The Federal Democratic Republic of Ethiopia (FDRE)

THE GEDEO CULTURAL LANDSCAPE

WORLD HERITAGE NOMINATION DOSSIER

SUBMITTED TO THE

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MINISTRY OF CULTURE TOURISM AND SPORT

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

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Acronyms

ACC	Association for the Conservation of Culture
FARCCH	Federal Authority for Research and Conservation of Cultural Heritage
CCLC	Coffee Cultural Landscape of Colombia
CLS	Cultural Landscape
FAO	Food and Agricultural Organization
NGO	Non-Governmental Organization
OUV	Outstanding Universal Value
SLM	Sustainable Land Management
SNNPRS	Southern Nations, Nationalities and Peoples Regional States
UNDP	United Nation Development Program
UNESCO	United nation Education Sciences and Cultural Orgnization

Acknowledgement

Many institutions and individuals have taken part in the preparation of this Nomination file and the Management Plan for the Gedeo Cultural Landscape.

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Ato Zerihun Zewde, former head of Culture and Tourism Bureau had initiated the program. Ato Abuto Anito and Ato Lema Melesse Deputy Head of Bureau of Culture and Tourism respectively, have provided the much-needed administrative support. Our gratitude goes to Dilla University for its unreserved collaboration. Yonas Beyene has directed the field research and prepared the Nomination file and the Management Plan. Metasebia Bekele co-directed the research and coordinated the administrative activities for the project. Abiyot Legesse did the mapping of the Gedeo Cultural landscape and coordinated the research of the multi-disciplinary team that collected data. Talemos Seta and Melese Mario (Botanists), Chritoaw Ayele (Zoologist), Asebe Ragassa (Anthropologist), Dereje Likisa and Mame Zewege (GIS Experts), Fekadu Israel (Sociologist), Temesgen Nigus (Archeologist), Anne-Lise Gujon, Tadesse Kipe and Tsegaye Tadesse are acknowledged for their significant contributions. Demirew Dagne, Muluneh Tefera, Abera Mekuria and Nigussu Asrat conducted survey of Gedeo Society and documented the Gedeo life ways. ACC staff members: Serkalem Balcha, Wondimu Umeta and Abay Wondimgeze provided support as Back Stop Team under Metassebia Bekele.

Gedeo elders, ritual leaders, women and youth are greatly acknowledged for playing a pivotal role in guiding the mapping and documentation efforts of their cultural properties and for being important source of information.

1. Identification of the Property

1.a Country (and State Party if different)

Federal Democratic Republic of Ethiopia

1.b State, Province or Region

Gedeo is located within the Southern Nations, Nationalities and Peoples Regional State (SNNPRS) in the Federal Democratic Republic of Ethiopia.

1.c Name of Property

The Gedeo Cultural Landscape

1.d Geographical coordinates to the nearest second

This nominated area is located at N 6° 14' 56" and E 38° 17' 16". The traditional agroforestry system is the main feature of the nominated area. Various megalithic sites and sacred forests are found distributed within the agroforestry in the nominated area.

1.e. Maps and plans, showing the boundaries of the nominated property

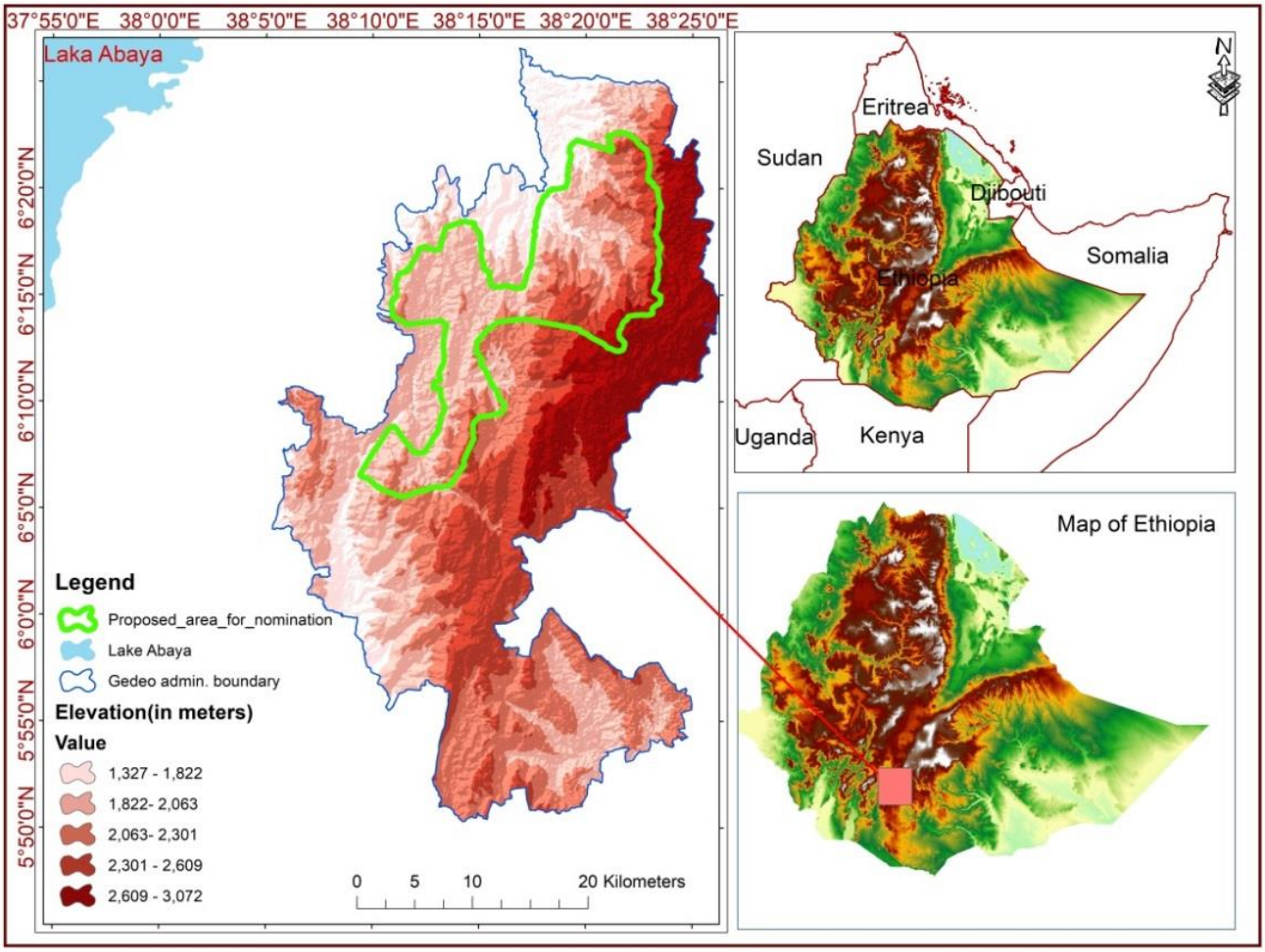

Figure 1 Location map of the Gedeo and the proposed nominated area in East Afric and within Ethiopia

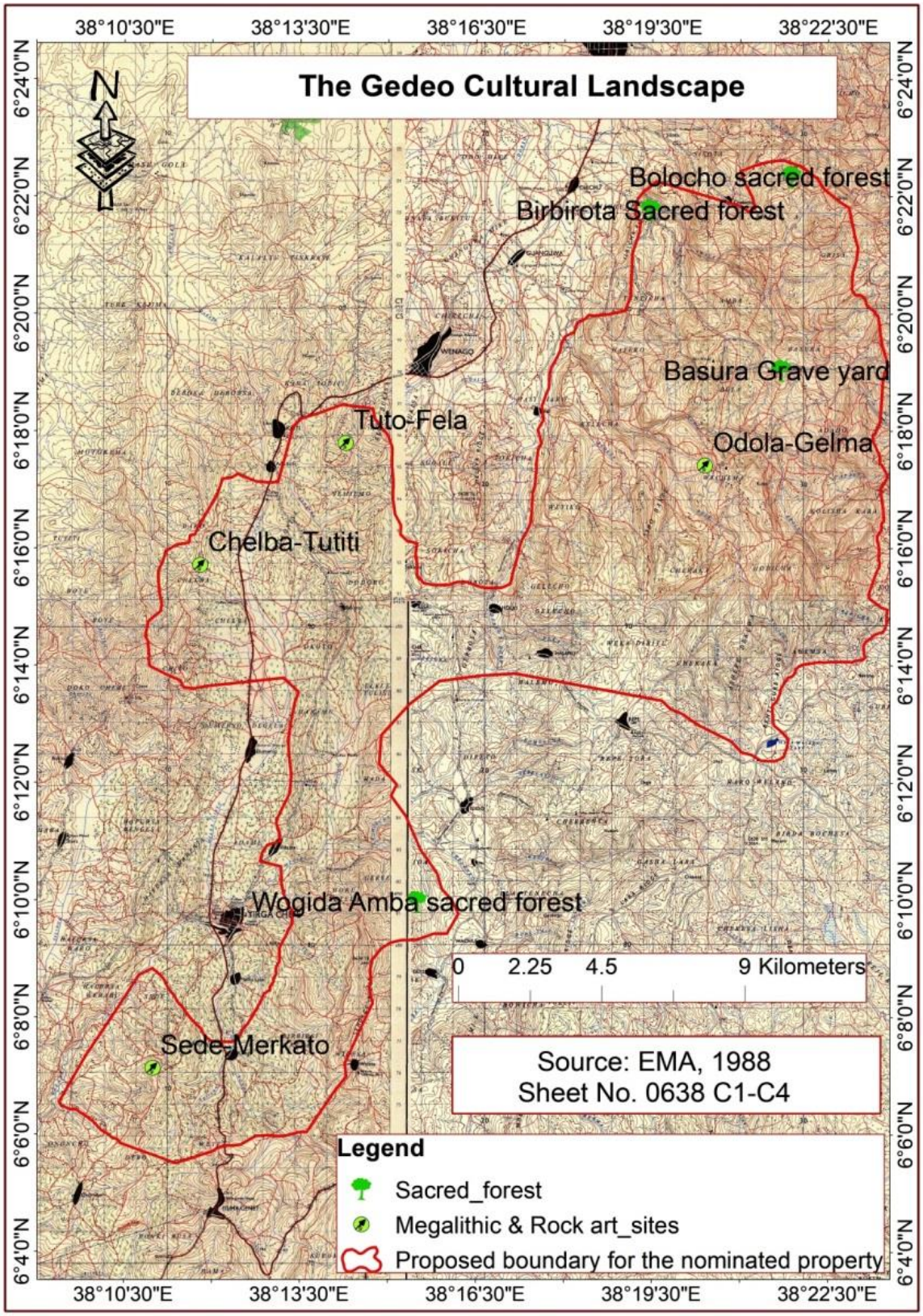

Figure 2 1:50,000 Topographic Map of the proposed boundary of the nominated property

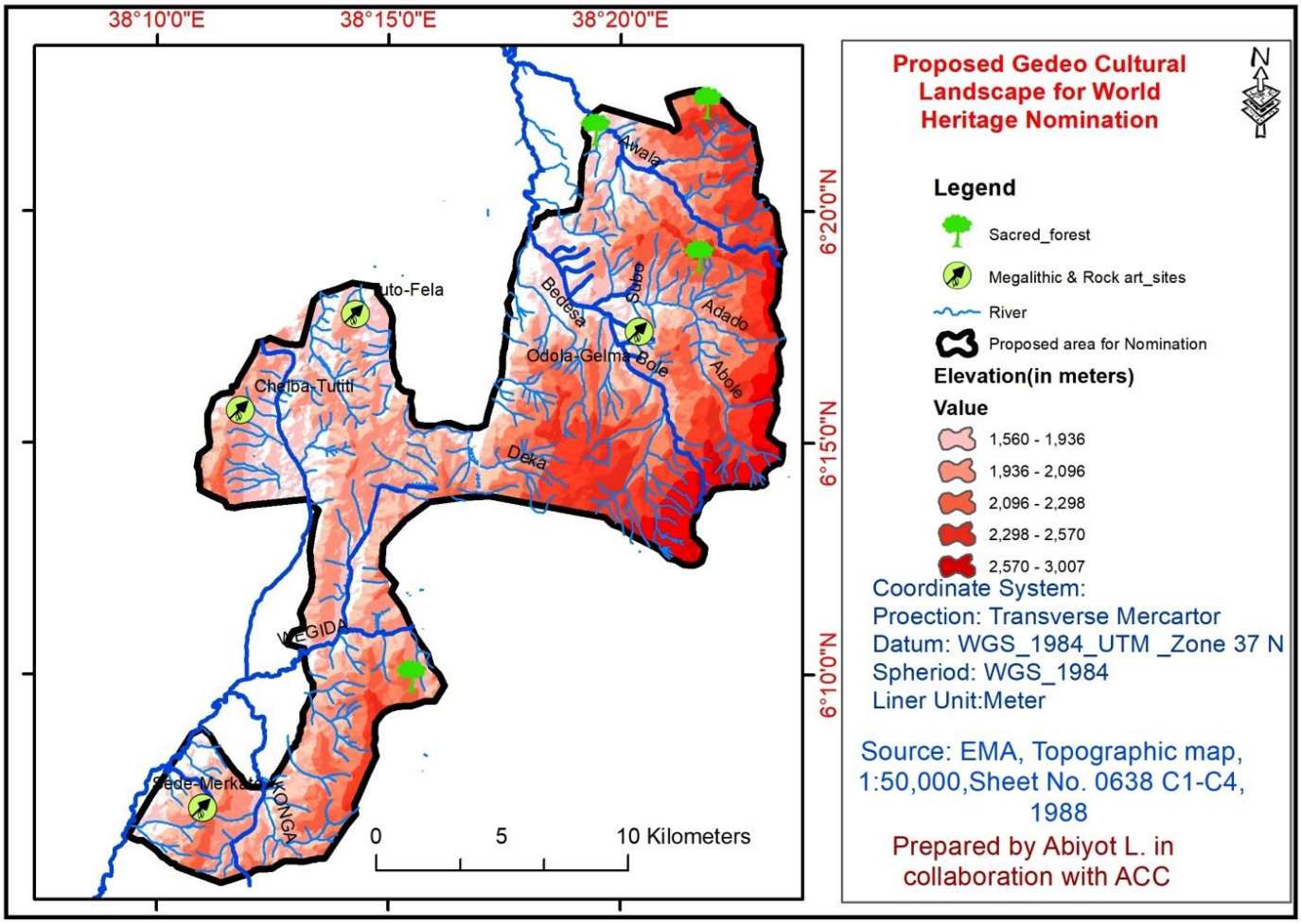

Figure 1 Proposed area for nomination

1.f Area of nominated property (ha.) and proposed buffer zone (ha.)

Area of nominated property: a total of 296.2 square Kms.

Buffer zone: NA; the nominated area is located within the larger Gedeo traditional agroforestry system. It is an actively used area by the community. The adjacent landscape shares the same characterstics similar to the nominated area.

Total area: 296.2square Kms.

2. Description

2.a Description of Property

2.a.1 Background to landscape and geomorphology of the Gedeo cultural landscape

Gedeo zone is located in the Southern part of Ethiopia, geographically located between 5°50'26'' to 6°12' 48''N Latitude and 38°12'48'' to 38°13'02''E Longitude. It is bordered by the Sidama regional state in the north, and by the Oromia regional state in the south, east and west. The zone occupies the Eastern margin of the Southern main Ethiopian Rift between Lake Abaya (1327meters asl.) in the West, and the mountains that reach 3072 meters a.s.l located to the East. The terrain ascends to the East with slopes approximately between 30-40%. Gedeo as a whole extends for 150 Kms distance from North to South and 40 Kms from East to West. This hilly terrain with an area of 1347 km^2 hosts over 1.5 million people. This makes it the most densely populated zone in region as well in the country.

The landscape has a variation in altitude within a short distance. The altitude rises sharply from 1307 m a.s.l. in the West (the Rift floor) to 3072 m a.s.l. in the East within 20 kms. distance. Due to this elevation variation, soil formation varies along the slope cut by the abundant perennial rivers in the highland and the alluvial deposits in the lowland. In the highlands areas where the soil formed on the volcanic rocks (rhyolites), and where slope gradient is higher, the depth of the soil is between 50 cm and 2 meters and is mostly clay to silty mixed with scree. As one descends to the lower altitudes the soil gets thicker and becomes mostly silty clay or clayey silt. This

fertile soil and the altitudinal variation favor the proliferation of varied and rich plant life occupying varied eco-zones.

Due to its topographic characteristics, the area is less suitable for settlement as well as for mono-cropping agriculture. Slope gradient reaches up to ~70% in some areas and about 50% of the landscape is rugged, with slope gradient extending beyond 10%. According to the country's land use policy, land with slope gradaient greater or equal to 30% is used for agricultural production if and only if supported by proper csnervation. In line with this policy, the Gedeo are cultivating the land by applying indigenous land management practices.

The Gedeo zone comprises the traditional agro-climatic classification containing a mid-altitude climate (Dega)/*suubbo,* which accounts for 37%, a sub-tropical climate (Weyna-dega)/dhiibata for 62%, and the remainder 1 % exhbits a hot tropical climate (Kolla)/*riiqata.* Gedeo is characterized by a sub-humid tropical climate, which receives a total rainfall of 800-1800 mm and a mean annual temperature of 12.5^{0}C-25 ^{0}C.

In Gedeo zone, a substantial part of the landscape is covered by agroforestry land use system. According to the estimate made by Teferi (2007), 94.5% is covered by agroforestry, 1.4% by grassland, 0.8% by wetland, 0.5% by natural forest, 0.1% by plantations and 2.7% others. Almost all the nominated area is covered by agroforestry land use except sacred forests, megalithic sites and rock art.

The Gedeo cultural landscape has multiple facets. The agroforestry system developed and adopted locally to sustain livelihood, the megalithic monuments, Rock art sites and traditionally protected ritual forests, which abound the landscape, are its main components. The landscape is an example of rich evolving culture, resilience and sustainability.

The Gedeo have developed a multi-layer and multi-purpose agroforestry system, which is one among a sustainable land use system in the country hosting a large number of population in small plot of land. It is a home for diverse plants and animal species. It is a self-sustaining and self-regulating land use system (Kippe, 2002; SLUF, 2006). Its components are mainly coffee, enset, indigenous trees, root crops, shrubs, etc. in which, every plant species occupies a distinct layer of the vertical space of the plant community (Legesse, 2014; Teferi, 2007; Kippe 2002).

The agroforestry system is the most prominent defining feature of the cultural landscape. The system evolved through time without undergoing significant degradation and biodiversity loss due to the fact that the management practices are embedded in the culture of the people. It is the most resilient land use system, which adaptated to the prevailing environmental and socio-ecnomic changes and the drivers as well. The agroforestry system also contributes for our understanding of system cultural response and adaptability to population pressure and climate change.

The landscape is also a home of sacred forests, which are maintained by the Gedeo traditional leaders for their ritual importance. These sacred forests serve as refugium for traditional medicinal plants and indigenous floral diversity.

Gedeo is also reputed for its abundant megalithic archaeological sites. These archaeological sites are located at higher and prominent locations throughout the landscape, following the natural contours and overlooking the surrounding lower areas. These megalithic sites are among prominent archaeological features illustrating the extraordinary stelae tradition, which once had attained its pick in history between the 8^{th} and 15^{th} century.

Prehistoric rock art sites, which are testimony of the occupation of the region by prehistoric pastoralists, are also present in the landscape. These rock art sites depict the occupation of cattle herders prior to the megalithic culture in the region.

2.a.1.a. Geology and geomorphology of Gedeo zone

The structural and igneous events of the east African rift system, particularly the Ethiopian rift system have passed through several geological events during Tertiary to recent evolution of the system to produce the present day geologic and geomorphologic features of the region (Raunet, 1976). This period were mainly characterized by volcanic processes with minor quaternary sedimentation.

Generally, the Ethiopian volcanic activities were divided into two main series: (1) Trap Series (or plateau Series) and Rift volcanic. The trap series was from the result of mantel plume-head activity associated with the opening of the Red Sea and Gulf of Aden at the Afro Arabian triple junction (Mark et al., 2003), The rock units formed from the trap series includes all volcanic

erupted before the initiation of the Ethiopian rift system. Thus, the unit is found outside of the rift system (in the northwest and southeastern parts of Ethiopian plateau) having maximum local thickness of 3000m volcanic products, apparently fed from fissure rather than central volcanism, which referred to as continental flood basalt.

The rift volcanics, are volcanic deposit which erupted after the Ethiopian rift was initiated, the units currently deposited following the Ethiopian rift system as well as on top of some parts of both Ethiopian plateau group by forming shield volcano (Mohr, 1971; Mohr, 1983; Zanettin and Justin-Visentin, 1974; Zanettin, 1993cited in Tamiru,2006). As the Gedeo zone is situated in the Eastern margin of the rift system the second category, the rift volcanic dominates the area.

The down warping and fissure-basalt eruptions of the rift margins were followed by antithetic faulting across a broad zone, especially along the Afar margins. In the late tertiary and early Pleistocene, as a result of release of large amount of magma and the gradual widening of the fractures, a continual-scale collapse occurred and gave rise to the Ethiopian rift valley. The Ethiopian rift is the northernmost extension of the great East African rift that extends from North-Eastern Ethiopia to Mozambique in South Africa, with a length of more than 4000km. The Central Main Ethiopian Rift (MER) is a large 1km deep Graben with an average width of about 70-80 km and a length of 700 km stretching from the Ethiopian-Kenyan border in the south to the Afar depression in the north (Di Paola, 1972). The rift dissects highlands of the country into the eastern (Harar) and the Western (Central Ethiopia) plateaus and is bounded on two sides by a series of large normal faults. In early Pliestocene, mostly to the north of Lake Abaya, was filled with deposits from ash clouds, which poured from the cracks and gave rise to ignimbrites. In quaternary the alteration of the basic outpouring (alkaline basalts) and acidic outpourings (ryolites, ignimbrites, obsidians, pumice and ashes) occurred. After it had collapsed, the rift valley was covered, during the quaternary, with lacustrine stretches, of which the present lakes are only remnants. Thus, the post-rift volcanic activity very often took place in lacustrine environment and produced rocks with volcano-lacustrine facies (ryholite, and ignimbrite, pumice, tuffs, clays, etc). Recent fractures began during the Holocene; they run NNE-SSW and have sheared all the earlier formations of the rift floor, especially in the centers. This fault belt is called, by Mohr (1967), a Wonji Fault Belt and it is extremely dense in places (Zanettine, 1978; Boccaletti, M. et al, 1997).

