Shagochi Gudo sacred forest Amishochi Gudo sacred forest Halifochi Gudo sacred forest Kejochi Gudo sacred forest.
3	Quarina	Shemay tato Gudo sacred forest Yebushochi Gudo sacred forest.
4	Dagele	Wemi Gudo sacred forest Barasho Gudo sacred forest Mitatino Gudo sacred forest Awochi Gudo sacred forest Shelachi Gudo sacred forest Dinigari Gudo sacred forest Yonigabochi Gudo sacred forest.
5	Akako	-
6	Beto	Edi Gudo sacred forest
7	Wello	Balitoato Gudo sacred forest Fonochi Gudo sacred forest Fetefochi Gudo sacred forest Wuchi Gudo sacred forest Dakochi Gudo sacred forest Andibeshochi Gudo sacred forest.
8	Keja	Tufo Gudo sacred forest

		Tulu kuchi Gudo sacred forest Adire Gudo sacred forest Tulu kerkecha Gudo sacred forest.
9	Uwa	Ashamachochi Gudo sacred forest Barodi Gudo sacred forest.
10	Yepo	Kasha machochi Gudo sacred forest Gachi galefochi Gudo sacred forest Natilochi Gudo sacred forest Yerochi Gudo sacred forest Gabawuchi Gudo sacred forest
11	Chago	Sheki baro Gudo sacred forest Gabawuchi Gudo sacred forest Andibeshochi Gudo sacred forest Betinotatino Gudo sacred forest
12	Kewo	Kusenochi Gudo sacred forest
13	Ateso	Halafochi Gudo sacred forest Gatigorochoi Gudo sacred forest Gaboyochi Gudo sacred forest Halitochi Gudo sacred forest Tura Gudo sacred forest.
14	Shibo	—————
15	Abello	Gabawochi Gudo sacred forest Ashamashochi Gudo sacred forest Galifochi Gudo sacred forest Genigadi Gudo sacred forest Ganiwuchi Gudo sacred forest Fochi gakochi Gudo sacred forest Gakochi Gudo sacred forest.
16	Kanga	Gayifochi Gudo sacred forest Fetefochi Gudo sacred forest Bulefochi Gudo sacred forest Shoretatino Gudo sacred forest
17	Gada	Achi dunito Gudo sacred forest Fulafochi Gudo sacred forest Halatino Gudo sacred forest Nechifochi Gudo sacred forest Gadetatino Gudo sacred forest
18	Yina	Amarsochi Gudo sacred forest Chidetatino Gudo sacred forest Chinawochi Gudo sacred forest

		Adetatino Gudo sacred forest
		Halochi Gudo sacred forest
		Shirochi Gudo sacred forest
19	Gatimo	Gayetatino Gudo sacred forest
		Yewusochi Gudo sacred forest
		Galifochi Gudo sacred forest
		Ganitochi Gudo sacred forest
		Chinigawuchi Gudo sacred forest
		Gebitatino Gudo sacred forest
		Yerochi Gudo sacred forest
		Shebachino Gudo sacred forest
		Garachachino Gudo sacred forest.

Source: Traditional committee of Sheka people.

### Forbidden Forest

In each village of the Sheka zone, the community has forbidden forests. Eighty-five percent (85%) of respondents confirmed that the sacred forest (GUDO) is a cultural symbol related to indigenous beliefs and signifies spiritual connections to the forest land and with Sheka people. These sacred forests (GUDO) are forbidden to anyone who belongs to the Sheka population. The management and conservation of these sacred forests (GUDO) is the responsibility of the clan leader (Gepi tato) for the enforcement of the GUDO cultural practice. The sacred forests (GUDO) administration and management are directly associated with the elders that maintain and guide all norms, taboos, and customs of the people. Each community has a clan leader (Gepi tato) in every village of Sheka forest.

According to the Sheka people custom, no extraction is allowed in GUDO sacred forests, except for the harvesting of trees for home consumption at the forest margin. Neither cultivation of land nor cutting of trees for domestic use, nor trees used for beehive are allowed in GUDO sacred forests. If a tree dies in the GUDO sacred forest, it is left to decay naturally; nobody is allowed to cut it, and even the branches of a dead tree cannot be used for fuelwood. Trees in the GUDO sacred forest should also be respected. Violation of the GUDO culture can result in serious punishment. At Masha woreda Keja Town, the clan leader (Gepi tato) said:

For any village member that has violated the culture of GUDO, it is the responsibility of the clan leader (Gepi tato) for the enforcement of the GUDO cultural practice. If any villager enters the GUDO sacred forest for the purposes of grazing, collecting fuelwood, or logging, it is believed that the violator of the GUDO culture would be cursed and die consequently. Once it was investigated and discovered that the violator had entered into the GUDO sacred forest and used the forest for any other purpose, he would be asked why he did. Then, according to GUDO culture, he would be penalized. The penalty is curing him, which resulted in death (FGD 3, 6 Jan 2019: Keja Town).

### Cultural and spiritual significance of sacred forests (GUDO)

Overall, 86% of respondents “agreed” with the Statement that “sacred forests (GUDO) are used by sheka people as cultural symbols related to indigenous beliefs and signify spiritual connections to the forests” (Table 1). The belief that tender and lightening will damage the villager if trees are felled in the sacred forest (GUDO) was very popular—86% “agree” response (Table 1).

The GUDO sacred forest has religious or spiritual significance, passed on from generation to generation, who used the GUDO sacred forest and signifying traditional use and occupancy of a given region. GUDO is a well-protected forest area and is used for worship. Mostly found in hilly and rocky areas and covered by dense forests. In the GUDO culture, the clan leader (Gebi tato) leads to worshiping practices. The GUDO culture may be celebrated each year or within three- or ten years intervals. In almost all kebele (the lowest administrative and political unit), there is more than one GUDO sacred forest. In one kebele, there may be more than ten GUDO sacred forests (Table 3). The Sheka people claim that they are decedent from Israel and the protection and conservation of the GUDO sacred forest are related to the historical fact found in Old Testament in the whole bible. In the whole bible, Abraham scarifies his son Isaac in the hilly and rocky area (Genesis 22:2).

The Sheka people believed that worshipping in the GUDO sacred forest has supernatural meanings. This can be seen in religious beliefs and spiritual connections with nature, particularly in GUDO sacred forests. The spiritual connection of the GUDO sacred forest governs the Sheka people daily lives and passed on from generation to generation. The GUDO culture (worshipping at forest) serves to explain the harmony between nature and the GUDO culture. The Sheka people through the GUDO culture sustainably manage local GUDO sacred forests, despite limited modern scientific forest management.

The GUDO forest exists in each kebele of the Sheka zone as village protectors (Table 3). The GUDO sacred forest is usually hundreds of years old and still unteachable. The Sheka people believe that this GUDO sacred forest can provide safety, fortune, and good harvests for their villages. The traditional forest management practices related to the GUDO culture demonstrate that the Sheka people have their own knowledge, beliefs, and management practices related to forests inherited from their generations.

### **Conservation and management of sacred forests (GUDO)**

The majority of respondents (80%) said they the GUDO forest conservation culture could manage and conserve the Sheka forest. Spiritual connections and beliefs were the main reasons why people worship the sacred forest (GUDO). The protection of the GUDO sacred forest enables the conservation of natural forests from earlier anthropogenic disturbances, allowing trees and other plant species to reproduce. The entire designated GUDO sacred forest area was put under the imposition of local cultural beliefs.

Within the GUDO sacred forest, the flora and fauna in the area should not be touched. For example, no one can have access and use right of a GUDO sacred forest either for domestic use or for commercial purposes. Because of the spiritual connections to the culture of GUDO, the GUDO sacred forest are able to sustainably manage the Sheka forest in the GUDO. Even if the culture of GUDO was rapidly declining, the GUDO forest was still kept and protected well. Each informant could readily describe GUDO culture and how the culture positively contributed to the conservation of the Sheka forest. Many informants could recall details of GUDO culture that had practiced some 30 years before.