MER attains a width of about 100km in the central sector, between Fonko and Langano lake area, but narrows southwards in the Abaya Lake region where it is bifurcated by N-S striking Amaro horst. In this area, the whole rift graben is separated into Ganjuli basin (Abaya-Chamo basin) in the west and the Gelana depression in the east.The eastern margin is well developed and it is defined by more or less continuous system of boundary faults, whereas western boundary border is marked only by a few non-continuous major faults.

According to Boccaletti (1997), in the southern rift, the western margin is marked by N-S to N20°E striking faults and the eastern margin is marked by about N25°E from north as far as Dilla area, south of which the direction becomes more or less N-S. Vertical displacement along the main boundary faults increases southwards where it reaches more than 1000m in Dilla area.

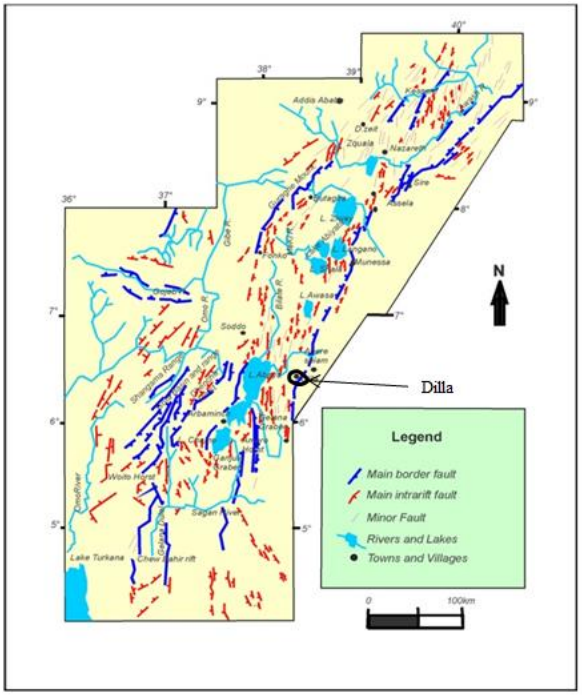

Figure 2 Structural map of Main Ethiopian Rift (modified from Boccaletti et al., 1997)

Gedeo Zone is part of the main Ethiopian Rift marginal series, which outcropped within the Ethiopian rift, on the escarpment and near plateaus containing acidic rocks including acid tuffs, mostly ignimbrites, rhyolites and trachites (Mohr, 1971). The geology of the area shows a variety of igneous rock units, which are formed by pyroclastic fall deposits (rhyolitic ash and tuff), pyroclastic flow (rhyolitic ignimbrite) and lava flows (basalt and rhyolite). Rhyolite and rhyolitic

ignimbrite are the most dominant rocks in the area covering central, western and southern parts of Gedeo zone by forming domical topographic features. Tuff and ash are the dominant rock units covering the most northeastern tip parts of the zone. Ignimbrite covers dominantly western part and occasionally northeastern part overlaid by tuff and volcanic ashes following stream cuts such as Sala River.

Soils of the Gedeo zone are principally drived from tertiary and quaternary age rhyolite, trachytes and basaltic volcanic materials (FAO/UNDP, 1984a). The zone is predominantly covered with soils derived from weathered materials of volcanic products.

The dominant soil type covering 67% (905km^2) of the total area of the zone is Chromic Luvisols, followed by Haplic Nitisols accounting for 26% (351km^2) of the toal area of the zone. The remaining area is covered with Haplic Luvisols (1.8%), Eutric Vertisols (1.9%), Haplic Luvisols (0.01%), and Rhodic Nitisols (3.4%). The soil are relatively rich in organic matter.

Table 1 Soil types of Gedeo zone

Soil type	**Area(km^2)**	**%**
Haplic Luvisols	24.0	1.8
Eutric Vetisols	25.9	1.9
Rhodic Nitisols	45.4	3.4
Chromic Luvisols	902.0	67.0
Haplic Nitisols	349.8	26.0
Total	**1347**	**100.0**

Characteristics of Chromic Luvisols and Haplic Luvisols

Luvisols are one among the soils found in forested regions; identified by the presence of eluvial (Ae) horizons and illuvial (Bt) horizons where silicate clay is accumulated (McGregor, 1984). The soil is generally fertile, suitable for wide range of agricultural uses. Chromic Luvisol largely dominates the coffee and enset growing agricultural midland of the Gedeo; which is the most significant part of the agroforestry land use. The Haplic Luvisols are found covering the north western tip of the zone, dominated by coffee and fruit based agroforestry system.

These soils are workable, well drained, with good soil structure. Their surface is also characterized by a granular to crumb structure, porous and well aerated with good internal drainage potentials which make the soil most suitable for a wide range of agricultural uses. The textural classes of the soils range from clay to clay loam, with small proportion of sandy loam. These make the soil more suitable for diverse agricultural activities. They have typically dusky red (2.5 YR 3/2, moist) to dark brown (7.5 YR 3/2, moist) surface horizon; and dark reddish brown (2.5 YR 3/4, moist) to reddish brown (5 YR 4/4, moist) sub-surface horizon.

These soils have an argillic B (Bt) horizon due to higher accumulation of clay compared to the overlying surface horizon (Demelash, 2010). The subsurface horizon is formed through the pedogenic process known as illuviation. The amount of clay necessary for the formation is defined in comparison with the quantity in the overlying eluvial horizon. The amount of clay is at least more than 20%. The horizon has usually coatings of clay on the surface of soil pores and structures where it has been deposited from percolating soil water.

The soil is relatively deep and fertile, reaching up to 2 metres in depth. Although the soils are prone to erosion due to nature of the topography and rainfall, the culturally embedded land management practices protected the soils from being eroded. The productivity of the soil is principally determined by the land management practices. The area in which this soil covers is known for its traditional agroforestry practices, protection and regulation of ecosystem services. The agroforestry system enriches the soils by releasing important soils nutrients; augment the soil with organic matter, protecting the soils from the impacts of raindrop and runoff. There are various type of soil management practices in the area including conservation tillage, mulching, refraing from working soil during rainy season.

Characteristics of Nitisols

The dominant soil type of the area is Nitisols (Demelash, 2010; Haile *et al*., 2015). It is a soil with deep, well-drained, red, tropical soils with diffuse horizon boundaries and the clay-rich nitic subsurface horizon that has typical nutty, polyhedric, blocky structure elements with shiny ped faces (Wispelaere *et al*., 2015). Its surface horizon is characterized by a granular to crumb structure, porous and well aerated with good internal drainage potentials that can be suitable for a

wide range of agricultural uses (Driessen et al., 2001).These soils are predominantly derived from basic parent rocks by strong weathering, but they are far more fertile than most other red tropical soils. It has been suggested that nitic horizons originate from structural transformations of ferralic horizons as a result of climate change (Cooper et al., 2010).

2.a.2 The Agroforestry System

Agroforestry is a comprehensive land management system that combines trees and shrubs with crops and livestock in time and space on the same unit of land management (at landscape level) to achieve optimum benefits from biological interactions between soil, plants, and animals (Nair, 2007). It is one of the dominant ecosystems that resemble natural forests but preserved, managed and utilized through culturally embedded indigenous knowledge in different parts of the world (Bhagwat et al. 2008). It encompasses a wide range of indigenous trees that are grown and managed on farms and in rural landscapes. Growing indigenous trees in combination with crops and livestock is an ancient practice particularly in Africa, Asia and Latin America (Nair, 2003, 2007). In developing countries, agroforestry supports the livelihood of hundreds of millions of farmers and has remained to be the main feature of agriculture (World Bank, 2004). Central to the discussion of agroforestry is the tripartite relationship between indigenous peoples, indigenous ecological knowledge and culture.

2.a.2.a The Gedeo Agroforestry and its biodiversity

The Gedeo experience provides a unique opportunity for the understanding of human-environment relationship, which is maintained through indigenous institutions, values and practices. The people are reputed for their ingenious agroforestry system, which is rooted in their socio-cultural fabrics. The agroforestry system is a way of survival for people.

The indigenous agroforestry system of the Gedeo is one of the oldest land management practices in the country, which is able to satisfy multitude socio-economic needs in a sustainable way, maintaining the balance between environmental management and subsistence farming. Its contribution in mitigating climate change (carbon pool), controlling pests, maintaining soil fertility, minimizing soil erosion, providing food, fiber, water and fuel wood for the local people is worthwhile to mention.It is one among the exemplary land use systems owing to its high

carrying capacity. The system's resilience to host large number of rural population (~1200 person/km^2, the highest in Africa) makes it very unique (Legesse, 2014). It is a self-propelled and self-regenerating land use system (SLUF, 2006). The system is not adopted from anywhere else; rather it is produced and reproduced through intergenerational transmission of indigenous knowledge. Thus, the system is not only a manifestation of sustainable resource management; it is also manifestation of how the Gedeo cultural values and norms are sustained. Thus, the system is a representation of a typical mutualistic human-environment interaction (Debelo et al. 2017).

The agroforestry system is the dominant land use system, covering 94.5% of the total area of the Zone. The remaining 5.5% of the area is covered by other land use/cover types such as grassland, wetland, natural forest, plantation and built-up (Teferi, 2007).

One of the unique characteristics of the agroforestry system is that it is very rich in agro-biodiversity. The species in the agrobiodiversity is grouped into four different growth forms such as tree, shrub, herb and climber. Of the total species composition, herb and tree represent 39% (76 species) and 31.3% (61 species), respectively. On the other hand, shrub and climber represent 22.0% (43 species) and 7.70% (15 species) respectively. Among the total plant species in Gedeo, the dominant is found to be woody species. This is attributed to the indigenous knowledge in conservation and management of agroforestry farms.

Ensete ventricosum, Coffea arabica, Millettia ferruginea, and *Croton macrostachyus* are among frequently recorded species in the Gedeo agro-biodiversity. Of the total Gedeo agro-biodiversity, 40% is occupied by enset and coffee crops; enset (*Ensete ventricosum)* accounting 21% while coffee (*Coffea arabica)* covering 19%. Native woody species associated with *Enset-coffee* are also dominant, playing a great role in food security and ecological sustainability.

The enset-coffee associated woody species are the dominant groups in Gedeo agro-biodiversity and play a great role in the environmental as well as ecological sustainability of the region. The system is mainly composed of enset-coffee agroforestry, which constitutes the major portion of agro-biodiversity. The need of maintaining this system with high agro-biodiversity in the Gedeo home gardens emanate from the objective of self-sufficiency in producing almost all required products for subsistence, minimizing the crop loss from hazards, producing diverse food products that meet the nutritional demands of the household and the need to have food crops

harvestable throughout a year. This is confirmed in the findings of Cromwell et al. (1999) and Tesfaye, et al. (2010).

Among the outstanding features of the Gedeo indigenous agroforestry system, enset *(Ensete ventricosum)* crop, which abounds the landscape is the defining element. Ensete *(E. ventricosum)* is the basic staple food of the Gedeo. The Gedeo also intercrop coffee (*Coffea arabica*) with ensete; when the altitude favors it, (between 1500 and 2300 meters a.s.l.); and cultivate enset alone in the higher altitude (above 2500 meters a.s.l.), where it is not favorable for coffee trees. Together with enset and coffee the Gedeo keep indigenous tree species to provide shade for the coffee. They also grow, together with the above, root crops such as cassava, climbing beans (*qoqeeyye*), cabbage, medicinal plants, shrubs that they use as fodder for their animals. Thus, these plants form a unique symbiotic relationship in which each occupies its distinct space vertically.

The agroforestry system has thus enabled the Gedeo to plant all the needed crops in a small plot of land in a way that the system supports each plant to support the other. A total of 195 plant species distributed in 155 genera and 66 families represent the plant biodiversity in the Gedeo agroforestry system. *Fabaceae* has the highest number of species (17 species, 8.72%), followed by *Asteraceae* and *Euphorbiaceae* (11 species, each 5.64%), *Poaceae* (10 species, 5.13%), *Lamiaceae* (10 species, 5.13%), *Rosaceae* and *Solanaceae* (8 species, 4.10%).

The tree species include *Millettia ferruginea, Croton macrostachyus, Cordia africana, Fagaropsis angolensis, Fagaropsis angolensis,* and *Brucea antidysentrica*. Among these tree species, *Millettia ferruginea* is highly preferred by the people as it play major role for enhancement of soil fertility and shade for coffee and enset plants. It has light crown and small leaves. This tree sheds its leaves during the active growing season of coffee shoots and fruits. On the other hand, *Croton macrostachyus* is preferred by the people living in highlands area for enhancing soil fertility whereas, people in midlands think that it is unfriendly for coffee plants as it sucks much water out of the soils. This tree is used to treat skin problem and stomach disorder in people. *Brucea antidysenterica* is also a native species deliberately retained in the agroforestry system for its medicinal value to treat dysentery (SLUF, 2006; Negash *et al.*, 2011 and Kippie, 2002).

Table 2 Number of species and their percentage in each family

No.	**Family**	**No of spp.**	**%**	No.	**Family**	**No of spp.**	**%**
1	*Acanthaceae*	2	1.03	**34**	*Geraniaceae*	1	0.51
2	*Agavaceae*	1	0.51	**35**	*Lamiaceae*	10	5.13
3	*Alliaceae*	2	1.03	**36**	*Lauraceae*	1	0.51
4	*Aloaceae*	1	0.51	**37**	*Loganiaceae*	1	0.51
5	*Amaranthaceae*	5	2.56	**38**	*Malvaceae*	3	1.54
6	*Anacardiaceae*	3	1.54	**39**	*Meliaceae*	6	3.08
7	*Annonaceae*	1	0.51	**40**	*Moraceae*	5	2.56
8	*Apiaceae*	3	1.54	**41**	*Moringaceae*	1	0.51
9	*Apocynaceae*	1	0.51	**42**	*Musaceae*	2	1.03
10	*Araceae*	3	1.54	**43**	*Myrsinaceae*	2	1.03
11	*Araliaceae*	1	0.51	**44**	*Myrtaceae*	4	2.05
12	*Arecaceae*	1	0.51	**45**	*Oleaceae*	5	2.56
13	*Asparagaceae*	1	0.51	**46**	*Passifloraceae*	2	1.03
14	*Asteraceae*	**11**	5.64	**47**	*Pinaceae*	1	0.51
15	*Bignoniaceae*	2	1.03	**48**	*Pittosporaceae*	1	0.51
16	*Boraginaceae*	2	1.03	**49**	*Plantaginaceae*	1	0.51
17	*Brassicaceae*	4	2.05	**50**	*Poaceae*	**10**	5.13
18	*Cannaceae*	1	0.51	**51**	*Podocarpaceae*	1	0.51
19	*Caricaceae*	1	0.51	**52**	*Polygonaceae*	1	0.51
20	*Casuarinaceae*	1	0.51	**53**	*Ranunculaceae*	1	0.51
21	*Celastraceae*	1	0.51	**54**	*Proteaceae*	1	0.51
22	*Chenopodiaceae*	1	0.51	**55**	*Rhamnaceae*	1	0.51
23	*Commelinaceae*	2	1.03	**56**	*Rhizophoraceae*	1	0.51
24	*Convolvulaceae*	1	0.51	**57**	*Rosaceae*	8	4.10
25	*Crassulaceae*	1	0.51	**58**	*Rubiaceae*	5	2.56
26	*Cucurbitaceae*	2	1.03	**59**	*Rutaceae*	6	3.08
27	*Cupressaceae*	2	1.03	**60**	*Sapindaceae*	4	2.05
28	*Dioscoreaceae*	4	2.05	**61**	*Simaroubaceae*	1	0.51
29	*Dracaenaceae*	3	1.54	**62**	*Solanaceae*	8	4.10
30	*Ebenaceae*	1	0.51	**63**	*Sterculiaceae*	1	0.51
31	*Euphorbiaceae*	**11**	5.64	**64**	*Ulmaceae*	3	1.54
32	*Fabaceae*	**17**	8.72	**65**	*Verbenaceae*	3	1.54
33	*Flacourtiaceae*	1	0.51	**66**	*Zingeberaceae*	1	0.51
Total						**195**	**100**

The indigenous agroforestry system is a multi-layer, with three different distinctive layers characterising the land use system (Fig. 5). Structurally, the multi-story agroforestry systems are important sources of food, fodder, cash crop, fuel and construction wood, medicinal plants, spices, green manure and environmental amelioration. The layering has its own ecological benefits and the Gedeo are well versed with the knowledge of designing the architecture of the agroforestry system. Coffee without indigenous trees; coffee without enset plant; coffee and enset without herbs is ineffective land management system in Gedeo. The Gedeo elders clearly know the mutual and symbiotic relationship between different elements of the environment.

Figure 3 Multilayered Traditional Agroforestry system of the Gedeo

The upper story of the Gedeo agroforestry system is represented by trees such as *Erythrina brucei*, *Millettia ferruginea*, *Cordia africana*, *Croton macrostachyus*, *Polyscias fulva*, and *Albizia gummifera*. These tree species serve for multiple purposes such as providing shade, pumping water from underground through capillary action, sequestering carbon, and adding

nutrient to the soil. Talemos Seta and Sebsebe Demissew (2014) reported 24 tree species having a DBH ≥ 15 cm represent the upper story of the agroforestry system. These tree species contain the carbon stock of 18.66 t C ha^{-1}derived directly from the above ground biomass as means of mitigating climate change indicating the ecosystem services provided by the Gedeo agroforestry system, which is the major component of agro-biodiversity.

The middle story is represented by the two dominant species on which the Gedeo people depend for their livelihoods; *Ensete ventricosum* and *Coffea arabica.*

The understory of the Gedeo agro-biodiversity in general and agroforestry in particular is dominated by root crops, herbs and climbers such as *Colocasia esculenta, Dioscoria alata, Capsicum annum, Capsicum frutescens, Cucurbita pepo, Brassica spp.*(Teferi, 2007; SLUF, 2006; Abebe *et al*., 2010). It has been known that biodiversity in the farming units of Gedeo is a result of the farmers' innate perception of biodiversity value and their characteristic organization of the gardens which promote concentration of plant species.

2.a.2.b Gedeo traditional agroforestry types

The agroforestry system can be broadly categorized into enset-based, coffee-enset-based, and coffee-fruit tree-based agroforestry system (Kanishe, 2002; Negash et al., 2011). The classification is more or less based on agro-ecological zones. The enset-based land use system occupies Dega (highland) agro-ecological region (>2500 m asl), coffee-enset based is within Woina dega agro-ecological region (2500-1500 m asl.) and coffee-fruit trees-based land use system falls under Kola (lowland) agro-ecology (below 1500 masl).

Enset and coffee are the dominant crops, accounting for more than two-third of the production within the agroforestry system. Apart from coffee and enset, the system supports varied species of indigenous and exotic trees, cereal crops, root crops, fruits and domestic animals. Although such type of combination is practiced in some areas in the highlands of southern Ethiopia, the case of Gedeo is unique in terms of its intensity and diversity (Abebe, 2005). For better understanding of each category of the agroforestry system, it is imperative to describe in more details as follows:

2.a.2.b-1 - Enset-based agroforestry system

Enset (*Ensete ventricosum)* is a banana like plant, but larger and thicker. Unlike banana, its roots and the corm are consumed (Fig. 7 & 8). It is found distributed along the equatorial region. Its height may reache 10 meters. Enset belongs to the order of *Scitamineae*, the family *Musaceae* and the genus *Ensete*.

Its presence is recorded in Asia, Sub-Saharan Africa: in Madagascar, South Sudan and Uganda (Baker and Simmonds, 1953; Simmonds, 1958). However, it is only in Ethiopia that its one variety, *Ensete ventricosum* is domesticated and used as food crop.

Together with pastoralism, shifting agriculture and grain-based cultivation, enset based agricultural system is one of the four major systems in Ethiopia (Westphal, 1975). Today, more than 20,000,000 people in South and South West Ethiopia depend on enset as their staple food. Apart from the Gedeo and neighbouring Sidama, enset is consumed in much of the southern and south western part of Ethiopia. According to Westphal (1975) the Sidama (including the Gedeo) and the Gurage are mostly dependent on enset for their staple.

According to research of domesticates in East Africa and specifically in South Western Ethiopia, it is often proposed that enset was used in the area as early as the beginning of the Holocene (10,000 years ago). According to Stiehler (1948) and Murdock (1959) the indigenous hunter gatherers of Southern Ethiopia were the first to domesticate and cultivate enset during prehistoric times; among which the Sidama and the Gedeo. According to S. Brandt (1984, 1996) and S. Brandt and R. Fattovich (1990), between 10,000 and 5000 years ago the highlands of Southern Ethiopia were used as an environmental refugium and enset was fully domesticated, as response to environmental stress and a more reliable food source.

Although enset is widely used in the south and southern part of Ethiopia as staple, historically it was also cultivated in much of the country as north as the Lake Tana area in North central part of Ethiopia, and the Arsi and Bale mountains in the East. Today, one finds the use and cultivation of Enset as food source in geographically restricted areas in the South and South West part of Ethiopia.

Ensete is adapted to the unpredictable regime of rains. It has developed a structure to collect as much rain water as it could store (Kippe, 2002). The Gedeo and enset growing regions in South and South Western Ethiopia were able to stave off hunger, which most Ethiopian suffer from time to time, thanks to enset plant.