For the Sheka people, forest conservation and management is part of the culture of the Sheka people since they are the forest-based community. Participants of FGD from both Masha and Anderacha woreda responded to the cultural implication of GUDO in the conservation and protection of the Sheka forest. Worshipping around GUDO is a form of forest protection strategy implemented by the Sheka people. This kind of local belief system that totally hinders the use of forest resources among the people of Sheka and this practice of worshipping passed on from generation to generation since time immemorial. The practice of worshipping around GUDO (sacred forest) considers the GUDO sacred forests as spiritual or sacred sites over a period of time, and the local belief in GUDO sacred forest prohibits the exploitation of forest resources in the Sheka zone (FDG3, 4 Jan. 2019: Masha and Gecha Town).

### **Cutting of trees in the sacred forest (GUDO)**

When asked you believe cutting of trees in the sacred forest, (GUDO) associated with loss of life and property, 84% of respondents reported that cutting of trees in the sacred forest (GUDO), believed to cause damage and loss of life and property to the villagers. The most common reason was the local traditional beliefs and taboos related to the sacred forest (GUDO). Consolidated the fact that nobody sets out to contact this tree and villagers stated:

Nobody is permitted to cut down these trees in the GUDO sacred forest, and any individual who cuts these trees will be rebuffed. There is a society story in Sheka about a man who cut down a tree in the GUDO sacred forest: he died the next day by thunder and lightning. Similarly, another interviewee said a young man in the Anderacha woreda once cut down a tree in the GUDO sacred forest and passed away soon afterward (FGD 3, 6 Jan 2019: Yepo Kebele).

According to the Sheka people custom, no extraction is allowed in GUDO sacred forests, except for the harvesting of trees for home consumption at the forest margin. Neither cultivation of land nor cutting of trees for domestic use, nor trees used for beehive are allowed in GUDO sacred forests. If a tree dies in the GUDO sacred forest, it is left to decay naturally; nobody is allowed to cut it, and even the branches of a dead tree cannot be used for fuelwood. Trees in the GUDO sacred forest should also be respected. Violation of the GUDO culture can result in serious punishment. At Masha woreda Keja Town, the clan leader (Gepi tato) said:

For any village member that has violated the culture of GUDO, it is the responsibility of the clan leader (Gepi tato) for the enforcement of the GUDO cultural practice. If any villager enters the GUDO sacred forest for the purposes of grazing, collecting fuelwood, or logging, it is believed that the violator of the GUDO culture would be cursed and die consequently. Once it was investigated and discovered that the violator had entered into the GUDO sacred forest and used the forest for any other purpose, he would be asked why he did. Then, according to GUDO culture, he would be penalized. The penalty is curing him, which resulted in death (FGD 3, 6 Jan 2019: Keja Town).

Due to this, the GUDO sacred forests exist in the study area. GUDO are crucial conservation sites characterized by high biodiversity.

### **Protection of the sacred forest (GUDO)**

The protection of the GUDO sacred forest enables the conservation of natural forests from earlier anthropogenic disturbances, allowing trees and other plant species to reproduce. The entire designated GUDO sacred forest area put under the imposition of local cultural beliefs. Within the GUDO sacred forest, the flora and fauna in the area should not be touched. For example, no one can have access and use right of a GUDO sacred forest either for domestic use or for commercial purposes. Because of the spiritual connections to the culture of GUDO, the GUDO sacred forest are able to sustainably manage the Sheka forest in the GUDO.

Even if the culture of GUDO was rapidly declining, the GUDO forest is still kept and protected well. Each informant could readily describe GUDO culture and how the culture positively contributed to the protection of the sheka forest. Many informants could recall details of GUDO culture that had practiced some 30 years before. One of the key informants (KI-3, 4 Jan.2016: Masha Town) explained the culture in the following statements: Participants of FGD on Gecha Town consolidated this fact: "GUDO is a protected forest area where cultural ceremonies are practiced. It is found mostly in the rocky and mountainous part of the Sheka zone" (FGD 3, 4 Jan 2019: Gecha Town). The majority of respondents 83% reported that the GUDO forest is still kept and protected well.

The GUDO sacred forest has religious or spiritual significance, passed on from generation to generation, who used the GUDO sacred forest and signifying traditional use and occupancy of a given region. GUDO is a well-protected forest area and is used for worship. Mostly found in hilly and rocky areas and covered by dense forests. In the GUDO culture, worship practices led by the clan leader (Gebi tato). The GUDO culture may be celebrated each year or within three - or ten year's intervals. In almost all kebele (the lowest administrative and political unit), there is more than one GUDO sacred forest. In one kebele, there may be more than ten GUDO sacred forests (Table 3). The Sheka people claim that they are decedent from Israel and the protection and conservation of the GUDO sacred forest are related to the historical fact found in Old Testament in the whole bible. In the whole bible, Abraham scarifies his son Isaac in the hilly and rocky area (Genesis 22:2).

### **Conservation of biodiversity**

The GUDO sacred forest is a crucial conservation site characterized by high biodiversity. The study found that there were many other large trees in the GUDO sacred forest (Table 3). The majority of respondents (81%) said that the GUDO sacred forest contributed to high biodiversity. The most common reason was the local traditional beliefs and taboos related to the GUDO sacred forest. GUDO are crucial conservation sites characterized by high biodiversity. They are found more than four to five per village and in some village; there may be more than ten GUDO sacred forest sites (Table 3).

Among the three locally identified forest conservation cultures are DEDO, KOBO, and GUDO, the GUDO is the most common cultural practice in the study area and seems to be the most known and respected cultural sacred site used for spiritual purposes in the Sheka zone. Indigenous knowledge of forest conservation culture tightly interwoven with traditional religious beliefs, customs, and land-use practices. In this regard, the GUDO forest conservation culture continues to provide tangible (foods, medicines, wood, and other non-timber forest products, water, and fertile soils) and intangible (spiritual) benefits for the Sheka people.

The study found that there are many other large trees in the GUDO sacred forest, including Red –stinkwood frn weed (*Prunus africanus*), Cope fig (*Fiscus sur*), Water barry (*Syzygium gunineense*), Podo (*Podocarpus falcatus*), Peacock flower (*Albiza gummigfera*), flam - tree lucky bean tree (*Erythrina abyssinica*), African fan palm (*Borassus aethiopicum*), White pearwood (*Apodytes dimidiata*), and Bamboo (*Arundinaria alpina*) for further detail Table 4

Table 4. Biodiversity in the GUDO sacred forest

English Name	Scientific Name
Red –stinkwood frn weed	<i>Prunus africanus</i>
Cope fig	<i>Fiscus sur</i>
Water barry	<i>Syzigium gunineense</i>
Podo	<i>Podocarpus falcatus</i>
Peacock flower	<i>Albiza gummigfera</i>
Flam- tree lucky bean tree	<i>Erythrina abyssinica</i>
African fan palm	<i>Borassus aethiopicum</i>
White pearwood	<i>Apodytes dimidiata</i>
Bamboo	<i>Arundinaria alpina</i>

## Discussion

The existence of the sacred forest (GUDO) found in the study areas will ultimately depend on the involvement of local communities. In such a place, the conservation of these sacred forests (GUDO) urgently needs the support of the local communities and their traditional knowledge for its conservation (Berkes F. 2003). As long as these cultural practices still exist, integrating them into conservation strategies is therefore paramount to the survival of these sacred forests (GUDO) they tend to protect. In a selected sample site surveyed, most of the sacred forest (GUDO) was considered a cultural symbol related to indigenous beliefs and signifies spiritual connections to the forests.

The presence of these local traditional beliefs and taboos related to the sacred forest prohibiting the exploitation of sacred forest (GUDO) has also been considered a successful local conservation strategy (Bhagwat, 2005; Beckes CD, Ghimire K 2003; Colding J, Folke C 2001 and, Negi CS 2010). In any case, thinking about its continuous decline in the community, if not restored, the loss of regard for the convictions and practices that prompted the taboo is approaching. It is similarly imperative to take note that these taboos are right now still set up.