Figure 4 Enset grown on a very steep topography

Figure 6 Enset plant

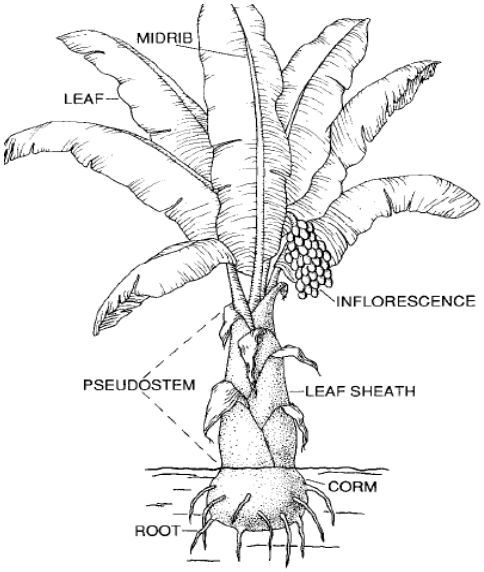

Figure 5 Schematic presentation of parts of enset plant (after Brant A. Steven et al. 1997

Enset based agro-biodiversity cluster is dominated by enset (E*nsete ventricosum*) which is the most important food security crop; followed by multipurpose native tree species. The woody plant species in this cluster are *Erythrina brucei, Cordia africana, Millettia ferruginea, Fagaropsis angolensis, Ekebergia capensis, Dracaena steudneri, Discopodium penninervum, Ficus gnaphalocarpa, Pygeum africanum, Pouteria adolfi-friederici, Ehretia cymosa, Ficus sur* and *Olea welwitschii*. In Enset based agroforestry system, farmers give more emphasis to manage *Ensete ventricosum* and native tree species. Farmers practice thinning/pruning to create more space for *Ensete ventricosum*. Consequently, wider spacing of trees allows more growth and development in tree diameter of enset-based agroforestry system.

Enset needs, on average eight years, to reach maturity and be harvested and consumed in the intermediate altitude (i.e., 1750 to 2500 m.a.s.l.). To manage the growth rate of the plant and to ensure the successive years of food resources, the Gedeo have devised a way in which, every year, they are provided with ready to be consumed and mature enset. They have a calendar fixed at managing the continuity of growth and the maturity of their staple and to ensure food sovereignty based on an indigenous system. Enset trees, which are at different growth stages, such as those which are mature, about to mature shortly and maturing in few years, are supposed to be present in every farm. There should be eight age stages of enset required by every household. The harvest of a matured enset plant in the oldest/matured stage is sequenced by its replacements (Kippe, 2002).

In all enset growing communities of the Ethiopian south and south west, farmers use cattle manure as fertilizer.

Enset, the staple food of the community, serves not only as source of livelihood but it also serves for beyond the economic subsistence.

The root of enset is chopped in to pieces. The resulting paste/dough, called *Wassa* is then treated manually to separate the fibrous substance and cut to reduce the size of the fiber.

Enset is consumed in varieties of ways. Its roots are chopped in to pieces and boiled to be consumed with milk; or it is chopped and grinded to be left for fermentation for a period of time, after which the dough is separated from the fibrous substance and minced until it becomes suitable to bake on a large pan. The bread could take different forms and taste according to the

preferences of the women who take this task of food processing. The resulting bread is consumed usually with legumes, dairy products (cheese, butter) or meat which is prepared to accompany the enset bread.

Varieties of enset are used for medicinal purposes as well. Few varieties are consumed for special purpose; for example: to help fix broken bones.

The Gedeo culture uses some plant/ tree species for marking important events in a person's life. For instance, up on birth, a baby boy is received with two branches of *Pegeum afrcanum* and two leaves of the enset. A new born baby girl is received with two leaves of *Crotn macrostachys* tree and two leaves of the enset (Kippe et al.2000 eth.c. (2008).

The following quote taken from Kippie (2002) explains better the mutual relationship that exists between nature and human being:

> *Enset being their means of livelihood, the Gedeo have no aspect of life, which is not connected with ensete. The Gedeo receive the newborn on dried ensete leaves (hashupha). The placenta is also received in an ensete leaf sheath (hachcho)…. The birth of the new baby is announced by placing an ensete leaf (cichcha) on the door. During the first three to five months, the excreta of the infant are collected on ensete leaf sheath and fibers (haanxxa) until the time of initiation of the infant. The excreta is mulched underneath three ensete plants (bululo) that are planted to mark the initiation (cichcha fula). During marriage, the couples spend their first night in a bedding of ensete leaves. When constructing a house, the Gedeo plant ensete at the place of the future pillar (utupha). A dying person is placed on a bedding of ensete leaves and midribs. Thus, all aspects of Gedeo life are connected with ensete.*

2.a.2.b.2 Coffee-enset based agroforestry system

The south and south western highlands of Ethiopian and some pocket areas of Southern Sudan forest environment have incorporated coffee as one of its major components. Scholars have long proposed that arabica coffee (*Coffea arabica*) in its wild variety originated in this area (Davis, A.P., et al, 2012).

Ethiopia is considered as the origin of Arabica coffee. It was suggested that coffee berries (fruits) were collected and used by local foraging populations before it was domesticated. Currently, "Ethiopia is the main storehouse of genetic diversity for Arabica coffee, and this has several key implications. For the coffee sector and consumers, the most notable of these is the broad diversity of flavor profiles exhibited by Ethiopian coffe. Included among these origins are the well-known coffees of Sidamo, Yirgacheffe" (Davis, A.P., et al, 2012).

Coffee growing, brewing and consumption are widespread in the country, especially in the coffee producing regions.

The Gedeo region receives around 1600 mm of annual rain, which is favourable to keep an ample precipitation rate for coffee and enset. The coffee in the Gedeo is grown under the shade of indigenous trees and mostly together with enset trees. Depending on the altitude, fruit trees are also used as shade trees in family owned farms. The Gedeo and its neighbouring Sidama region are well known for their agroforestry system which also incorporates, in addition to indigenous trees, enset and other root crops.

Figure 7 Coffee beans in Gedeo

In general, this cluster is dominated by the two important crops: *Enset ventricosum* and *Coffea arabica*. The dominant and frequently occurring woody species of this cluster include *Millettia ferruginea, Persea americana, Cordia africana, Erythrina brucei, Mangifera indica, Croton macrostachyus, Fagaropsis angolensis, Pouteria adolfi-friederici, Ekebergia capensis and Ficus sur.* In the agroforestry of this cluster, the presence of coffee plants requires the management and retention of more native shade trees which also adds to stem numbers to increase the agro-biodiversity..

The agroforestry system in this agro-ecological belt mainly consists of coffee and enset (both woody and non-woody components) intercropped with annual crops (both cereal and root crops) (Kanishe, 2002; SLUF, 2006; and Mebrate, 2007). The majority (more than 50%) of the land in this agro-ecological zone is occupied by coffee followed by enset. Animal husbandry is also another activity in this belt but not as extensive as the other two belts. Lack of grazing land and

limited spaces inhibits the engagement of farmers in animal rearing in a wider scale. As compared to the other agro-ecosystems, this region supports a large number of population, and hosts diversified flora and fauna (Kanishe, 2002).

The coffee cultivated in Gedeo is *Coffee arabica*. Until recently wild verities of coffee arabica were found in Gedeo. Recent survey has shown that coffee was found in the wild as recently as only 20 years ago. Now it is found restricted to few remote areas of neighboring eastern Sidama.

Like the enset planting procedures, coffee is planted taking the first maturity in to consideration. After field-planting, coffee needs at least five years to give the first yield. Once the first yield is harvested, its replacement is planted. As soon as the second coffee plant gives its first yield, its replacement is planted. If the first coffee plant survives to the age of forty-eight, it will be surrounded by six coffee trees, aged: one, eight, sixteen, twenty-four, thirty-two and forty years of age.

Coffee has become a deterministic factor among the Gedeo. The best quality *arabica* coffee from Yirga-Cahafee is intercropped with enset and multi-purpose trees.

Coffee trees should be grown in shades of trees and with enset. Coffee mono-crops, devoid of enset and shade trees are observed to be exposed to full sunlight and flowered profusely. The fatigue resulting from overbearing damaged coffee trees. To return to normalcy it takes the coffee tree between two to three years in certain circumstances and sometimes up to five years.

2.a.2.b.3 - Coffee-fruit based agroforestry system

Coffee and fruit plants are the dominant species of this cluster. This agroforestry cluster is located within the altitudinal range of 1910 to 2240 m above sea level. The woody species associated with this cluster include *Millettia ferruginea, Mangifera indica, Croton macrostachyus,Cordia africana, Erythrina brucei, Fagaropsis angolensis, Discopodium penninervum, Albizia gummifera, Persea americana, Syzygium guineense*. Farmers in this agro-ecological region grow coffee and enset mixed with cereal crops (maize, wheat, teff), root crops (boyina, sweet potato, yam), and fruits (avocado, mango, gishixa and others). As in cluster I, the

presence of coffee plants in this cluster needs the retention of more native shade trees, and the presence of coffee plant adds to stem numbers to increase its agro-biodiversity.

Generally speaking, the native tree species are the components common to the three clusters indicating its importance to the livelihood and ecosystem services of the community. The basis for the classification of the three clusters may be due to the differences in the range of altitude and farmers' tree management practices.

Animal husbandry is better practiced here when compared with the coffee-enset belt because of the presence of adequate grazing land.

2.a.2.b.4 Traditional beehive making and honey production

The local people are also engaged in honey production through traditionally methods. The diverse flowering plants in the Gedeo homegarden are important forages for honeybees. Flowers of *Albizia gummifera, Acacia abyssinica, Coffea arabica, Cordia africana, Croton macrostachyus, Fagaropsis angolensis, Mangifera indica, Millettia ferruginea, Persea americana, Syzygium guineense* sub sp. *afromontana* and *Vernonia amygdalina* were reported to be the most important bee forage plants. Honey from coffee flower/pollen is said to be of the best quality (Negash, 2007; Gebrehiwot *et al*., 2016).

A total of 22 woody species were recorded for beehive making. Bee hives are made in the shape of a drum from the wood of trees. Bees arrive to the Gedeo highland during the flowering season of most perennials and farmers have an in-depth knowledge of exploiting this behavioural cycle of the bee colonies. Approximately, about 1m long and 0.3 m wide bole is cut from preferred wood and then split in to two. After hollowing out the two halves, the pieces are stacked to be smoked in a rack just over the fireplace. During the arrival of bees from the lowlands, the pieces are taken and rubbed with the leaves of *Fagaropsis angolensis* because bees like its fragrance. After covering the parts with bamboo scales or dried enset leaves, the parts are fitted together into a drum and tied together with an enset fiber to provide the bees with an appropriate ambient temperature. Finally, farmers hang up the beehives in the trees preferred by bees (fig. 10).

This is corroborated by many authors from the same region (Abebe *et al.*, 2010; Kippie, 2002; Tamirat, 2011; F Mesfin *et al.*, 2009). The frequently used multipurpose woody species for hanging beehives in Gedeo include *Acacia abyssinica, Cordia africana, Croton macrostachyus, Erythrina brucei, Polyscias fulva, Ficus sur, Millettia ferruginea, Ekebergia capensis* and *Syzygium guineense.*

Figure 8 Traditional beehive

Traditionally the Gedeo people noted and mentioned that honey yield is dependent on the type of the honeybees, the availability of nectar and other environmental conditions. The harvesting season in the area is between January and March, and May and June. However, good quality of honey yield could be obtained in the dry season of a year between January and March. Depending on type of bee and environmental conditions, an average beehive can yield 5-7 kg of clean honey, according to farmers.

2.a.2.c The Human – Environment relationship

The striking aspect of the Gedeo landscape is the fact that it is entirely and densely inhabited by humans despite its undulating topography. In every ecological zone of the Gedeo Zone, the land is intensively utilized for different purposes, but exhibits very limited environmental problems. Such oxymoron – the paradox of intensive cultivation and human settlement on rugged topography, on the one hand and limited environmental problems on the other hand, propels once to raise a fundamental question about the mystery of such exemplary human-environmental coexistence and knowledge.

The mutual interaction between the Gedeo and their environment has played an important role in maintaining the intactness of the ecosystem for centuries. The interdependence between the Gedeo and their natural environment is linked to the people's epistemological and ontological notions of the place of humans in nature. According to the Gedeo tradition, the people cannot live detached from the natural environment because they were created together and coexist on the basis of reciprocity, respect and reproduction (Debelo et al. 2017). Their everyday life (birth to death) is linked to trees and thus they do not have life without trees. The mutual interaction that the Gedeo have with nature is futher enhanced and nurtured through rituals and socio-cultural practices including *baabo, qeexala, urane, xaaree, songo* system, and *baallee* tradition. *Baabo* practice is one among the indigenous practices through which the Gedeo express and maintain the value they have for nature. Literally babo refers to progeny. As nurturing one's own child is uncompromised duty, protecting and managing the seedlings of any plant are also given top priority among the Gedeo.Thus, beyond the management of matured plants, the Gedeo care much about the management of emerging seedlings. Accordingly, no one dares to cut young trees under any circumstances as young trees are regarded as the people's hope for the future. Every Gedeo is expected to have a *baabo* in his or her own farmland and one can only harvest either tree or enset plant if there is a young tree or enset that could be used as a replacement. This is an old-aged tradition that kept the area greener all the time although there are high rate of trees and enset harvesting. The way enset is cultivated among the Gedeo can be a typical example in this regard (Kippe,2002).

As mentioned above, the tripartite relationship between the people, their cultural institutions, and indigenous knowledge in maintaining human-environment coexistence deserves better

explanation. In this regard, the *Songo* and balle institutions are central in regulating human interaction with the natural environment and also in maintaining values, beliefs and knowledge of the people on the environment. Customary laws are promulgated through the Baalle system and enacted in channel of the *Songo* institutions. The *Songo* institution has a sanctioning power over people who transgress environmental laws and values prescribed by the society.

In terms of exercising their knowledge, for example, the Gedeo employ minimum tillage or zero tillage during cultivation because they are aware of the susceptibility of the landscape to the impacts of raindrop. Thus, they do not expose the land to the impacts of rain. Instead, they cultivate only very small hole using local instrument known as *qotto* for sowing annual crops. Unlike the highland parts of the country where ox-plough has, for many centuries contributed for soil degradation and loss of fertility (Macain, 1996), the Gedeo's minimum tillage or zero tillage prevents the soils from being exposed to the impacts of raindrop and running water (Legesse, 2014). *Urane* is another traditional land management practice, which entails rotation of dwellings with the intention of rehabilitating the already degraded land through the expansion of agroforestry system. Shifting of their dwelling alnong with their cattle to a place where degradation prevails is a conscious indigenous land management startegies among the people.

2.a.3 Archaeological sites: General presentation of archaeological sites in Gedeo

Gedeo can be called the land of megaliths. Several megalithic sites abound the summit of almost every high point in the landscape. The megalithic sites of Gedeo were first reported at the beginning of the 19th century. In 1925, the French explorers to work in Gedeo were François Azaïs and Roger Chambard, both from France. They noted "thousands of columns" (referring to phallic stelae) spread on each and every hill on the contour of the landscape. In 1926, they discovered an anthropomorphic stelae site and considered that as representation of "a neolithic " culture.

In the following years, in 1934, further research in the area was conducted by German ethnographers led by Adolphe E. Jensen and his team. This team confirmed the existence of abundant megalithic sites in Gedeo and Sidamo where the team mapped 20 megalithic sites. This systematic survey and mapping work was pursued in the area by Francis Anfray at the end of the

1980's. F. Anfray concentrated his study on the motifs' diversity represented on the different types of stelae. His research definitively brought to light the great megalithic traditions in the Gedeo and adjacent areas to the greater scientific community.

Subsequently, Roger Jaussaume continued to record new sites. He undertook major archaeological excavation at two megalithic sites in Gedeo: Tuto Fela and Chelba-Tutitti.

In 2010, fifty-two megalithic sites were documented through survey in Gedeo. Additional sites await documentation as there was not yet exhaustive survey conducted in area away from main paved road running North to South.

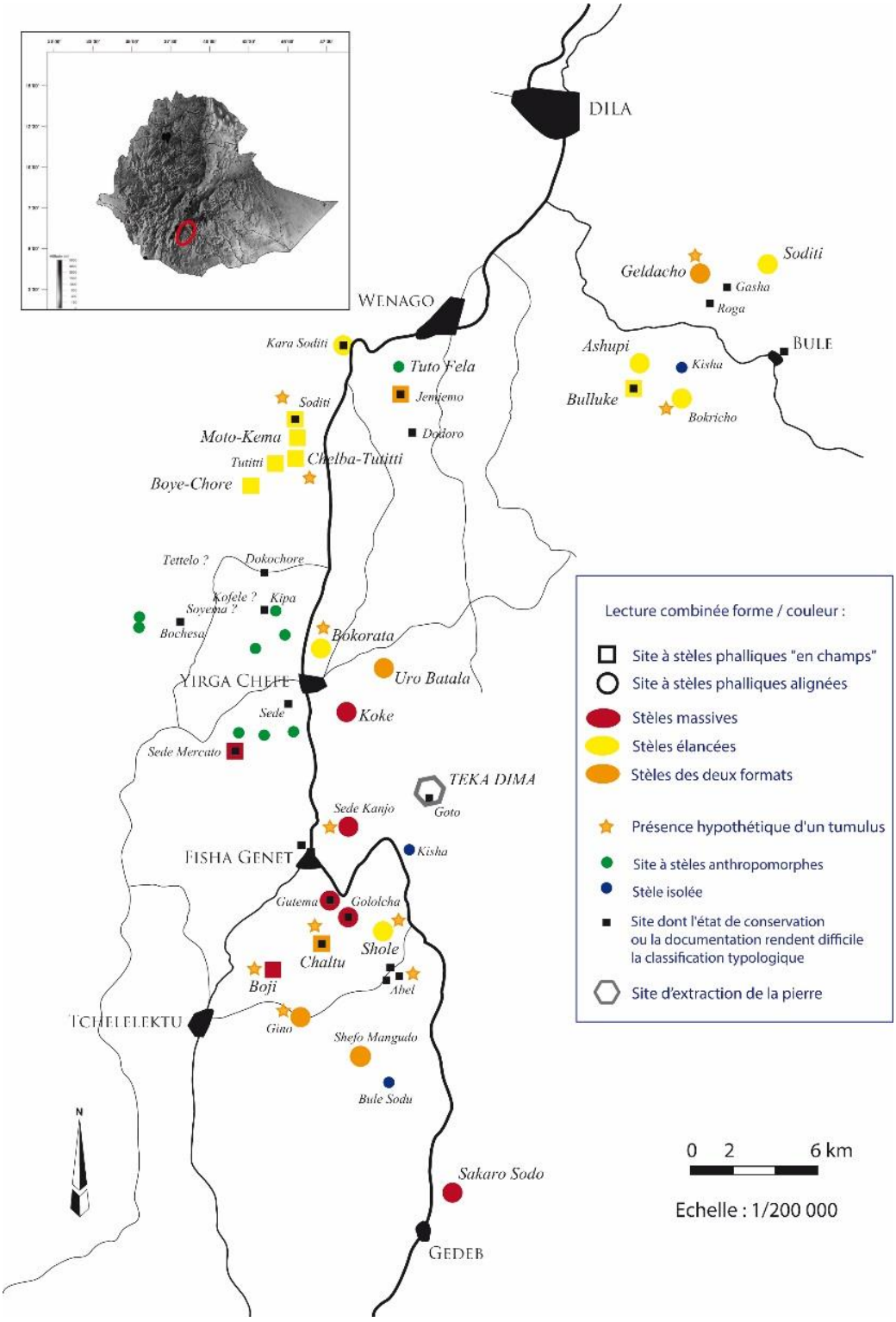

Figure 9 Map of the distribution n of Megalithic sites in Gedeo (After Anne-Lise Goujon, 2013)

The following table 3 shows a list of 104 megalithic sites in the general Gedeo area; as was documented by Roger Jaussaume in 2013. Out of the 104 sites listed by R. Jaussaume, that are located in the general area, 52 are deemed to be better preserved. Currently, only four are fenced and are under full protection of the regional government. These four megalithic sites are deemed to be most protected based on their representativeness, state of conservation, integrity, abundance of stelae and scientific data that was generated from them during subsequent research. These sites are Tuto-fela, Chelba-tutiti, and Sede-merkato and Sakaro-sodo**.** Among these megalithic sites, three of them located within the nominated area are presented below.