The renovation or development of new forest conservation will contribute to the protection of forest species in the study area. Currently, the first forest proclamation only recognizes state-owned forests and privately owned forests and does not recognize community forests like the sacred forest (GUDO). However, the second forest proclamation, which came into effect in the year 147/2007, recognizes both state-owned forest, privately owned forest, the community forest, and the sacred forest (GUDO) forest from the second forest proclamation onwards has recognition.

Traditional forest conservation practices and management are established somewhere inside the hearts of everybody, and a portion of the feelings of trepidation of repercussions are profound to such an extent that nobody dare conflict with any unthinkable, any law or guideline that is set up. Generally, forest was viewed as an important community resource, which was utilized and secured by customs and taboos. Taboos were of genuine significance, as certain sacred forests could not be utilized for numerous reasons propelled, which were wide and varied but invariably, cultural, spiritual, and ancestral.

Like other communities living around forest areas, the Sheka people use the forest in their culture and tradition. Forest is not only used for consumption but also for spiritual purposes. The way that cultural and traditional practices were used for forest conservation, the GUDO culture was identified. The GUDO forest conservation culture plays a great role in the conservation of the Sheka forest this is mainly because it is believed that when a person cuts a singletree from a GUDO forest, a person will die in the village. The GUDO cultures in the Sheka zone greatly influence the use of GUDO forest for any other economic activities.

### **The "GUDO culture" in the conservation of forest by the people of Sheka**

Today, deforestation is one of the major environmental challenges affecting the world however, the Sheka people through their indigenous knowledge of forest conservation strategies can sustainably manage the Sheka forest. The Sheka people have long been sustainably managing and conserving the Sheka forest by utilizing different procedures. Shockingly, these indigenous methods for normal asset administration and nearby adjustment techniques are ordinarily absent from scientific forest management and not archived. The analysis of the "the GUDO culture" demonstrates how the Sheka people through their indigenous culture can provide valuable, appropriate, and effective forest conservation strategies.

The Sheka people adopt a culture called GUDO, which is defined as a protected forest area where cultural ceremonies are practiced. Rooted in this culture is the practices of GUDO, which prohibits taking up, using, and utilizing forests for consumption. The Sheka people believe that culture and forest would be friendly if humans preserve them. GUDO in the Sheka people imparts an ecological wisdom, which dictates that conservation and management of forest based on an ancestral concept of forest utilization. This was revealed by research participants (aged 78) of Gecha Town consolidated this fact: GUDO is a protected forest area where cultural ceremonies are practiced. It is found mostly in the rocky and mountainous part of the Sheka zone” (Focus group discussion conducted at the informant’s residence on 4 Jan 2016: Gecha Town). They are cultural symbols related to indigenous beliefs and signify spiritual connections to forestland.

Human interactions with nature have shaped both the attitudes and behaviors of people towards nature (Cristancho and Vining, 2004). Thus, every culture has a system of beliefs that guides their interactions with nature. Because of this belief system, the Sheka people have adopted some customs and cultures containing the values of environmental preservation or conservation of forests. The Sheka people use the forest in their culture and tradition. Forest is not only used for consumption but also for spiritual purposes.

The way, in which cultural and traditional practices were used for forest conservation, the GUDO culture was identified. The GUDO forest conservation culture plays significant role in the conservation of the Sheka forest this is mainly because it is believed that when a person cuts singletree from the GUDO forest, a person will die in the village. The GUDO cultures in the Sheka zone greatly influence the use of GUDO forest for any other economic activities. Trees in the GUDO sacred forests are untouchable.