Table 3 Data relevant to inventoried megalithic sites in Gedeo. After R. Jaussaume, 2013

SITE NAME	Coordinates		Elevation	Stelae type		Number of stelae
	N	E		anthropo	phallic	
Sakaro Sodo	N 05° 56.828'	E 38° 15.248'	2370 m		x	41
Bule Sodu	N 05° 59.432'	E 38° 14.750'	2490 m		x	1
Siga Gebeya	N 06° 01.587'	E 38° 14.164'	2442 m		x	4
Meskel Sefer	N 06° 01.286'	E 38° 14.164'	2430 m		x	2
Hartumicha Sefer	N 06° 00.677'	E 38° 13.406'	2400 m		x	3
Daka	N 06° 01.298'	E 38° 14.667'	2400 m		x	7
Shole	N 06° 02.539'	E 38° 13.732'	2461 m		x	19
Shole village	N 06° 02.539'	E 38° 12.626'	2442 m		x	2
Soditi Watamba	N 06° 11.402'	E 38° 07.459'	2236 m	x		116
Bochesa	N 06° 11.837'	E 38° 07.293'	2203 m	x	x	100 ?
Soditi Dokochore	N 06° 12.810'	E 38° 09.945'	2141 m		x	30
Kupantu Heredi	N 06° 10.502'	E 38° 11.316'	2049 m	x	x	10
Kipa I	N 06° 10.118'	E 38° 10.782'	2060 m	x	x	20
Kipa II	N 06° 10.049'	E 38° 10.742'	2072 m		x	3
Sokitcha	N 06° 09.788'	E 38° 10.618'	2092 m	x	x	79
Bokorata	N 06° 10.305'	E 38° 12.211'	1864 m		x	16
Koke Shongo	N 06° 08.748'	E 38° 13.212'	2056 m		x	20
Uro Batala	N 06° 10.108'	E 38° 13.320'	2068 m		x	52
Sede Kanjo	N 06° 05' 36.78''	E 38° 12' 37.42''	2166 m		x	9
Goto Sodo	N 06° 05.437'	E 38° 14.329'	2280 m		x	18
Fisha Genet Mazuria	N 06° 05' 33.67''	E 38° 12' 19.92''	2220 m		x	2
Kisha					x	1
Boji	N 06° 01.201'	E 38° 10.105'	2058 m		x	129
Gino	N 06° 00' 29.50''	E 38° 12' 20.25''	2160 m		x	30
Roga Sodo	N 06° 19.134'	E 38° 22.714'	2457 m			1
Gasha	N 06° 19.564'	E 38° 22.899'	2450 m		x	2
Geldacho	N 06° 20.057'	E 38° 22.163'	2357 m		x	42
Bokicho	N 06° 16.701'	E 38° 21.836'	2098 m		x	23
Kisha	N 06° 17.989'	E 38° 21.771'	2067 m		x	1
Bulluke	N 06° 17.313'	E 38° 20.676'	2076 m		x	13
Rekito	N 06° 17.325'	E 38° 20.676'	2056 m		x	6
Ashupi	N 06° 17.495'	E 38° 20.789'	2036 m		x	50
Soditi	N 06° 20.852'	E 38° 22.761'	2481 m		x	23
Sede Mercato I	N 06° 07‘ 06.0‘‘	E 38° 10‘ 59.8‘‘	2181 m	x	x	470
Sede Mercato II	N 06° 07‘09.9‘‘	E 38° 11‘21.2‘‘	2131 m		x	11
Kara Soditi	N 06° 18‘07.3‘‘	E 38° 13‘ 06.7‘‘	1930 m		x	17
Chinchesa I & II	N 06° 17‘06.3‘‘	E 38° 14‘18.7‘‘	1991 m		x	23
Chinchesa III	N 06° 17‘06.0‘‘	E 38° 14‘14.9‘‘	1990 m		x	64
Jemjemo IV	N 06° 17‘04.7‘‘	E 38° 14‘21.6‖	2001 m		x	12
Jemjemo V	N 06° 17‘03.8‘‘	E 38° 14‘18.6‘‘	1996 m		x	8
Jemjemo VI	N 06° 17‘01.4‘‘	E 38° 14‘19.8‘‘	1988 m		x	12
Shefo Mangudo	N 05° 58‘57.8‘‘	E 38° 12‘14.6‘‘	2161 m		x	35
Golocha	N 06° 03‘ 04.2‘‘	E 38° 12‘11.5‘‘	2227 m		x	10
Chaltu I	N 06° 02‘53.5‘‘	E 38° 11‘59.9‘‘	2130 m		x	55
Chaltu II	N 06° 02‘ 44.0‘‘	E 38° 11.55‘.3‘‘	2121 m		x	137
Gutema	N 06° 03‘36.4‘‘	E 38° 12‘59.2‘‘	2305 m		x	35
Tuto Fela	N06. 19’10”	38.21’23.9’’	2300 m	x	x	320
Chelba-Tutitti			2040 m		x	1311
Soditi	N 06° 16' 56''	E 38° 11' 46''	1985 m		x	20
Moto-Kema	N 06° 16' 47''	E 38° 18' 49''	1970 m		x	48
Tutitti	N 06° 15' 43''	E 38° 11' 20''	1900 m		x	248
Boye-Chore	N 06° 12' 82''	E 38° 09' 90''	?		x	77

SITE NAME	Site dimension	Orientation	Conservation state	Number of stelae			
				intact and erected	base erected	fallen	fragments
Sakaro Sodo	61 x 11 m	N/S	good	7	15	4	16
Bule Sodu			?		1		2
Siga Gebeya			bad			4	
Meskel Sefer			bad			2	
Hartumicha Sefer			bad		1	1	1
Daka	20 x 10 m	E/W	medium			7	
Shole	25 x 8 m	N/S	medium			19	
Shole village			bad	1		1	
Soditi Watamba	30 x 25 m	N/S	good	50	50	16	
Bochesa			good				
Soditi Dokochore	40 x 15 m	N/S	medium	10		20	
Kupantu Heredi	20 m diam.		bad	1	2	1	7
Kipa I	50 m diam.		bad	1	10		10
Kipa II			bad			2	3
Sokitcha	40 x 20 m		good				
Bokorata	36 x 3 m	N/S	good	1		15	1
Koke Shongo	90 m	E/N	medium			7	15
Uro Batala	55 x 20 m	E/W	medium	1	19	20	12
Sede Kanjo	30 x 10 m	N/S	medium			9	
Goto Sodo	40 m	N/S	bad	1	11	1	5
Fisha Genet Mazuria			?	1			
Kisha			?			1	
Boji	46 x 15 m	E/W	medium	15			
Gino	23 x 5 m	E/W	bad	1	11	7	11
Roga Sodo			bad			1	
Gasha			bad		2		
Geldacho	40 x 15 m	E/W/S	medium	1		23	18
Bokicho	30 x 13 m	N/S	medium	1	5	7	10
Kisha			?	1			
Bulluke	140 m	S.W/N.E	medium	6		7	
Rekito	12 m	E/O	bad			6	
Ashupi	100 x 15 m	E/O	medium			40	10
Soditi	35 x 20 m	E/O	bad		2	7	2
Sede Mercato I	35 x 30 m	N/S	good	48	214		
Sede Mercato II			medium			10	1
Kara Soditi		N/S ?	bad	4	4	4	5
Chinchesa I & II			bad			5	18
Chinchesa III			bad	7		20	37
Jemjemo IV			good	8			4
Jemjemo V			medium			8	
Jemjemo VI			medium			12	
Shefo Mangudo			medium	3	10	7	15
Golocha			bad	1		7	2
Chaltu I			bad	1	9	15	30
Chaltu II			medium	7			
Gutema			bad			23	12
Tuto Fela	40 x 20 m	S.W/N.E	good	230			
Chelba-Tutitti	250 x 70 m	N/S	medium	25	?	39	?
Soditi			medium				
Moto-Kema	45 x 30 m	N/S	medium				
Tutitti	150 x 100 m	S.W/N.E	medium				
Boye-Chore	100 x 28 m	E/W	medium	9	?	19	?

2.a.3.a The Tuto-fela megalithic site

The Tuto-fela megalithic site is located at N 6° 17' 45" and E 38° 14' 16" (fig. 11) and sits at an altitude of 2002 masl. overlooking Lake Abaya to the west in the center of the Rift Valley. Both phallic and anthropomorphic stelae are erected on a large cairn, which is oriented north-east / south-west occupying an area of 800 m square (40 m long by 20 m wide), which makes it the largest tumuli so far known in the region (fig.13-15). The site is situated on top of a small hill. Until the first scientific excavation took place there in 1925, the site was obscured by dense vegetation. The funerary purpose of the site was first suggested by the earliest excavations of François Azaïs in 1925.

All stelae in Tuto-fela are still in erect position except five, which are lying on the ground. Only 54 of the stelae are complete, whereas the rest are broken. The Tuto-fela site includes 53 carved stelae depicting different symbols. Most of the stelae were restored and re-erected during the archaeological research program by Roger Jaussaume between 1993 and 1997.

Out of the 800-meter square area, 150 meter square was excavated; and 105 individual human remains were exhumed. Out of these, 85 are from the upper burials from the base of the cairn; whereas 19 individuals are from the especially prepared burials called ‘en chaussette’. Eighty-six of the individuals exhumed are associated with anthropomorphic stelae. Out of these, 42 skulls were able to be measured and provided important scientific data (R. Joussaume et al., 2007). The age of the deceased is distributed between 8 and above 60 years old. The majority of the age group is between 20 and 40 years.

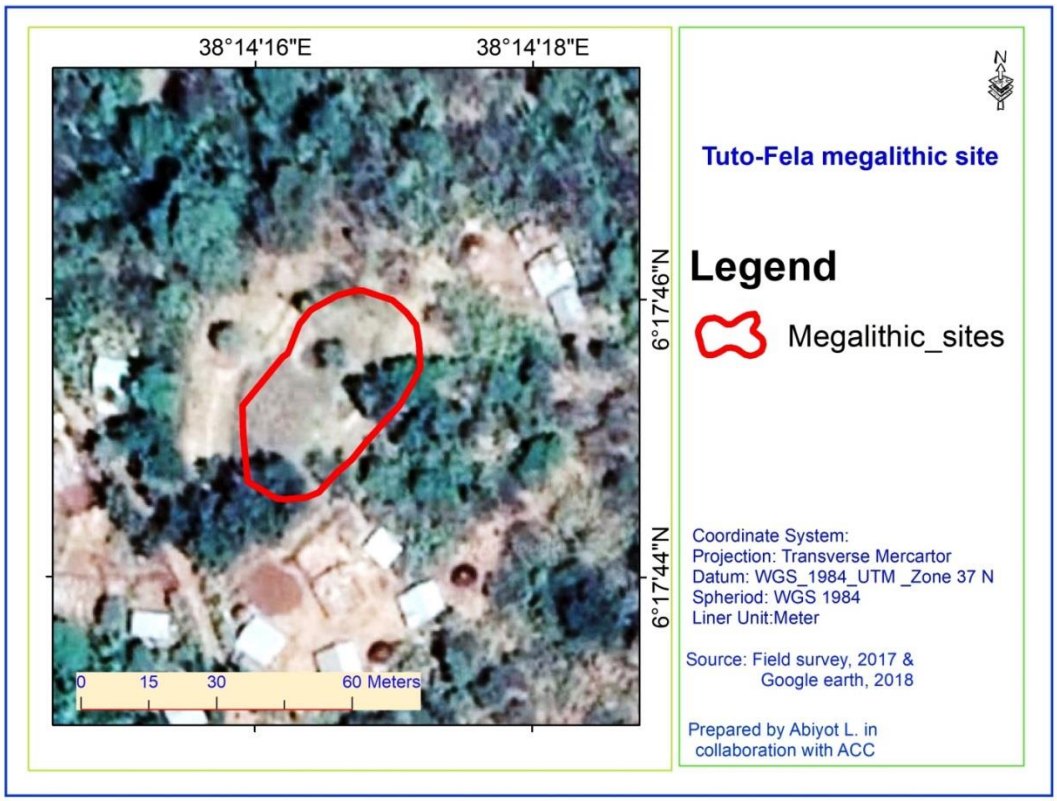

Figure 10 Tuto-Fela Megalithic site

Figure 11 Tuto-fela site: drone picture showing the tumulus and the distribution of the stel

Figure 12 Tutu-Fela megalithc site at glance

Figure 13 Tuto-Fela megalithic site at glance

Azaïs's research led to the conclusion that more than 320 (17 stelae can be added which has been taken to German during Adolf Jensen and others) anthropomorphic stelae (the count include the intact and broken ones) were erected on the site associated with a large funerary cairn below which was already a cemetery made of tombs in deep pits. The superimposed funeral customs mainly reused the phallic stelae previously erected on this same promontory and transformed them in to anthropomorphic stelae. Currently, 320 anthropomorphic stelae are found erect in the site. The size of the stelae in Tuto-fela varies between 0.70 m to 2.50 metres in height.

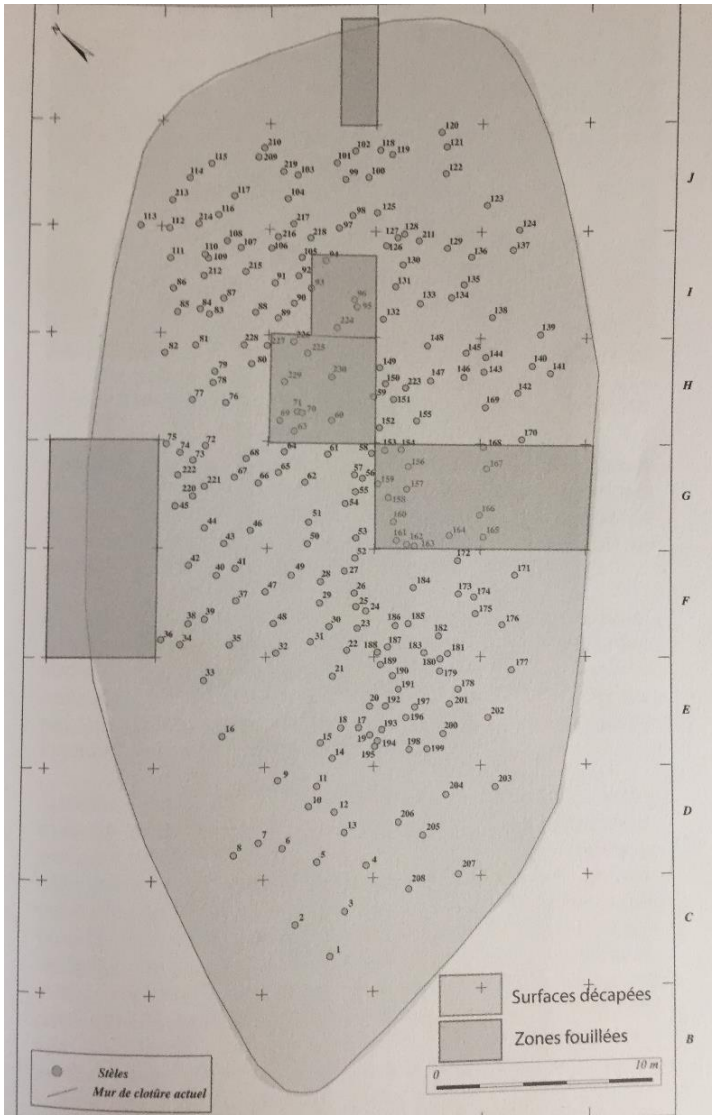

Figure 14 Plan of the Tuto-fela site (R. Jaussaume and J.-P. Cros,2017)

According to R. Jaussaume who excavated the site, the stelae of Tuto-fela are dated between the 11th. and the 15th. centuries and could be outlined as follows:

- The phallic stelae: these are generally cylindrical in cross-section with the apex incised circularly. They are shaped by pounding using stones. These are the oldest stelae which were sometimes reused without further modification, or they were reshaped and were reused.

- The stelae with crossing lines (stele a croissiollon): these group are divided in to three types. They are all associated with the upper level burials and the tumulus. Some of these stelae show simple lines. These stelae have circular or plano-convex cross section. They depict lines which were made either by curving out the shape or incised using sharp tools. Some are phallic with lines curved on them. Whereas some are phallic or non-phallic, and depict a human face and lines carved on them. These stelae clearly show anthropomorphic character. They were elaborated or transformed from stelae that were originally phallic through chiseling using metal burin.

It is also reported that phallic stelae were positioned on the ground with the tip upside down; and then carved with rayed lines. Currently, the site is protected by the Regional Culture and Tourism Bureau in collaboration with Zonal Culture, Tourism and Sport Department. It is fenced and has a permanent guard.

2.a.3.b Chelba-tutiti megalithic site

The Chelba-tutiti site is located at N6° 15' 41" and E38° 11' 48", 2500 meters above sea level (fig.16). Roger Jaussaume and his team conducted excavation in Chelba-tutitti site in 2009 and 2010. The megalithic monuments are distributed over an area of 240 m x 70 m wide (fig. 16, 17& 24). The stelae at Chelba-tutiti are distributed in over 16,800-meter square area and number 1530 monuments. The majority of the stelae are found lying on the ground; 181 are found in tilted position, out of which 114 are broken whereas 67 are intact. The tallest stelae are between 4 and 8 m high. The tallest stele, which is 8 meters high has 1.80 m diameter. The short massive stelae rarely measure more than 4-meter-high, with an average height of 3.20m, and an average diameter of 65 cm (fig.18-23).

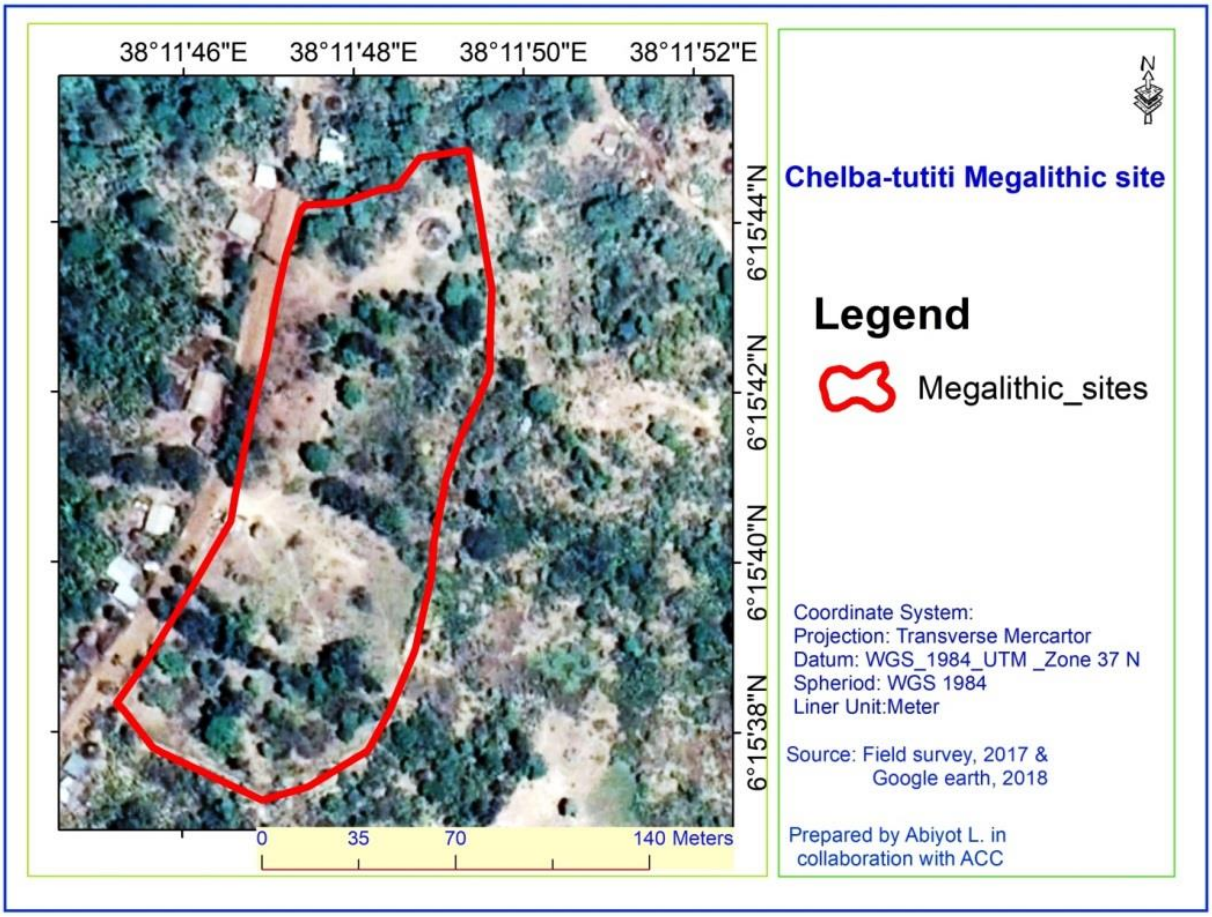

Figure 15 Map of Chalba tutui megalithic site

Figure 16 Chelba-tutiti site: drone picture showing the distribution of the stelae (Anne-Lise Goujon).

Figure 17 Chelba-tutiti megalithic site

Figure 18 Chelba-tutiti megalithic site

Figure 19 Group of stelae at Chalba -tutiti.

Figure 20 The tallest and fallen stelae at Chalba-tutiti (the scale = 3 metres)

Figure 21 Engravings on the stelae of Chelba-tutiti

Figure 22 Engravings on the stelae of Chelba-tutiti

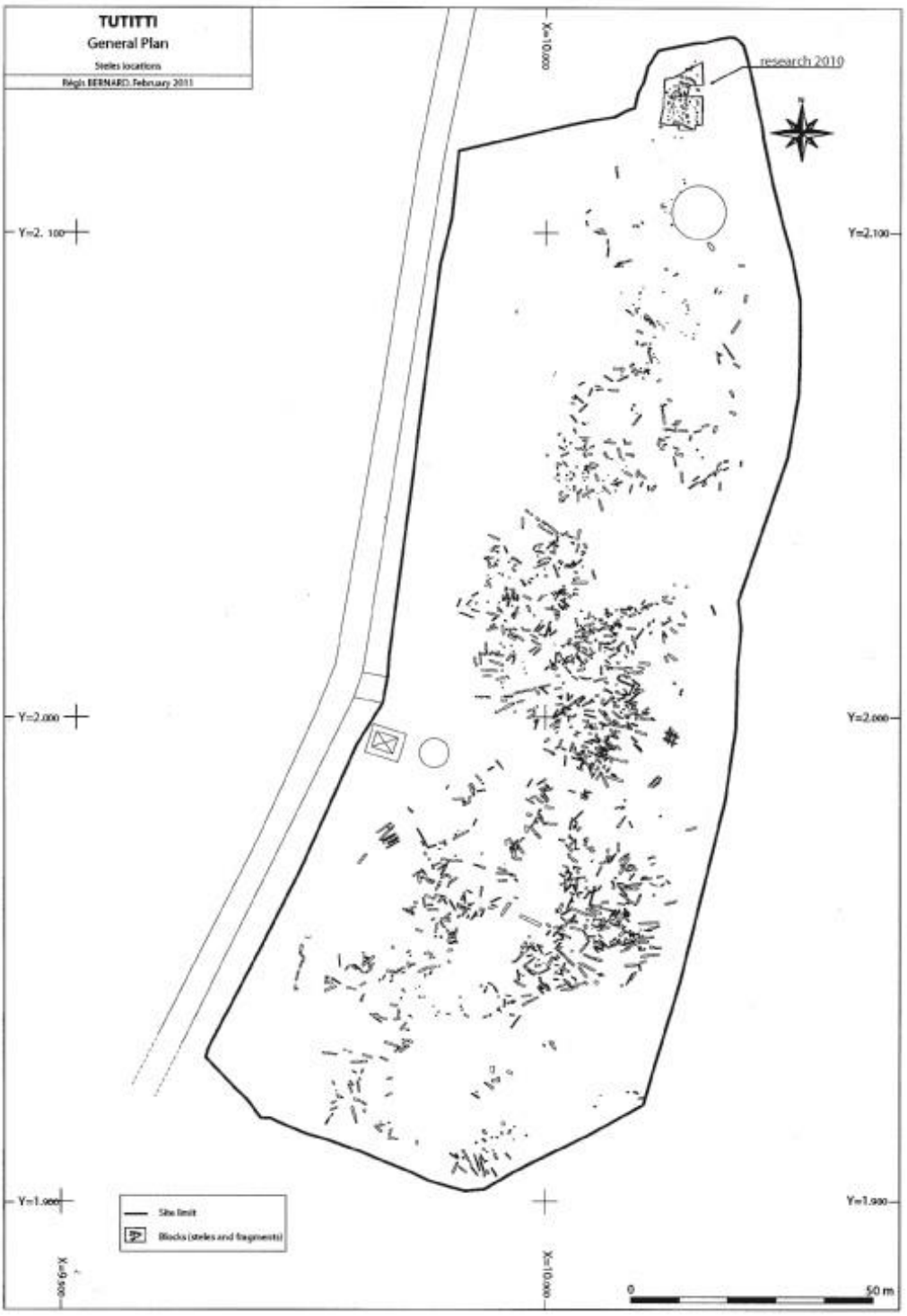

Figure 23 Plan of the Chelba-tutiti site. After Rojer Jaussaume, 2013.