The Sheka people understanding of trees is entirely related to culture and spiritual connections. The GUDO culture or the GUDO festival is most significant to the Sheka people. The Sheka people as a community are able to express their gratitude to the GOD (Shemayo tato). Before the GUDO ritual starts, the clan leader (Gebi tato) informs all village members to sit and attend worshipping ceremonies then worshipping starts soon. After praying to the GOD (Shemayo tato) about the good harvest season and for the health and peace of the past year, the clan leader (Gebi tato), and religious leaders of the community give their blessings for the forthcoming year. After worshipping and praying, a lunch is served with oxen, sheep, and goat meat. After lunch, a ritual is performed by dancing. Most youngsters come together and perform traditional dancing. Finally, elders blessing the villagers as the next generation to be a year of good harvest and health of a people then this is the end of the GUDO cultural practice.

According to the Sheka people custom, no extraction is allowed in GUDO sacred forests, except for the harvesting of trees for home consumption at the forest margin. Neither cultivation of land nor cutting of trees for domestic use, nor trees used for beehive are allowed in GUDO sacred forests. If a tree dies in the GUDO sacred forest, it is left to decay naturally; nobody is allowed to cut it, and even the branches of a dead tree cannot be used for fuelwood. Trees in the GUDO sacred forest should also be respected.

Violation of the GUDO culture can result in serious punishment. At Masha woreda Keja Town, the clan leader (Gepi tato) said (a research participant, 6 Jan 2016: Keja Town): For any village member that has violated the culture of GUDO, it is the responsibility of the clan leader (Gepi tato) for the enforcement of the GUDO cultural practice. If any villager enters the GUDO sacred forest for the purposes of grazing, collecting fuelwood, or logging, it is belied that the violator of the GUDO culture would be cursed and die consequently. Once it was investigated and discovered that the violator had entered into the GUDO sacred forest and used the forest for any other purpose, he would be asked why he did. Then, according to GUDO culture, he would be penalized. The penalty is curing him, which resulted in death.

The GUDO is the most common cultural practice in the study area and seems to be the most known and respected cultural sacred site used for spiritual purposes in the Sheka zone. Indigenous knowledge of forest conservation culture is tightly interwoven with traditional religious beliefs, customs, and land-use practices. In this regard, the GUDO forest conservation culture continues to provide tangible (foods, medicines, wood, and other non-timber forest products, water, and fertile soils) and intangible (spiritual) benefits for the Sheka people.

A common view amongst interviewees on how a tree serves the Sheka people through their life depicted that the Sheka people consider the forest as a lifetime treasure. Trees can serve society from life to death. Talking about this issue, an interview conducted at the informant’s residence on 5 Jan 2016: Masha Town said: In Sheka people tradition, the leaves of a tree called Chako, which is used to cure the child when a child is dehydrated. A particular tree is used for funeral services when any member of the villager dies. A part of a tree called Guno, which is used for shrouding the dead body of a deceased person. Therefore, a tree serves the people of Sheka from life to death that is from the birth of a child to the death of an old man.

For the Sheka people, forest conservation and management is part of the culture of the Sheka people since they are the forest-based community. Participants of FGD both from Masha and from Anderacha woreda responded to the cultural implication of GUDO in the conservation and protection of the Sheka forest. Worshipping around GUDO is a form of forest protection strategy implemented by the Sheka people.

This kind of local belief system that totally hinders the use of forest resources among the people of Sheka and this practice of worshipping passed on from generation to generation since time immemorial. The practice of worshipping around GUDO (sacred forest) considers the GUDO sacred forests as spiritual or sacred sites over a period of time, and the local belief in GUDO sacred forest prohibits the exploitation of forest resources in the Sheka zone (FDG3, 4 Jan. 2016: Masha and Gecha Town).

The protection of the GUDO sacred forests enables the conservation of natural forest from earlier anthropogenic disturbances, allowing trees and other plant species to reproduce. The entire designated GUDO sacred forest area was put under the imposition of local cultural beliefs. Within the GUDO sacred forest, the flora and fauna in the area should not be touched. For example, no one can have access and use right of a GUDO sacred forest either for domestic use or for commercial purposes. Because of the spiritual connections to the culture of GUDO, the GUDO sacred forest are able to sustainably manage the Sheka forest in the GUDO.