There is no much decoration observed on Tutiti stelae except on very few of them.Some of the standing stelae have engravings located in their middle part. These engravings depict a disc engraved at the center with circular incisions. Engraved rays oflines radiate from the central disc to the right and the left sides (Habtamu and Abebe,2002). The combination of both these curved

and straight lines form various shapes. The rays that radiate from the central disc are 12 curved lines (Habtamu and Abebe, 2012).The stelae at Tutiti are relatively huge compared to other megalithic sites in Gedeo.

Archeological excavation was conducted at Chelba-tutitti stelae site in 2009. This excavation showed that the phallic stelae at the site are not directly associated with graves but may be linked to the tumulus situated in the northern part of the site. In 2012, an excavation conducted at this tumulus have revealed a set of little painted stelae arranged around a deep pit containing mostly lithic tools (polished axes, segments and trapezes made on obsidian rock), ceramic shards and bone remains. Unfortunately, the bones were neither identifiable nor datable. This research led to the hypothesis that these phallic stelae sites would be the result of commemorative stelae accumulation around a grave (Jaussaume, 2010, 2012, 2013, 2015, 2016).

The archaeological excavation was conducted on 116 m^2 area in 4 loci. Obsidian lithic artefacts collected from one of the pits are composed of scrappers and blades. In the northern part of the excavation, the major finding is a pit associated to a painted stela containing bone fragments, two fragments of polished axes, obsidian flakes and ceramic sherds which are different from those collected during the first survey. The stelae are dated to have been erected before the 11th century and were reused to make anthropomorphic stelae, later.

The results of the excavations at Chelba-tutitti have finally suggested that these phallic stelae are not associated with graves but might have been arranged around an initial tomb. This hypothesis suggests that these stelae might have had a commemorative function.

Currently, the site is protected by the Regional Culture and Tourism Bureau in collaboration with Zonal Administration. It is fenced and has a permanent guard.

2.a.3.c - Sede-mercato Megalithic site

Formerly known as Sodota, the Sede-mercato is found in Yerga-Chefe Woreda in *Sede Kebele* at a village called *Kibi*. It is far about 8 km south west of the town of Yerga-Cheffe. Geographically, it is located at N6^o 07’ 05’’ and E38^o 10’ 59’’ and at an altitude of 2189 meter above sea level (fig. 26). It is found at the top of a hill. The site commands the view to the

North, East and West. The position of the cairn is like that of Tuto-fela; located on a north – south oriented spur and covers 2950 meters square area.

Until 2009, the site was hidden from outside people by bushes and was considered sacred by the local community. The site maintains great integrity

At *Sede-mercato*, the stelae are erected on tumulus and the majority of them are found still standing. The stelae are placed on a cairn roughly oriented north-south (fig.28-31).

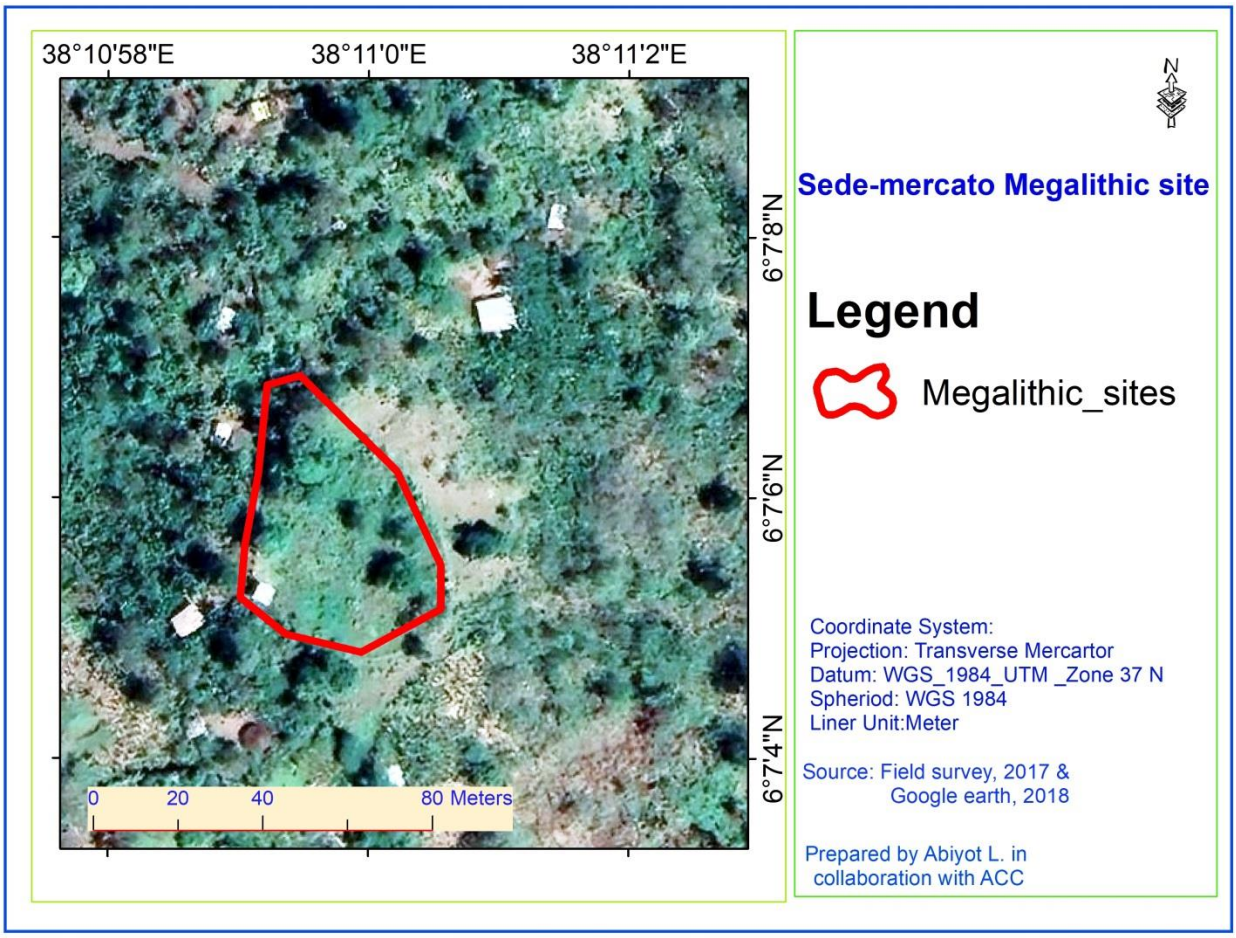

Figure 24 Map of Sede-markato megalithic site

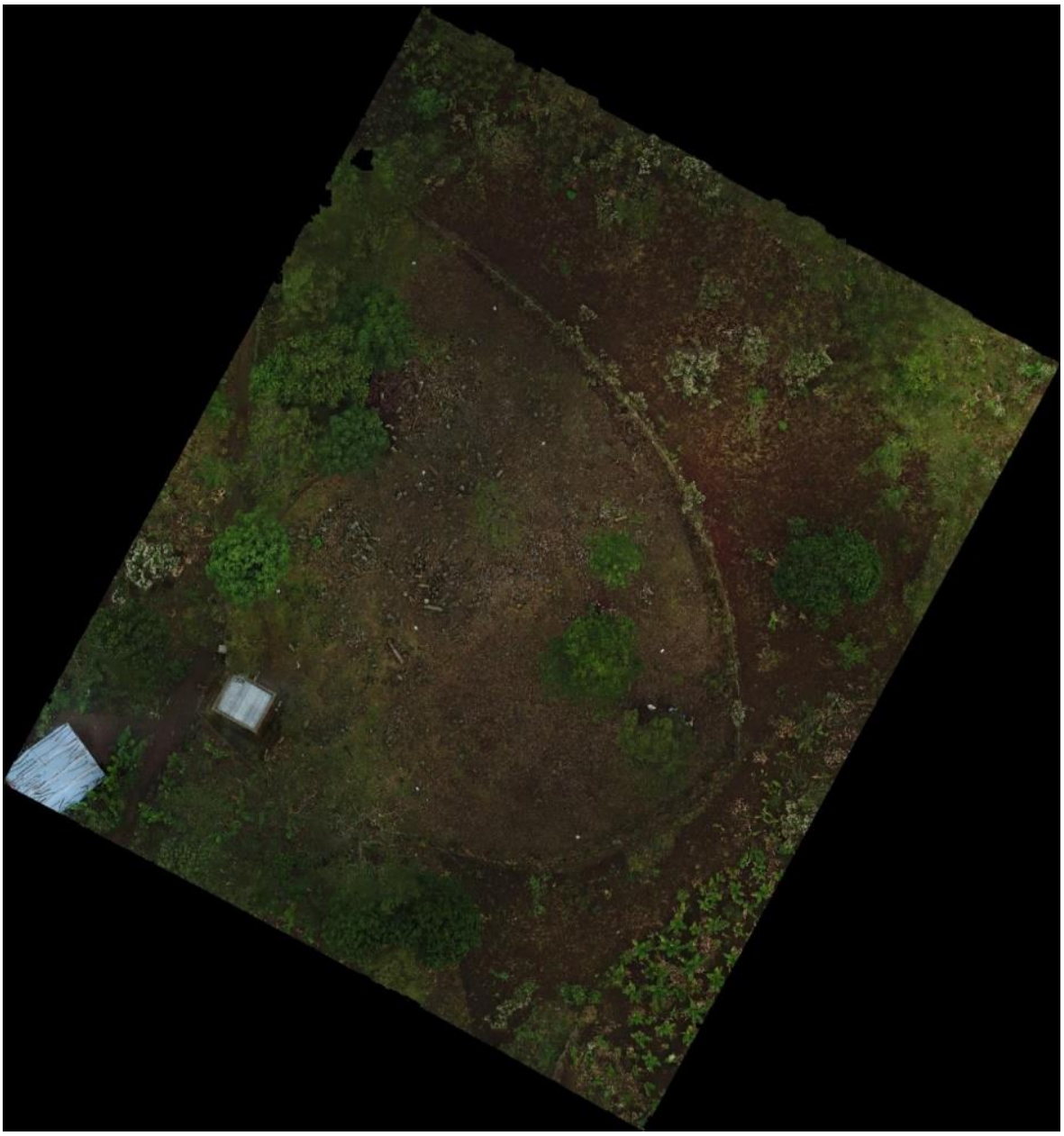

Figure 25 Sede-mercato- drone photo showing the distribution in the megalithic site

Figure 26 Stelae concentration at Sede-mercato site. (View towards NE)

Figure 27 Large and smaller Phalic stelae at Sede-Sodota (Sodo-mercato) site

Figure 28 Phalic stelae of varied styles at Sede-Sodota (Sede-mercato) site

Figure 29 View showing the concentration of the megalithic monuments at Sede-Sodota (Sede-mercato) site

Six hundred sixty three stelae are inventoried at Sede-mercato. These stelae are associated with a tumulus and the majority of them are still standing. The number of still erect stelae is 410. About 224 stelae, complete and broken, are lying on the ground. The megalithic stelae of Sede-Sodota (Sede –mercato) are various in sizes with cylindrical, flat and quadrangular shape. These stelae were worked and shaped using hammer stones and metal tools.

The cairn is about two-meter-high in its central part. The longest stele measures 2.60 meter and its circumference is 1.28 meter. On the outer and northern part of the cairn, roughly hewn monolithic stelae made from basaltic prisms is present.

Phallic stelae are numerous, some were shaped using hammer stone and others have been obviously been worked with metal tools.

The steles are carved from ignimbrite rock and basaltic prism (columnar basalt). Unlike at Tuto - fela where most of the stelae are anthropomorphic and decorated with lattice pattern whereas the phallic stelae are few in number and appear to be in reuse, different type of decorations are observed in the stelae of Sede Mercato. Some of them have geometric decoration (circular incised line on its tip part) and some have anthropomorphic decoration. Some Sede-mercatostelae decorations are analogous with that of Tuto-fela and Tutiti stelae decorations.

The site is protected and is fenced by the regional Bureau of Culture and Tourism in collaboration with Gedeo Zone Culture, Tourism and Sport Department using barbed wire and has a permanent guard.

Not far from the above site, at $06^0$07’09’’ North latitude; 038^0 11’21’’ East longitude, at an altitude of 2138 metres a.s.l., in a compound of individual farmers, in the middle of coffee and enset plants six large cylindrical phallic and anthropomorphic stelae are located. All stelae are lying on the ground. An anthropomorphic stelae depicts 6 eyes, two concentric circles, a nose, ears and an enigmatic schematic mark with disc from which emanate rays.

Figure 30 A cylindrical stela with enigmatic markings carved on it.

This site is linked with the main stelae field. It is not yet fenced. It needs more attention.

2.a.3.d Odola-galma Rock art site

Odola Glama rock art site is located in Dilla Zuria woreda in the south eastern part of the Gedeo zone, 29 km away from Dilla town. It is located along the *Anshimalcho* river. This river is sacred where ritual ceremony related to purity takes place. The site is located at N06°17’23’’ and E38°20’23’’ (fig. 33).

Based on the rock engravings representing cattle in bass relief, some archaeologists think that Odola-galma was an ancient settlement or ritual site representing settled life or the movement of pastoralists.

The rock art in Odola-galma is engraved on two panels of rocks. One of these panels measures 8.5m long and 2.5m wide and located on the right bank of the *Anshimalcho* River; whereas the other one is 3m long and 0.70m wide, located on the let bank of the same river (fig.34-36).

The panel on the left bank has 8 bovids engraved. Thesebovid engravings depict the cattle lined up in two rows. The upper row depicts 6 bovid engravings (five cows and an ox at the end of the row), whereas the lower line shows two bovids, a calf and a cow. All the bovids on the left bank are facing north. The bovids engravings are between 35 and 27 cm in length.

The engravings on right bank of the River on 8.5m long rock panel show 11 bovids facing north. right facing south. Five of these are engraved in two rows, three in the first row and two in the second row. The remaining six are not arranged in rows, but scattered.The length of these engravings varies between12cm and 46cm in length.The udder seems to be drawn behind the umbilical zone. Most of the bovids depict long thin horns. These horns form a widely open arc.

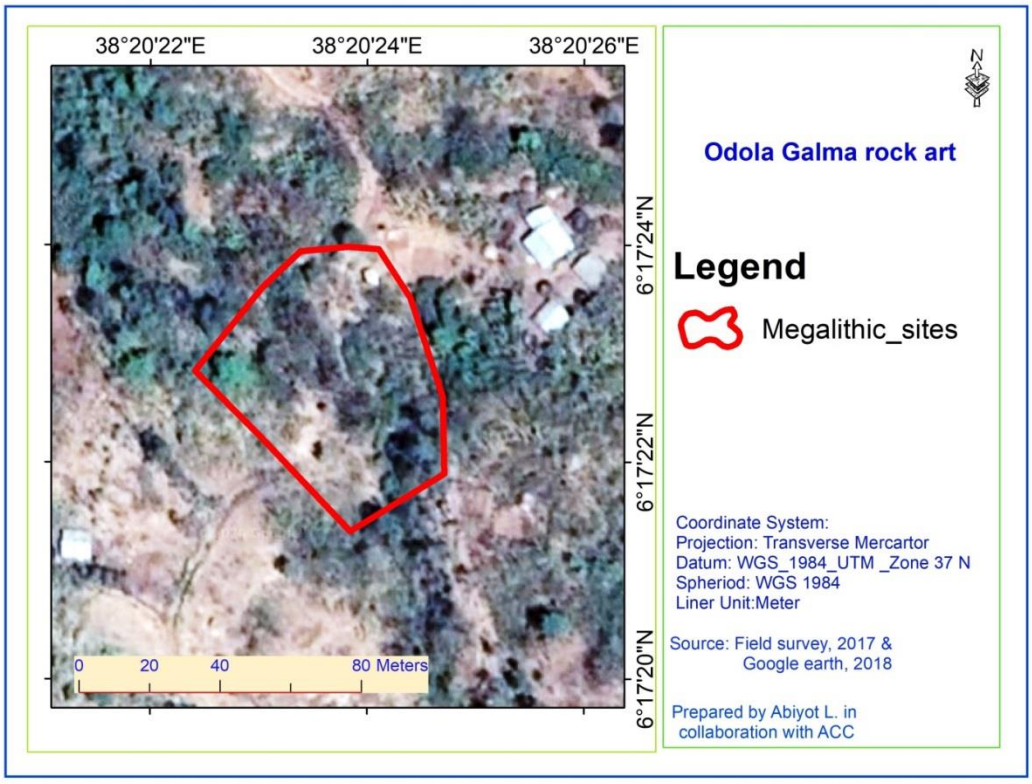

Figure 31 Map of Odola galma rock art site

Figure 32 Hampless cattle depicted on a rock panel at Odola-galma

Figure 33 Hampless cattle depicted on a rock panel at Odola-galma

Figure 34 Heard of bovids depicted following the same direction at Odola-galma

The engravings represent humpless cattle with huge udder and only one of their forefeet and one of their hind legs. The forelegs and the hind legs are pooled toone thick line. The engravings of Odola Galma represent bovid only and all of them depict humpless bovid.

The Odola Glama rock art belongs to one of the two stages of a peculiar features known as the Ethiopian Arabic style called Sure or Ganda Bitumen Harar (Cervicek1971, 1978-79,Jaussaume 1981). The stylistic features used to represent cattle in Odola-galma is estimated to date between the end of the 3rd and the 2nd millennium B.C (Cervicek1978-79,Joussaume1981).

2.a.4 -Sacred Forests

2.a.4. a Introduction*:* Sacred Forests and their cultural dimensions

The Gedeo cultural landscape testifies the co-exsistance between nature and human beings. Over 2/3rd of the landscape is evergreen throughout the year providing an impressive scenery for any observer.

Sacred forests ensure biodiversity conservation due to spiritual and cultural significance to local communities. They are often burial sites and are relatively undisturbed with often large and very old trees. Sacred forests in Southern Ethiopia act as reservoirs of biodiversity. They provide ecological, cultural, aesthetic, environmental and socioeconomic services. Gedeo has numerous sacred forests and sites. Tree species such as *Podocarpus falcatus, Cordia africana, Syzygium guineense, Erythrina brucei, and Ficus sur* are among well-known sacred tree species that are favored as meeting places which are traditionally called Songo (Negash, 2007). It is prohibited to cut these trees either from sacred forests or sacred sites without the permission of Songo leaders.

In the nominated area four scared forests are selected as having significant contribution to ecosystem management and socio-cultural values of the Gedeo people. An inventory of biodiversity in the scared forests and their socio-cultural, economic and institutional contributions are presented below.

2.a.4.b - Inventory of the woody species

A total of 107 woody species (trees and shrubs) are identified from the four sacred sites, out of these, 22 species have medicinal use, more than seven are used for ritual /cultural purpose, and others have direct socio-economic and environmental uses. There is a strong nature-human coexistence and the associated cultural knowledge, values, and customs about the plants in the community, and trees are considered as life in Gedeo Culture (Debalo *et al.*, 2017).

2.a.4.c - Wogida Amba sacred forest

Wogida amaba sacred forest is located in Yirgachefe woreda at N 6° 17' 22" & E38° 20' 23" (fig. 37). The total area of the sacred forest is 6.56 hectares. It is one of protected forest in the zone, consisting of varied plants and animal species. The forest is protected by local elders assigned for this particularly purposes.

A total of 63 woody species were identified from this sacred forest of which 21 species have medicinal importance, and 7 species cultural value used to do *Xaare* (restricting the movement of

human or livestock). Traditionally people use a symbol to restrict animals and humans from accessing into restricted agricultural fields. Such restriction is done just by planting a branch of a particular tree species on the ground. This is called *Xaare*. Seven plant species were identified to perform Xaare. These are *Syzygium guineense, Pittosporum abyssinicum, Rubus apetalus, Trichilia emetica, Teclea nobilis, Hagenia abyssinica ,* and *Asparagus africanus.*

Dominant species of this sacred forest are *Syzygium guineense, Macarena capensis, Podocarpus falcatus,* and *Pouteria adolfi-friederici*, which form the upper story of the forest. No special ritual is performed in the forest except traditional practices conducted by the community members to perform *Hulluuqa*. Huluqaa is a cultural pracitces in, which local people beseech their God to avoid natural calamites and hazards such as drought, low coffee production, and war. The cultural practices is conducted at any time in the year following an incidence or prior to its occurance. It is carried out at within the forest.This forest is one of the best protected sacred forests rich in tree diversity that are of bigger diameter. Further, unlike other sacred forests in Gedeo zone, it also harbours wild coffee varities.

With regard to distribution and diversity of fauna, a total of 23 species of birds and six species of mammals were identified from *Wogida-Amba* sacred forest.

Table 4 Species composition of birds of Wogida-Amba sacred forest with their common, scientific and local names

No.	Common name	Scientific name	Local name/Gedeo
1	African Dusky Flycatcher	*Muscicapa adusta*	
2	Abyssinian woodpecker	*Dendropicos abyssinicus*	Tuticha
3	African Dusky Flycatcher	*Muscicapa adusta*	
4	Blue-breasted Bee-eater	*Merops oreobates*	
5	Blue-spotted wood dove	*Turtur afer*	
6	Brown-rumped seedeater	*Crithagra tristriatus*	Dilisae
7	Common bulbul	*Pycnonotus barbatus*	Unjelo
8	Common chiffchaff	*Phylloscopus collybita*	
9	Dwarf Raven (Somali Crow)	*Corvus edithae*	Kurem

10	Ethiopian oriole	*Oriolus monacha*	Sholocho
11	Hooded vulture	*Necrosyrtes monachus*	Korande
12	Lemon dove	*Columba larvata*	
13	MountainTrush	*Turdus abyssinicus*	Sholocho
14	Pin-tailed whydah	*Vidua macroura*	
15	Red-chested cuckoo	*Cuculus solitaries*	Bekeko
16	Rüppell's robin-chat	*Cossypha semirufa*	Qiixxiyyo
17	Silvery Cheeked hornbill	*Bycanistes brevis*	Harraqensa
18	Streaky seedeater	*Crithagra striolatus*	
19	Sun bird?		
20	Tawny Eagle	*Aquila rapax*	Jolle
21	Thick-billed raven	*Corvus crassirostris*	
22	Tropical Boubou	*Laniarius aethiopicus*	
23	White-cheeked turaco	*Tauraco leucotis*	Waraye

Table 5 Fauna found in Wogida-Amba

No.	Common name	Scintific name	Local name/Gedeo	Method
1	Black and white colobus	*Colobus guereza*	Wenicho	Direct
2	Black-backed jackal	*Canis mesomelas*	Yedela/Ganjure	Indirect
3	Crested porcupine	*Hystrix cristata*	Utamo	Indirect
4	Leopard	*Panthera pardus*	Daguncho	Indirect
5	Spotted hyena	*Crocuta crocuta*	Amboma	Indirect
6	Vervet monkey	*Chlorocebus pygerythrus*	Kemelicho	Indirect

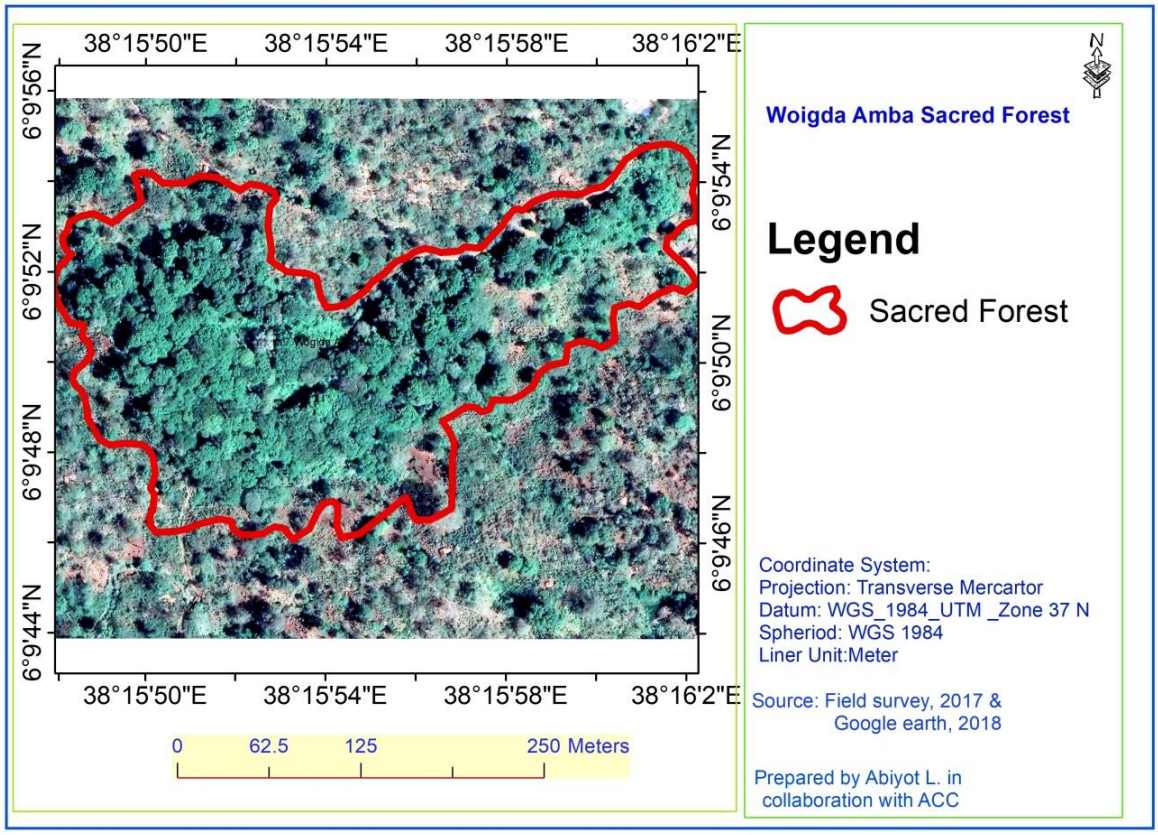

Figure 35 Map pf Wogida amba scared forest

2.a.4.d - Bolocho sacred forest

Bolocho sacred forest is the largest sacred forest in Gedeo covering a total area of 18.51 hectares. It is located in Dilla Zurya woreda at N6° 22' 20" & E38° 21' 55" (fig.38). The forest is located in small hilly landscape surrounded by very steep topography in its north western, western and south western margins. It consists of diverse species of plants and animals, which have ecological, economic and cultural significance.

A total of 69 different woody species of trees were identified, of which 22 species have medicinal importance, and 7 have cultural value used to perform some cultural practices. The seven culturally used plants include *Syzygium guineense, Rubus apetalus, Teclea nobilis, Hagenia abyssinica, Olinia rochetiana, Brucea antidysenterica, and Dracaena fragrans*. Among these,*Syzygium guineense* and *Macaranga capensis* are dominant. The plant community of the

forest belongs to Moist Afromontane plant species of Ethiopia. Others such as *Podocarpus falcatus*, and *Pouteria adolfi-friederici* are common in the forest. The lower side of the forest is dominanted by bigger trees but highly affected by human activity. However, as one moves upward the dbh (diameter at breast height) gets small, and there is a high regeneration of species such as *Syzygium guineense* and *Macaranga capensis* with insignificant human impact.

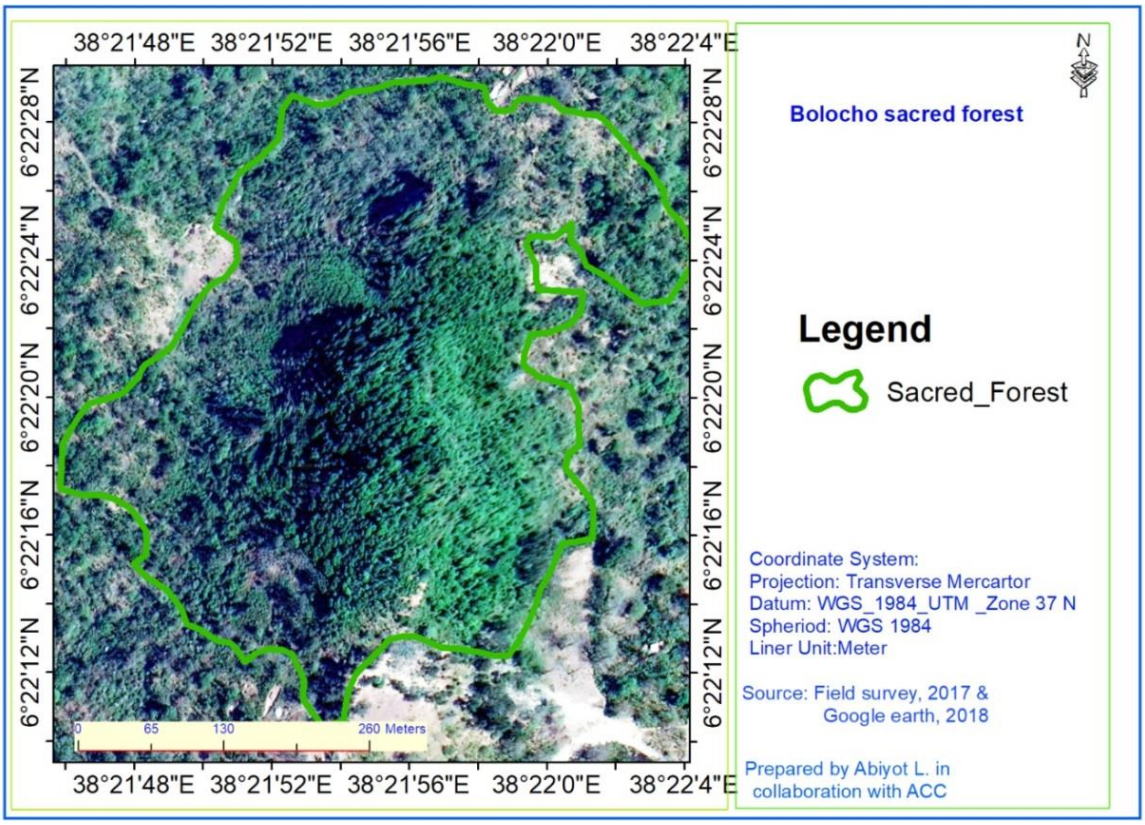

Figure 36 Bolocho Sacred forest

Figure 37 Partial view of Bolocho Sacred forest

Bolocho has also relatively rich animal diversity. A total of 19 species of birds and six species of mammals were identified from Bolocho sacred forest as shown below.

Table 6 Species composition of birds of Bolocho sacred forest with their common, scientific and local names

No.	Common name	Scientific name	Local name/Gedeo
1	African Dusky Flycatcher	*Muscicapa adusta*	
2	Blue-breasted Bee-eater	*Merops oreobates*	
3	Brown-rumped seedeater	*Crithagra tristriatus*	Dilisae
4	Common bulbul	*Pycnonotus barbatus*	Unjelo
5	Common chiffchaff	*Phylloscopus collybita*	
6	Dwarf Raven (Somali Crow)	*Corvus edithae*	Kurem
7	Ethiopian oriole	*Oriolus monacha*	Sholocho
8	Hooded vulture	*Necrosyrtes monachus*	Korande
9	MountainTrush	*Turdus abyssinicus*	Sholocho
10	Red-chested cuckoo	*Cuculus solitarius*	Bekeko
11	Rüppell's robin-chat	*Cossypha semirufa*	Kiteyo
12	Silvery Cheeked hornbill	*Bycanistes brevis*	Harakensa
13	Sunbird		
14	Thick-billed raven	*Corvus crassirostris*	
15	Tropical Boubou	*Laniarius aethiopicus*	
16	White-cheeked turaco	*Tauraco leucotis*	Waraye
17	Abyssinian woodpecker	*Dendropicos abyssinicus*	Titiyo
18	Red-winged starling	*Onychognathus morio*	
19	Tawny Eagle	*Aquila rapax*	Jole

Table 7 Species composition of mammals in Bolocho sacred forest with their common, scientific and local names

No.	Common name	Scintific name	Local name/Gedeo
1	Black and white colobus	*Colobus guereza*	Wenicho
2	Crested porcupine	*Hystrix cristata*	Utamo
3	Leopard	*Panthera pardus*	Daguncho
4	Mountain reedbuck	*Redunca fulvorufula*	??
5	Spotted hyena	*Crocuta crocuta*	Amboma
6	Vervet monkey	*Chlorocebus pygerythrus*	Kemelicho

2.a.4.e - Birbirota sacred forest

Birbirota scared forest is located at the steep slope covering a total area of 0.97 hectares. It is located at N6° 21' 48" & E38° 19' 28" (fig.40). A total of 28 different woody species of trees were identified. Birbirota hosts highly endangered indigenous Afromontane tree species called *Podocapus falcatus is dominant in the forest*,.. There are very big and aged Podocarpus trees. No one cuts these trees. Even fallen aged/dead tree is not allowed to be collected by the local people. This sacred forest forms a seed source and also acts as live green corridor for biological diversity.

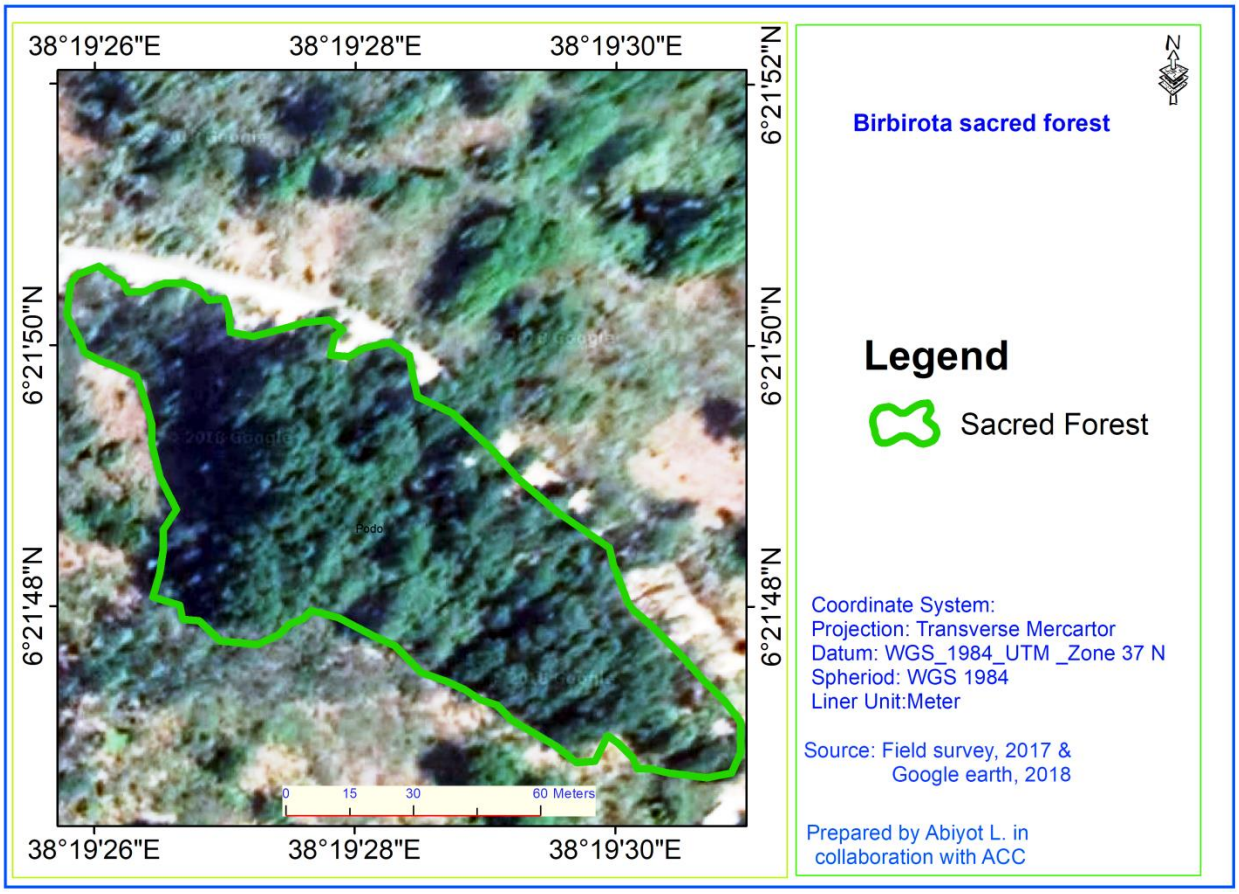

Figure 38 Map of Birbirota sacred forest

Figure 39 Inside Birbirota sacred forest trees are not disturbed, the dead *Podocarpus falcatus*lived for many years; remained untouched

2.a.4 f Basura sacred forest and grave yard

This sacred grave yard covers an area of approximately 1.29 hectares. It is located at N6° 19' 5" & E38° 21' 43" (fig. 42). This tree species is considered as sacred. The trees are also considered as representatives of *Songo* where God is requested/ consulted upon an unanticipated event such as war, and also elders gather under them to resolve disputes and crimes. The forest consists of 19 bird species.

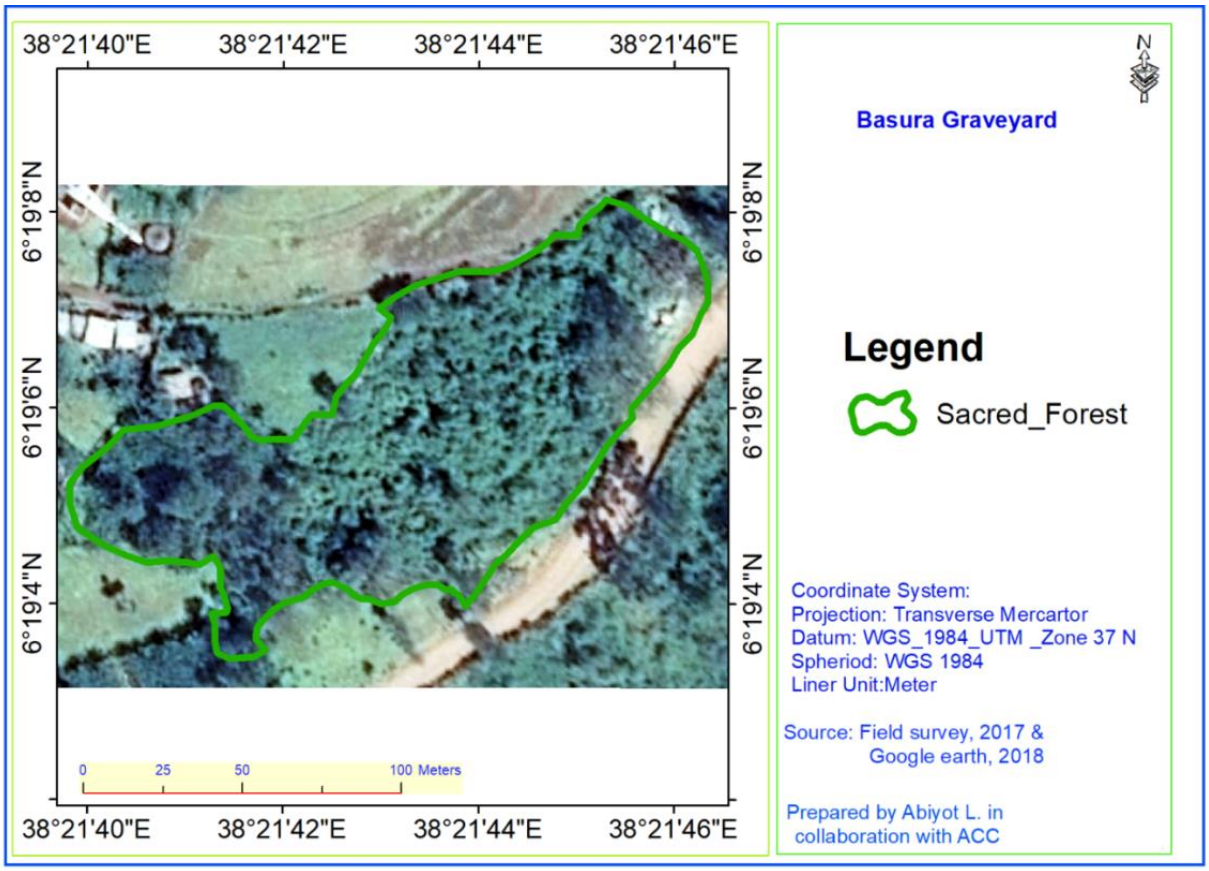

Figure 40 Map of Basura sacred forest

Figure 41 Partial view of Basura sacred forest

Table 8 Species composition of birds of Basura sacred forest with their common, scientific and local names

No.	Common name	Scintific name	Local name/Gedeo
1	African Dusky Flycatcher	*Muscicapa adusta*	
2	Blue-spotted wood dove	*Turtur afer*	
3	Brown-rumped seedeater	*Crithagra tristriatus*	Dilisae
4	Common bulbul	*Pycnonotus barbatus*	Unjelo
5	Lemon dove	*Columba larvata*	
6	Pin-tailed whydah	*Vidua macroura*	
7	Rüppell's robin-chat	*Cossypha semirufa*	Kiteyo
8	Scaly francolin	*Pternistis squamatus*	
9	Speckled Mousebird	*Colinus striatus*	
10	Streaky seedeater	*Crithagra striolatus*	
11	Tawny Eagle	*Aquila rapax*	Jolle
12	Tropical Boubou	*Laniarius aethiopicus*	
13	White-cheeked turaco	*Tauraco leucotis*	Waraye
14	Sunbirds	Blackish?	
15	Common chiffchaff	*Phylloscopus collybita*	
16	Red-chested cuckoo	*Cuculus solitarius*	Bekeko
17	Rüppell's weaver	*Ploceus galbula*	
18	Collared Sunbird	*Hedydipna collaris*	
19	Seedeater		

2.a.5 Rituals related to sacred forests and megalithic sites

Oral tradition and some studies (Legesse, 2012; Negash, 2013; Kippie, 2002) show that the indigenous knowledge of the Gedeo has strong interconnection with their cultural practices including norms, belief, rituals and ethics. In the past, practicing local knowledge was not only a marker of manhood/womanhood or maturity but also an important element in achieving food security by tackling resource depletion. Among this community, landscape (forest, mountain,

valleys, rivers and plains) have symbolic meanings. There is a common belief among the Gedeo, by maintaining harmony with their environment would please their Mageno (God) who they believe would reciprocate with fertility, abundance, peace and health. They believe that if they destroy the environment, God would inflict harm by holding back rain, and causing diseases and famine upon people and animals. Megalithic sites, too, have been considered as sacred sites and local tradition/or knowledge has been playing a key role in preserving these patrimonies for several centuries. However, recent trends among the Gedeo show that there is a dramatic generational gap; and shift in value system and change in economic engagements that reflect departure from the culturally embedded local knowledge, belief, norms and environmental ethics of regulating human-nature relationship.