Even if the culture of GUDO was rapidly declining, the GUDO forest is still kept and protected well. Each informant could readily describe GUDO culture and how the culture positively contributed to the conservation of the Sheka forest. Many informants could recall details of GUDO culture that had practiced some 30 years before. One of the key informants (KI-3, 4 Jan.2016: Masha Town) explained the culture in the following statements:

The GUDO sacred forest has religious or spiritual significance, passed on from generation to generation, who used the GUDO sacred forest and signifying traditional use and occupancy of a given region. GUDO is a well-protected forest area and is used for worship. Mostly found in hilly and rocky areas and covered by dense forests. In the GUDO culture, worshipping practices are led by the clan leader (Gebi tato).

The GUDO culture may be celebrated each year or within three - or ten year's intervals. In almost all kebele (the lowest administrative and political unit), there is more than one GUDO sacred forest. In one kebele, there may be more than ten GUDO sacred forests (Table 3). The Sheka people claim that they are decedent from Israel and the protection and conservation of the GUDO sacred forest are related to the historical fact found in Old Testament in the whole bible. In the whole bible, Abraham scarifies his son Isaac in the hilly and rocky area (Genesis 22:2).

The location of the GUDO sacred forest in the hilly and rocky areas made it the culture of GUDO to have spiritual significance, and in turn, contribute to the conservation of GUDO sacred forests. The decision not to use the GUDO sacred forest for any other purpose is enforced by the clan leader (Gebi tato). Despite the high rate of deforestation in the Sheka forest and with a rapid decline in the forest conservation culture and tradition, however, the GUDO sacred forest still exists. This was mainly because of the strong cultural and spiritual beliefs of the Sheka people in the GUDO culture.

The Sheka people believed that worshipping in the GUDO sacred forest has supernatural meanings. This can be seen in religious beliefs and spiritual connections with nature, particularly in GUDO sacred forests. The spiritual connection of the GUDO sacred forest governs the Sheka people daily lives and passed on from generation to generation. The GUDO culture (worshipping at forest) serves to explain the harmony between nature and the GUDO culture. The Sheka people through the GUDO culture sustainably manage local GUDO sacred forests, despite limited modern scientific forest management.

The GUDO forest exists in each kebele of the Sheka zone as village protectors (see Table 3). The GUDO sacred forest is usually hundreds of years old and still unteachable. The Sheka people believe that this GUDO sacred forest can provide safety, fortune, and good harvests for their villages. The traditional forest management practices related to the GUDO culture demonstrate that the Sheka people have their own knowledge, beliefs, and management practices related to forests inherited from their generations.

The GUDO forest conservation culture is illustrated in the Sheka people forest utilization, protection, and management. Therefore, the GUDO forest conservation culture provides important insights into the protection of various forest types and tree species, contributing to the conservation of biodiversity.

## Conclusions

The case study presented on GUDO culture demonstrates that the Sheka people have their own indigenous knowledge, beliefs, and management practices related to forest. This cultural and belief system is inherited from their ancestor since time immemorial and evolving over generation. The culture of GUDO described in this article shows that it still exists in every element of local forest utilization, protection, and management and allocation of forest. As the study clearly shows, the GUDO culture is productive and efficient for forest management, and this useful culture has demonstrated its significance in the protection of various forest types and tree species, contributing to the conservation of biodiversity. Thus, the GUDO forest conservation culture is illustrated in the Sheka people forest

utilization, protection, and management provide important insights into the protection of various forest types and tree species, contributing to the conservation of biodiversity.

## Declarations

**Ethics approval and consent to participate:** The study was approved by the CAES Research Ethics Review Committee at the University of South Africa (UNISA) on 10/02/2015 with Ref #: 2015/02/004, name of applicant: Mr GH Shoddo, student #:53342852. Decision: Ethics Approval, Supervisor: Prof Teshome Soromessa Aurgessa, Qualification: Postgraduate degree.

**Consent for publication:** "there is institutional consent form available based on request

**Availability of data and materials:** All data generated or analyzed during this study are included in this published article (see literature cited).

**Availability of data and materials:** Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

**Competing interests:** The authors declare that they have no competing interests

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**Authors' contributions:** I am sole author to this article

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## Figures

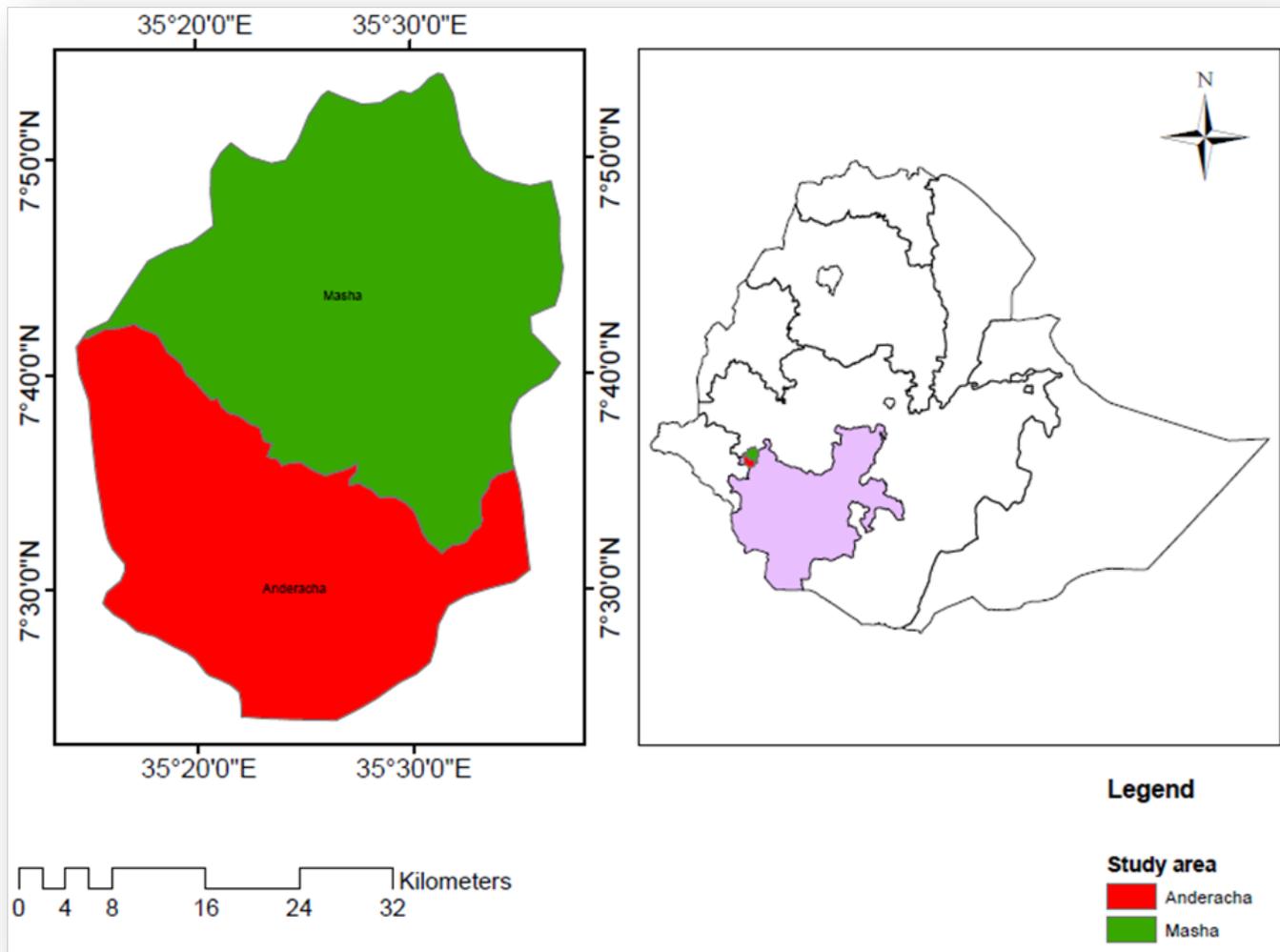


Figure 1

Map of the study area.