2.b History and Development

The origin of the Gedeo could be constructed based on myth, archeology and linguistics (Taddess, 2002). According to written sources, the Gedeo is classficed among the cushtic speaking people of east Africa (Getachew 2015; Mulatu 2005; Duff Andrew et al 2018: 2,3). According to some scholars, the Gedeo are classified among aboriginal peoples of Africa that practiced the early agricultural systems (Mesele 2013; McClellan 1988;Tadesse 2002).

Donald N Levine (1974) classified the ethnic groups of the 'Greater Ethiopia' into nine categories. He categorized the Gede'o (Darassa) under lacustrine group with the Sidamo people. According to his classification of the lacustrine group, in addition to the Sidamo and Gedeo, he further listed the Alaba, Burji, Hadiya, Kambata, Qabena and Timbaro describing their respective location, language, religion and production systems.

In addition to Donald N. Levine, other scholars also classified the origin of people based on ancient and modern vocabularies. Linguistically, the Gede'o traces its origin with Eastern Cushitic language family, which is one of the oldest Afro-Asiatic language families (Lawisso 2018; Lapiso 1993; Bebder 1976; Tadesse 2002). Language of the Gede'o is called *Gede'uffa* (Gede'o language). This language shares similar vocabularies with the Sidama, Hadiyya, Kambata, Alaba, Burji, and Tambaro. It had been suggested that *Gede'uffa* has 63%, 58% and

54% vocabulary similarity with Sidama, Kambata and Tambaro languages respectively (Fleming and Bender, 1976).

Table 9 Ethnic groups classified as Sidamo Group

No.	Ethnic Group	Language	Language Family	Agricultural Production
1	Alaba	Alaba	Eastern Cushitic	Hoe, ensete, grain
2	Burji (Bembela)	Burji	Eastern Cushitic	Hoe, ensete, grain
3	Gedeo(Darassa)	Gede'uffa/Derassa	Eastern Cushitic	Hoe, ensete, grain
4	Hadiyya	Hadiyya	Eastern Cushitic	Hoe, ensete, grain
5	Kembata	Kembata	Eastern Cushitic	Hoe, ensete, grain
6	Qabenna	Qabenna	Eastern Cushitic	Hoe, ensete, grain
7	Sidamo(Sidama)	Sidamo	Eastern Cushitic	Hoe, ensete, grain
8	Timbaro	Timbaro	Eastern Cushitic	Hoe, ensete, grain

Source: Modified after Donald N. Levine, 1974

Fleming and Bender (1976) attested the existence of 20% vocabulary similarity between highland and lowland Eastern Cushitic languages. In contrast, the Gede'o and Burji (neighboring Oromo people) languages borrowed a great deal of vocabularies from Oromo language, which is categorized as Eastern Lowland Cushitic language (Getachew, 2015: 63).

It has been suggested that the Gedeo origin dates back to the end of 5th millennium B.C (Wolassa, 2018). In his recent study, Dagne Shibiru (2013) narrated the following based on oral tradition:

''… the Gedeo came from the north direction. They came to their present areas in search of fertile soil for their crop cultivation and grazing land for their livestock. The Gedeo crossing the sea [presumably the red sea], through Eritrea, moved southwestward to Bahr Dar (Gojam) then to Sidamo land; the Gedeo keep on going ahead through Negele, Wadera, Adola, Me'e Boko, Harso, Gedeb, Likitu, Repe, Haro-Wolabo, Bericha, Kolisha, Kara, and finally they reached Agemsa. After elapsing some time there, they came dawn to Wochema from which the various clan members of Gedeo dispersed to different Gedeo localities [subbo (highland); dhibata (midland); and riqata (lowland)] where they are living now…" (Dagne 2013, 114).

This is in-line with the Cushitic origin of the Gedeo proposed by various scholars such as Dunjee-Houston 1926; Shillington 2005; and Wolassa 2018.

Other scholars suggest that the Gedeo lived with other Cushitic peoples of North Ethiopia and Southern Sudan since 10,000 years ago (Wolassa 2018; Dagne 2013, Donald 1976). It is suggested that they lived in northern Eritrea, Tigre, Lake Tana areas. It is further suggested that they eventually moved in Southerly direction towards central Ethiopia and gradually to Ziqwala area (Ziway area); And then moved through two routes. Part of the group is said to have moved to Bale area of southeastern Ethiopia, while the other to the lakes region to Butajira-Hosana-Wolayta, Gamo via Lake Abaya, then further to Sagani, Sagago in their way to south and southeast. It is further suggested that they also lived in Konso area further south, and later moved through Ya'a-Ballo- Haridida- Hageremariam- Harsu-Hawata-Boko- Sriiri(Mulatu 2005; Tadesse et al 2008; Dagne 2013, McClellan 1988) to reach their present home in Gedeo.

Ulrich Braukamper (1976) suggested that the origin of the Gedeo can be traced with the origin of the Oromo. According to him,

"… the homeland of the Oromo could…be identified as the highland area between the Darassa[Gedeo] country and the upper Dawa in the west and the Genale valley in the east…In the north notably, in the region of the Awata head-water, the Oromo were bordered by the presumably rather densely populated domiciles of peoples of Hadiya- Sidama stock who prevented them from taking a direct northward route of expansion and induced them to turn to north-east via Dallo…" (Ulrich Braukamper cited in Mohammad Hassen, 1983: 143).

Mohammad Hassen (1983) and other historians have argued that the Gedeo are related both with the Oromo and Sidama groups (Lawisso 2018; Assebe 2007; McClellan 1988; Hassen, 1983; Braukamper 1976; Betena 1973).

Based on the history of agroforestry, some scholars suggest that the start of agroforestry system shares similarity with agricultural systems in Ethiopia (Abiyot 2014; Mesele 2013; Tadesse, 2002). Mesele (2013) reported that the beginning of agroforestry in Ethiopia and the Gedeo goes as far back as 7000 years ago.

More importantly, Ehret (1979) and Blench (1999) argued that the origin of the Gedeo and its agricultural (cultivation of millet, sorghum, teff, enset, barley and wheat) and animal husbandry

practices (tending sheep/ goat, cattle and donkey) are part of the culture of the ancient Cushitic peoples of the area.

On the other hand, the Gedeo myth of origin mentions *Darasso* as the founding father of the Gedeo. It is said that Darasso married two wives. From the senior wife he got four children. These are *Darashsha, Doobbe'a, Gorgorsha* and *Hanuma*. His second wife had said to have given birth to three children and named *Henba'a, Logoda* and *Bakarro*. The seven clans of the Gedeo *Doobbe'a*, *Darashsha, Gorgorsha, Hanuma, Henbba'a Logoda,* and *Bakarro* are named after the seven children from both wives of Darasso. As oral tradition has it, the founding father of the Gedeo, Darasso was the elder brother both to the (Uraagoo) /Gujo and Boran, the founding fathers of the Guji Oromo and the Borana Oromo, respectively who are currently neighboring ethnic groups for the Gedeo.

Regarding archaeological research in the Gedeo area, the first attempt was made during the early part of the 20th century. At the beginning of the century, it was reported that the stelae in Gedeo numbered to be around 10,000 (Azais F. et Chambard R., 1931). It was also noted that some of these were fallen due to natural weathering, pushed down by animals, and earth movement. Until recently, people were practicing ritual ceremonies related with the remembrance of ancestral spirits at the stelae sites, and greatly respected the presence of these stelae.

Since the 1950's the megalithic monuments begun to be negatively impacted by the influx of people from outside the Gedeo. As a result, these megaliths have progressively lost their special place in the society. Then, due to the slow transformation of the local belief system such as the spread of Christian faith, and at the same time because of an increased need for stone as raw material for buildings and infrastructures, the steleae were begun to be seriously impacted.

The first European researchers who studied the megalithic site of Tuto-fela were from Germany. This team arrived in Gedeo on the 5 December 1934. A detailed description of the megalithic sites discovered by the team in southern Ethiopia is recorded by Helmut Wohlenberg in "*Im Lande des Gada"*, published in 1936. The story of this exploration is accompanied by a route

map in which appeared about 20 sites visited by the team, among which Tuto-fela is the one (Jensen, 1936 : 99, 448 - 483).

According to the German team of archaeologists composed of Jensen, Wohlenberg and Bayrle, who worked in Tuto-fela in 1935, annual sacrificial ceremonies/rituals were conducted at the ancient "necropole" until mid-1930s (R. Joussaume et al., 2007). Seventeen anthropomorphic stelae were taken by the team of Probenius to the Frankfort museum, Germany in 1935 and were displayed in the Ethnographic museum's garden. This adds up the number of the Tuto-fela stelae to 337 (currently there are 230 stelae at the site). More Excavations were conducted at Tuto-fela anthropomorphic stelae site by a team led by Roger Joussaume for five consecutive years, between 1993 and 2000. Result of the research from this site is published (R. Joussaume et al. 2007). Additional research in the area is also conducted by A. Duff (Duff A. et al. 2018).

According to R. Joussaume and colleagues, the stelae in Gedeo fall in to engraved, phallic and anthropomorphic categories (Joussaume, 2012). His excavations of the Tuto-fella site was conducted on a major tumulus that covers 850 meters square area (R. Joussaume , 2007) and revealed burials of human remains, ceramics and lithic materials dated using radio-carbon method and gave an early date of ~ 850 years BP. Joussaume has noted that the site was reused through time and burials were superposed on each other. He further noted that two major necropolis which were not related to each other were found superposed on each other.

This necropolis has stelae erected on top of it. Burials contain single or multiple individuals who might have been buried together at a time. Earlier stelae were also reused. Individual burials are dug in the form of "*en-chaussette*" (cylindrical and then dug to the side taking the form of socks) to accommodate the corpse. Then a stelae which is phalic in form is put on top of the burial. No children remains were found in the tumulus of Tuto fela (Jaussaume, 2012). Joussaume has also excavated the rich megalithic site of Chelba-Tutiti. His earlier excavation there did not reveal any burial initially until much latter, in 2018.

Andrew Duff and colleagues have conducted an excavation in Chelba-Tutiti in 2015 and 2016 (Duff et al. 2018) and found burial under some stelae where there are between 1300 and 1700 individual stelae were documented by A. Debebe (Abiyot, 2006) and R. Jaussaume (Jaussaume, 2012). Duff and colleagues have recovered abundant obsidian artifacts and ceramics, some fauna and charcoal remains. Comparative works with regional sites showed that some obsidian were imported from sites in Kenya further south and in the Turkana area; suggesting some kind of trade links or affinities between people living more than 300 Kms away (Duff et al. 2018). This suggestion awaits further research to be conclusive. According to Duff and colleagues (Duff et al. 2018) Tuto-fela's radio carbon date report coincides with that of R. Joussoume's (Joussaume 2012) 850 $\pm$ 40 Y BP; Chelba –tutiti Unit 1 dated to 99 $\pm$ 28 Y BP (Calibrated 1-sigma range CE of 1695–1726, 1813–1828, 1843–1852, 1868–1984, 1904–1918). The upper part gave modern age dates (Duff et al. 2018); Attesting possible continuity of site use.

Based on the findings of the excavations in the area, it can be said that the megalithic tradition was a continuation of the Neolithic civilization in Africa (Tsegaye, 2018). It is found that the some sites like Tuto fela, Sade-Mercato, Sodditte, had been a burial places.

In conclusion, archaeological work in Gedeo is far from exhaustive and more work is expected to be done in the megalithic sites. The socio-economy of the earliest megalithic people is suggested by A. Duff (Duff et al. 1918) to be pastoralism which was practiced there around the turn of the Christian era. This is in agreement with the rock art representations of hampless cattle depicted on the walls of the Sheppe site, located just 10 Kms to the NE of Dilla (currently in Oromiya) and the Odola-galma site which is located within the nominated area. Bos taurus or taurine (Humples) cattle are supposed to have existed in the region before the introduction of humped cattle, zebu (*Zebu indicus*) from Asia/Indian area around the beginning of the Christian era.

It looks like the Gedeo land was inhabited for a very long time consequently by pastoralists and agriculturalists. The megalithic seems to have been practiced for a long time by the successive socio economies. The Cultural landscape which is shaped by a long history of nature – human interrelationship will need to be further elucidated by more archaeological research.

3. Justification for Inscription

3.1.a Brief synthesis

The Gedeo Cultural Landscape occupies a physio-geographic location on the eastern flank of the southern part of the Main Ethiopian rift system. Like most of the South western part of Ethiopia, broken by volcanism and rifting activities, it exibits a peculiar environment where root crops, enset and coffee prosper under the shade of trees. Ancient societies have developed here a permaculture system highly adapted to the climatic and topographic constraints. The whole physio-geographic area of Gedeo stands out from the surrounding areas on satellite imagery and is clearly visible as it attracts the visitor by the virtue of the beautiful rolling landscape and the peculiarity of the vegetation cover between the rift floor in the eastern part of the region, varying altitude (between 1307 m and 3072 meters asl) within less than a transect of 20 Kms from West to East. The landscape has rich volcanic soil, although not very thick.

In this naturally rich landscape, the Gedeo people have adopted an agricultural system, which is based on the cultivation of Enset (*enset ventricosum*) and coffee. The people have adapted these crops according to the suitability of the elevation and climate. Enset forms the basis of the Gedeo staple. In areas that are located in central and south Ethiopia, Enset is used by more than 20,000,000 people as staple food. In most parts of southern Ethiopia, the crop is cultivated as house garden; whereas in Gedeo, it is cultivated as crop out in the field, occupying a good size of land. The Gedeo cultivate varieties of Enset. Together with enset, they also cultivate coffee, taking consideration of the altitude. Thus, in the 20 Kms distance, from the lowland to the highland, the Gedeo cultivate, using the indigenous knowledge of crop adaptability to altitudes and soil types. In the mostly rugged lands, they cultivate enset irrespective of the degree of slope. In some areas enset and coffee are cultivated at slope gradient greater than 70% (fig. 6).

Coffee and enset are cultivated together in the same fields in the Gedeo following the landscape contour. The coffee variety that is cultivated here (in Yirgacheffe) is now a world brand for its high quality and preferred by the global coffee chain, the “Star Bucks”. Water retained in the sheath of enset plantation is released slowly, during the dry season, to be used by the coffee plant

which also benefits from the shade of the same. This interdependency between the two is attained through generations of observations and practices.

The Gedeo also plant, keep and entertain indigenous trees. These trees provide shade for coffee plantations; the shade is badly needed to keep the coffee trees from direct sun heat. Thus, the Gedeo land shows an adaptation in rugged lands through conservation of indigenous tree types and simultaneous interdependent crop types, one for food (enset) and the other, coffee, for market and consumption. Due to the agricultural and soil conservation system they practice, the Gedeo area has never gone through drought and food shortage emanating from climatic hazards. The whole landscape captivates any traveler in the area with its scenic beauty, which resulted from its geological setting, rolling landscape covered with enset, coffee and indigenous trees.

In addition to the unique agroforestry practices, the Gedo region is also reputed for the thousands of megalithic monuments that dotted the landscape. Since the beginning of the last century, several researchers have visited the area and have witnessed the great abundance and variety of megalithic monuments that dotted the whole of the Gedeo land. Inventory works done by archaeologists and the culture sector government offices have so far inventoried 47 sites with megalithic monuments. Some were excavated and have demonstrated that the stelae were associated with tumulus and burials, whereas some are not associated with burials. These monuments are mainly phallic and anthropomorphic types. Some show markings/ engravings on them depicting different motifs, which include discs, spirals, concentric circles, geometrics, vegiti-forms and zoo-forms. The stelae fields are located following major land marks, at higher grounds. Such an association of an abundant and various types of stelae forms dating to the Neolithic period in the region to a very well established agricultural system which is based on nature - human interrelation is not recorded anywhere; at least not known through publication.

The archaeological wealth of the geographic region also shows that Neolithic herders were active in the landscape. Petroglyphic art in ancient caves and ritual sites show the occupation of the region before the advent of the agriculturalists. Two very distinct and unique sites, Shappe (located10 kms aways from the nominated property, in the Oromia regional state) and Odda-Galma are witness of the passage of pastoralists herding cattle types that disappeared from the

local archaeological records before the turn of this era. The artistic style and their execution make these sites unique.

The Gedeo land is also marked by fragmented but culturally important sacred forest systems that conspicuously contain the cult sites and indigenous plant species. The *Songo*, the generations long traditional management system run by Gedeo elders oversee the protection of these forests; and their protection, preservation and use system, which made Gedeo enable to preserve its nature. Together with the *Songo*, the local management system, which is run by local Gedeo scholars, ensures the protection of the property; together with the regional and national institutions concerned with this task.

The Gedeo Cultural Landscape with its agroforestry system based on indigenous crops associated to a great number of megalithic and cave art sites concentrated in a small area shows the continuously practiced traditional agricultural knowhow, resilience of the people and their adaptive strategy throughout the last millennia in this geographic area.

The Gedeo Cultural Landscape stands out as a unique property of special indigenous agroforestry knowledge and adaptation, witnessed on the ground and from space imagery; and its archaeological attributes qualify it to transcend local and national boundaries.

3.1.b Criteria under which inscription is proposed (and justification for inscription under these criteria)

The following two Criteria are proposed and best fit the Gedeo Cultural landscape for the inscription:

Criteria III. '…*bear a unique or at least exceptional testimony to a cultural tradition or to a civilization, which is living or which has disappeared'*

The Gedeo people have an indigenous agricultural tradition adapted locally to the landscape they are living in. Using the locally evolved system, they cultivate enset (*enset ventricosum*), a food crop which resembles a banana tree, but with edible steam and corm. They cultivate enset

together with coffee and other tuber crops mixing with indigenous trees. Gedeo is believed to be one of the domestication spots for enset and coffee. Although, varieties of enset are documented in Uganda, South Sudan and some other places within the tropics, it is only in South West Ethiopia that it is domesticated and used as staple food. Research shows that wild enset and coffee were present in Gedeo until the turn of this century. Today more than 20 million people in Ethiopia (in south Western part) depend on enset as their staple food. In Gedeo enset is cultivated in the fields as any other crop, not in the home gardens as seen in other enset growing societies. Enset is cultivated together with coffee trees to ensure moisture for the coffee and other tuber crops, during dry seasons due to its water retaining nature. This mixed agricultural system protects the soil from erosion while providing multiple crop varieties ensuring food security. The Gedeo maintain the agroforestry through traditional institutions. In this landscape, there are archaeological sites witnessing an important history of several hundred years of megalithic traditions. Megalithic sites that were created through 700 years of history are abundant, and at least 60 are documented. The Gedeo still maintain these archaeological sites through their traditional institutions.

Criteria (v)

"…be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;"

The Gedeo occupies part of the East African rift floor and its western escarpment. This setting gives the landscape a fast raising altitude of between 1327 and 3072 meters a.s.l. within an East-West transect of 20 Kms. distance. The volcanic nature of the geomorphology has resulted in a soil formation, which is on average between 2 and 5 metres thick in the higher slopes.

The Gedeo people have established an indigenous agroforestry system based on locally evolving knowledge, cultivating mainly indigenous food crop called enset and coffee; while maintaining the natural forest to sustain the environment. They have developed an indigenous food system, which enabled them to sustain through several hundreds of years, without any history of hunger

and drought. The agroforestry system consists of several layers of canopy, in which the indigenous trees provide shade for coffee and enset, the underlying enset provides shade and water during drought periods and the underlying coffee benefits from the shades and the water, while the smaller plants at the base are prospering with enough water and the limited light. This symbiotic relationship between the various plants is well understood by the Gedeo agriculturalists. Along with enset and coffee farms they have preserved and protected several fragmented forests which harbor indigenous plant species. These spots are also actively used by elders to perform various rituals that focus on the preservation of the balance between human and nature. In addition to the agroforestry, the Gedo has also, since the 8th century, adopted a megalithic culture in which they erected thousands of stelae within their landscape. In deep time, at the beginning of cattle herding in this part of the world, the landscape also witnesses a stage when hampless cattle were prevalent in the region. Petroglyphs representing earlier form of cattle are engraved in ancient cave walls, and are dated to the 2nd and 3rd millennium BC. All these features are illustrative of the complex social order and in situ cultural development. Thus, the Gedeo cultural landscape is thus '…*illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.*'

3.1. c . Statement of Integrity

The Gedeo Cultural landscape is the result of a set of characteristics, which makes it stand out due to its traditionally developed agroforestry system adapted to tropical Rift margin environment harnessed by an indigenous local population. This local adaptation has led to the cultivation and perhaps domestication of tropical coffee cultivar and an edible plant called enset in a natural set of environment.

The Gedeo people have developed a mixed enset – coffee agricultural system which they cultivate according to altitudinal variations. Enset and coffee are cultivated together in the same farm based on suitability of altitude. They are mainly dependent on these plants for their livelihood and economic sovereignty. This indigenous agricultural enabled the ~1.5 million Gedeo people to survive with no major famine/drought in the area compared to other regions.

The coffee-enset agricultural system has enabled the Gedeo to be producers of the World's best known Yirga chefe coffee and puts them on high quality organic coffee variety producer list.

Around this local adaptation and sustainable land use system, the Gedeo had developed an extensive megalithic culture, which is found on almost all the hill tops dominating the surrounding lands.

Everyday life of the people is regulated by the traditional system, which is issued by elderly local ritual leaders whose power base is centred within the community and harboured by ancestral sprits in the ritual forests, which also serve as traditional power center. The life of the communities revolve around these major elements that ensure the continuity of the communities, the management of the agroforestry system and the symbiotic relationship between human and nature, and the preservation of the megalithic monuments, which are mostly phallic, believed to be the symbol of fertility and whose depiction is carried on the forehead of the Gedeo traditional leaders who still weld real power.

The agroforestry system is omnipresent in all of the Gedeo land; and especially characteristics of the nominated area which is about 296.27 square kilometers large. All the megalithic sites, the ritual forests and the rock art site are all part of this landscape and are located within the nominated area.

The abundance and diversity of indigenous trees in the nominated area is well known and documented by botanist. These indigenous trees are conserved in the coffee and enset farms attesting their symbiotic coexistence.

Within this nominated area, in addition to the above stated agroforestry system, there are also culturally protected ritual forests which also harbor the unique flora. These ritual forests also serve as centers of the traditional institutions such as the Songo which arbitrate conflicts and manage the Gedeo cultural landscapes and values associated with them. These values include the *Baaboo* (sustainable management of natural resources including members of the society).

The abundance of megalithic sites in the the Gedeo Cultural Landscape attracted researchers since the beginning of the 19th century. The nominated megalithic and rock art sites were subject of multiple research programs, which culminated in several publications. These research results have demonstrated the unique burial and ritual systems, which have been practiced there mainly between the 8th and 15th century A.D. The Tuto-fela megalithic site covers 1180 Square meters area and is composed of 253 stelea, which falls typologically into mainly phallic and anthropomorphic. The Chelba-utiti megalithic site is 17327 square meters area, and has 1530 stelae. The third one, Sede -mercato site has 663 steals and covers 2070 square meters area. The sites are in pristine condition whose perimeters are fenced. Research therein is monitored and regulated by the Ethiopian Federal Government. These sites maintain their integrity and authenticity. The local communities have ensured the protection of the sites and researches conducted there have attested the integrity.

The Gedeo cultural landscape, however unique it may be, protected by the traditional system and the various government regulations at both the Federal and Regional levels could not escape some adverse consequences. These adverse effects include: environmental change, modernization impacts (changes in ways of lives), population growth, abandonment of the traditional ways of life by the youth, the introduction of non- traditional religion, demographic pressure. Although the landscape reflects a mutualistic human – environment interaction, the impacts of ever increasing human population, modernization and development intervention are eminent. Human population is growing rapidly, with population density surpassing the national average. As a result land is becoming scarcer and scarcer, which in turn is pushing the people to cultivate very steep slope and marginal land. Some are migrating to the nearby urban centers due to shortage of land. It seems that the landscape is reaching beyond its carrying capacity and that will eventually leads environmental degradation if proper conservation and livelihood measures are not taking place.

In order to address these adverse effects, several discussion sessions were undertaken with local communities and officials, elders, the youth, stake holder institutions at local, regional and Federal institutions.

Some of the issues which emanate from current and future development programs will be mitigated relatively easily. Strategic actions which include educating all members of the communities will be required to overcome all the issues mentioned. All stake holders have shown commitments to this end.

3.1.d Statement of Authenticity (for nominations made under criteria (i) to (vi)

- **Form and design**

The Gedeo Cultural landscape occupies a set of physio-geographic location on the eastern flank of the southern part of the Main Ethiopian Rift system.

The landscape shows a peculiar environment where, enset, coffee, root and other annual crops prosper under the shade of indigenous trees. The whole physio-geographic area of Gedeo stands out from the surrounding areas by the virtue of the beautiful rolling lands and the peculiarity of the vegetation cover between the rift floor in the eastern part of the region between 1000m and 3200 meters a.s.l. in less than a transect of 20 Kms from West to East with undulating topography. The landscape has rich volcanic soil.

The traditional sacred forests, although not very large, harbor important biodiversity. Indigenous tree species and flora are preserved in these forests.

Megalithic sites located at the spurs of the hills are one of the main components of the cultural landscape. The stelae on these sites are mostly phallic or anthropomorphic, grouped following a certain direction (orientation), mostly overlooking the surrounding low-lying area. Some of the most important groupings are erected on big tumulus (at least in Tuto-fela and Sede-merkato). Some stelae show markings/ engravings on them depicting different motifs which include discs, spirals, concentric circles, geometrics, vegiti-forms and zoo-forms.

The rock art site of Odola Galma depicts hampless cattle oriented in the same direction and are attributed to the beginning of the Christian era, based on the style, is also one testimony of the passage of pastoralist communities in the region.

- **Materials and substance**

The Gedeo cultural landscape with its agroforestry system based on indigenous crops mainly enset and coffee associated to a great number of megalithic and rock art sites concentrated in a small area shows the continuously practiced traditional agricultural knowhow, resilience of the people and their adaptive strategy throughout the last millennia in this geographic area. The sacred forests which are located within the landscape, are home to multipurpose indigenous trees and shrubs. These are used as ritual and medicinal purposes. The sites are highly venerated so that the traditional management system, Songo, is centered at these locations.

Most of the stelae in the megalithic sites are made on local ignimbrite and basalt rocks, depending to proximity of the raw material sources.

- **Use and function**

The Gedeo agroforestry system represents a culture of sustainable traditional land use, while protecting the environment; and nature conservation system, at the same time. The Coffee/enset agricultural system is at the very center of the Gedeo community livelihood. Enset is used as staple food and coffee for home consumption and as cash crop. They have several tens of enset varieties that are consumed depending on the season and the nutrition needed. It is also used as medicinal plant.

The indigenous trees are used as shade for both coffee and enset and when cut, they are carved to make bee-hives. The leaves are used as fodder for their cattle and compost. The traditionally protected forests are used as ritual sites and burial grounds for elders. They are also meeting places of the songo (council of the elders).

Until very recently some of the megalithic sites were used as places of ancestral remembrance. It was observed that at some sites, the local inhabitants put offerings on the stelae, performing some rituals and adorn them, venerating the ancestral sprits. Some stelae reach up to seven meters high (when Phallic) with various types of design depicting enigmatic representations engraved on them which include, discs, vegetal forms, snakes and sun rays. The megalithic sites were dated to be between the 8^{th}. and 14^{th}. century A.D. Research conducted in the megalithic sites have demonstrated that the concentration, use, and their orientation are testimony of an age

long tradition, which is not yet fully understood; and awaits further research to decipher their stories in full.

- **Traditions, techniques and management systems**

In Gedeo, the traditional management system under the elders council, the Songo, has helped preserve the traditions of the balance and harmony in keeping the harmony of the argroforestry system and the sacred forests intact and preserved the social system. The Songo is an institution which serves for conflict resolution, rituals and protection and management of agroforestry and the sacred places. This system also protects the megalithic sites and manages and the use of indigenous tree species.

- **Location and setting**

The geographic location of the Gedeo cultural landscape, on the western flank of the Ethiopian part of the Great East African Rift with an altitudinal variation which lies between 1200 and 3200 masl. has given it an ideal tropical precipitation and an ecosystem favoring long term unique agrarian settlement. The agroforestry, which is thriving there is a result of this geographical setting and the humus rich volcanic soil.

- **Language and other forms of intangible heritage**

The Gedeo speak their own language called Gede'uffa, which belongs to an Eastern Cushitic linguistic group. Until recently some community members used to venerate the ancestoral sprits by providing offerings at the megalithic sites. According to recent observation in March 2018, offerings were given to the traditional diety (*Mageno*). The local people apply some butter on the apex of a stela.

- **Spirit and feeling**

The Gedeo have strong attachement to their land and their agroforestry. They jealously protect their enset and coffee farms. Birth in Gedeo is ritually connected to the enset plant. Enset is located at the center of the food system and their life philosophy. Ensete being their means of livelihood, the Gedeo have no aspect of life, from cradle to deathbed that is not connected with enset. The Gedeo are very conscious of the importance of their trees so that one could not be aware of the existence of homesteads until he stumbles upon one. Indigenous trees are considered as having their own lives that need to be respected, and are not cut without the consent of the elders.

3.1. e Protection and management requirements

Cultural and natural heritages in Ethiopia are protected following a hierarchy of set proclamations and rules starting from the Federal level. At the apex of all the laws, there is the Ethiopian Constitution, which is the basis for all laws in relation to land. This constitution issued in 1995 recognized the right of the people to own their traditional lands and to exercise their cultures without any disruption. This constitution in No. 1 /1995, Article 39-2 stipulated that all the people of the nation have the right to exercise, protect, promote and preserve its culture and history. Based on this constitution, the Cultural Policy (1997) was issued. This policy document calls for all Ethiopians and their communities that the preservation and conservation of cultural and natural heritages are the responsibility and duty of all; including: governmental and non-governmental organizations, religious institutions and all Ethiopian nationals.

The next most relevant and important Federal law is the Proclamation issued to provide for Research and Conservation of Cultural Heritage (2001). This proclamation recognizes the significance and need for protection of cultural properties. It states that properties which witnesses to the evolution of nature and which has a major value in its scientific, historical, cultural, artistic and handicraft content are protected by law. It further acknowledges that cultural heritage "…plays a major role…and hence the protection and preservation of cultural heritage has been made the responsibility of each citizen, the society and the state".

In addition to the above laws which directly involve the megalithic properties, in areas of land ownership and the agricultural scape and its use, the Rural Land Administration and Utilization Proclamation No.53/2003 issued by the Southern Nations, Nationalities and Peoples Regional State, underlines that land for communal use which includes social and cultural affairs and religion is reserved for the communities; and use right equally include the right of "Protecting wild animals, plants, birds, and other natural and artificial resources and heritages, which are harbored under its possession''. Customary laws that are practiced by the community are entertained in the same proclamation, as it is stated in Article 16 no. 3 and no.4 that, "…local laws issued by the society, and customary practices…" are to be respected and communal users "…shall be responsible for protecting wild animals, plants, birds, and other natural and artificial resources and heritages found on the communally possessed land.". Further, Article 19 no. 1

ensures the sustainable preservation and use of "lands demarcated for forest, wild life, soil conservation…and historical use…"; and the "Right of the local community to share from the benefits gained from protected and preserved areas are reserved" (Article 19 no. 3).

Thus, the amalgams of the above decrees have set out a very strong foundation for the protection of the property.

Based on the proclamation, the South Nations, Nationalities and Peoples Regional State (SNNPRS) drafted its own proclamation to the effect of the conservation and protection of the Gedeo cultural landscape (Annex_6). This means, in addition to the general laws, additional proclamation is to be issued, which is specific to the Gedeo Cultural Landscape.

The basis of the day to day management and protection of the cultural landscape lies under the responsibility of the local communities and the Culture and Tourism offices at the district/Woreda, Zonal and regional levels with periodic follow-ups by the Federal Authority for Research and Conservation of Cultural Heritages (ARCCH).

At the lowest local administrative level called the Kebele, local community elected officials work in collaboration with the local elders. The local elders and ritual leaders are considered very powerful in creating the links with Magano (the deity). These are the base of the management system of the Gedeo cultural landscape. They are supported by the higher administrative structure at the district (Woreda level).

The regional government shall prepare legal documents for protection and management of the properties; perform capacity building; establish an office for the protection of the cultural landscape; allocate budget to run it; employ personnel to perform the tasks; and ensure the good functioning of the office; collect revenues from the tourism activities and disburse the income to good use of the protection of the property.

The Zonal Management Committee ensures the allocation of the needed budget for the management of the property and follow-up its use; follow-up the performances of the world heritage management office to be established; and shall provide the needed support to the office; make decisions on measures, based reports from the world heritage management office.

The District (Woreda) Management Committee performs the following: follow the day today activities within the property; provide support within capacity; file in reports to the zonal administration on activities and issues encountered.

At community level, the Kebele Heritage Management Committee, which is at the grass-root level, working very closely with the local communities, will be accountable to the district/Woreda heritage management committee. It does follow-up of the cultural landscape**;** Report to district/Woreda management committee upon any harm that befall the cultural property**;** Involve communities in the protection and use of heritage properties**;** Work in collaboration with the office of Woreda heritage committee; File report on monthly basis to the district/Woreda heritage committee; and act according to advises and directives of the same.

In addition to the legal system and the traditional management systems, the protection of the cultural landscape foresee and depends on the strong offices of the Culture and tourism sectors at the zonal and regional level. Since the beginning of the 1990's, there has been an awakening in the sectors of culture and identity among the various ethnic groups of Ethiopia. Konso is one example. The nomination of the Konso cultural landscape has incited the Gedeo, Oromo and Sidama people. All have become aware of the significance of their heritage and self-esteem has begun to emanate from respect for their own cultures. They are all determined to inventory, register, protect and use their heritage as marker of their identity. Specifically, the drive for nomination of the Gedeo Cultural landscape is thus, derived from the keen interest of the local community who make up the basis of the heritage management. Thus, this awakening will ensure the continuity of the Outstanding Universal Value of the property; which shall be maintained due to the direct protection of the local communities. In addition to the communities, the municipal administrative system found at all levels (district and zonal), is very much engaged in the protection of the property.

The already existing traditional land management systems such as baaboo (nurturing progeny), urane (rotation of Dwelling) and mulching, and minimum/zero tillage are also a key to the sustainability of the cultural landscape, particularly the agroforestry system. Baaboo is one among the widely practiced environmental management system and it is principally practiced to

maintain reciprocity in environmental interaction, expressed locally as *nophphate'n hedheeka baabo haqichcho kookkishiyyo hasissaan*, or literally translated as taking good care of offspring of the tree guarantees the continuity of next generations. The baabo tradition normatively governs and maintains the regenerativity of the ecosystem through propagation of tree shoots and seeds that fall on the ground. Moreover, baabo reinforces weeding before coffee harvest to enable the collection of coffee berries and enhance ecosystem regenerativity (Legesse, 2014).

Indigenous institutions such as baallee and songo are the main traditional instruments in the protection and management of the cultural landscape. Members of the baalle institution are appointed based on the age grade system in which every member of the Gedeo community pass. The baalle members change every 8 years based on the age grades of every community members. The group that occupy the baalle office, ya'a is entrusted with the protection and management of the traditional land use system. The ballee office is accountable to the communities' annual review at the meeting of all community members. As such the protection of the cultural landscape, which includes the agroforestry, the megalithic and rock art sites and ritual forests, is maintained.

These institutions are public spheres where environmental rules are set, competing perspectives engage and shape people's perceptions and actions. In many ways, these institutions enact different rules and regulations that dictate human interaction with the environment (Dabelo et al., 2017). For instance, due to a fear of calamities and ancestral curses, indigenous trees are never cut without the permission of ballee or songo leaders. Transgression of the words of the elders expected to inflict damages and thus, no one is dare to disregard the rules and regulations and also sanctions enacted by both institutions. These institutions are entitled to protect the sacred places where cultural, environmental, social, and political issues are dealt with: local disputes and conflicts are resolved by elders, and indigenous knowledge and practices are passed onto the next generation. Thus, alike the traditional land management practices, the traditional institutions are a backbone for the protection and management of the Gedeo cultural landscape, particularly the agroforestry system and the scared forests.

At each district and kebele levels, where the nominated cultural landscape (Agroforestry, Megalithic and rock art sites, and sacred forests) are located, the management committee is composed of members of the community in which the Songo occupy significant position.

With regard to staff, appropriate personnel are employed to protect the archaeological sites. These employees are selected from the local communities based on their interest in the protection of the property. They are trained on performing daily observations and take notes and report to the district authorities and the Zonal Culture and Tourism Department.

As for the agricultural landscape, the whole community will be in charge, using the traditionally acquired skills and there will be no need to hire additional people. To monitor the protection of the property, all the management committees at each stage, especially at the Kebele will be in charge to take notes and communicate to the next highest level. The Zonal management committee performs regular quarterly visits to the sites and report findings to the regional culture and tourism bureau. The regional and federal culture and tourism offices insure the bi-annual inspection of the property.

Appropriate guide training for local youth is underway. Although this has a humble start, it will be strengthened as the tourism flow increases. In the future, it is planned to upgrade the qualification of the heritage protection experts in Gedeo zonal Culture and Tourism office through training programs tailored to this effect, with support from NGOs working in the area and the Regional and Federal authorities in the sectors of culture and tourisms. The Federal ministry of agriculture, institute for biodiversity, Hawassa and Dilla Universities will take part in future training programs.

The finance needed for the protection and conservation of the cultural landscape, mainly the archaeological sites, is derived mainly from the annually allocated budget by the South Nations, Nationalities and Peoples Regional State (SNNPRS). The regional government, in addition to allocating budget, also employs guards who protect the sites. The regional government is assisted by the Federal Authority for Research and Conservation of Cultural Heritages (ARCCH) financially and technically. The zonal administration also, in its capacity, allocates a modest budget from the government treasure and local revenues.

As for the agricultural landscape and the ritual forests, it is the responsibility of the individual community member who owns the portion of land on which he/she resides; and the responsibility of the ritual leaders and elders who perform rituals in the sacred lands.

The skills in the traditional conservation techniques will have to be supported with modern knowledge. The Government of South Nations, Nationalities and Peoples Regional State has vowed to support the conservation efforts of the Gedeo people as their traditional methods of natural and environmental protection are vibrant.

To sum up, in terms of financial resource, ARCCH is responsible for the capital budget that goes to site development such as restoration and preservation. The regional government is responsible for the recurrent budget that goes to salaries and regular expenditures. Additional sources of income are derived from tourist fees that will be collected by the Regional Bureau of Culture and Tourism to disburse the income to good use of the protection of the property.

Moreover, donors working in the field of cultural landscape aspects will be invited to support the sustainable protection and conservation of the Gedeo Cultural Landscape.

Interpretation and presentation of the Gedeo cultural landscape values is a way of conveying knowledge on the content and significance of the site to the public. It is a tool of communication with visitors and a basic precondition for the development of cultural tourism. It is also a means of gaining support from the local community for the protection and sustainable use of the Site.

Interpretation and presentation of the site is also the key factor for a wide range of activities related to conservation and development of the Gedeo cultural Landscape resources. Despite the inadequacy of interpretation and presentation facilities such as proper visitor routes and footpaths, seats, standard restrooms, and facilities for interpreting different aspects of the Gedeo cultural Landscape assets (cultural and information centres) as well as car-parking areas, an attempt will be made to consider such inadequacy in the annexed Map and Tourism Plan.

Effective and responsive monitoring and evaluation of the property would be made at several stages through participatory approaches, involving the local community, based on periods that are agreed up on by all management committees and government agencies.
The arrangement for the management of the Gedeo Cultural landscape is devised as follows:

The Kebele is an institution which is at the grass-root level and is supposed to see anything that occurs within its community and territory. The Management committee at this level is empowered to observe and protect the properties within its territory and report to the Management Committee and Culture, Tourism and sport office at the next highest administrative level, the Woreda (district). The district (Woreda) Management committee upon receiving the report will evaluate the same and advice the Culture, Tourism and sport office at the district level about measures that may need to be considered for negatively impacted properties; or upraise the reports. The district management committee compiles and files its reports to the Zonal management committee once every month. The same report is filled to the zonal culture and tourism office in the same interval through the district culture and tourism office.

The zonal heritage management committee functions hand in hand with the zonal office for culture and tourism. Whereas the zonal culture and tourism office is concerned with all culture and tourism affairs in the zonal administration, the zonal management committee is concerned uniquely with the nominated property. Thus there is no overlap between the two organs; rather they support each other. The zonal management committee, based on reports that it receives from the district management committee, analyses the reports, pass decisions on issues that are within its power and reaches, and after discussion with the zonal culture and tourism office, together, they may take action and /or they file the necessary report to the Regional Culture and Tourism Bureau every 3 months.

The regional Bureau of Culture and Tourism, as the main organ concerned with the property at the level of the SNNPRS reviews reports it receives; send experts to the property for bi-annual on- site inspection of the state of conservation of the property; and based on its findings takes appropriate action; while annually file its reports on the state of conservation and required interventions to the Federal Authority for Research and Conservation of Cultural Heritage (ARCCH).

Gedeo is one of the most significant, economically important areas of Ethiopia, thanks for its high quality Yirga-Cheffe coffee. The Gedeo farmers are at the base of this economic drive, producing this cash crop. The population in Gedeo is in an alarming rate of increase. The land holding capacity is decreasing at a rate of about 20% in less than a generation. The economic condition of the region and its dependence on coffee could not sustain itself without a sustainable land use plan which takes the population growth in to consideration. The traditional lands, including the ritual forests are also threatened by this impact. Currently, hilly lands that reach more than 70% inclination are under heavy enset cultivation. The land Vs population imbalance is a major threat that will impact, in the near future the integrity and OUV of the agricultural scape.

Another threat to the cultural landscape is linked to the global warming. Coffee and enset plants have started to climb into the higher altitudes. Enset which was growing below the maximum of 2500 m above sea level is now planted at altitude as high as 2800 meters above sea level. Coffee has also climbed to higher altitudes in the last 20 years. The indigenous tree species are also expected to climb in altitude. Thus, the traditionally protected ritual forests/sites may also be impacted.

Along with population pressure and global warming, modernization and development interventions are expected to affect the cultural landscape. Through the introduction of modern religion, commercialization, technology and education, erosion of the indigenous practices that are embedded in the culture of the people is becoming inevitable. Traditional belief systems seem to have no more important in shaping human – environment interaction due to expansion of modern religion. Participation of majority children and young people in modern education and exposure to technology seems to have an effect on the indigenous knowledge and practices as it predominantly detach them from the local environment and traditional practices.

This, however, may not affect directly the megalithic and rock art sites which are already fully protected and whose ownership is defined (under the government ownership). However, impact

on the landscape around which they are found will affect their contextual integrity and the visual effect, the very green rolling landscape.

The regional government and the Zonal administration are cognizant of these threats and accordingly they are taking the necessary measures such as family planning program as the population policy strategies, educating children and youth on the importance of cultural heritage, and implementing a holistic conservation – livelihood approach, which are believed to curb the threats. In addition, research based long term strategies such as incorporating the Gedeo Cultural Landscape in social studies syllabus would help to fill the inter-generational indigenous knowledge gap/ to reduce the impact of modern schooling/transfer indigenous knowledge to the posterity. Apart from the aforementioned strategies, promoting the cultural landscape through local media and Dilla University Community Radio, which would substantially help to foster the awareness of the community regarding the cultural landscape and thereby contribute towards the conservation and protection of the property, is among the strategies to reduce the potential threats. Regarding the zonal development plan, discussions were conducted with the zonal administrative cabinet to decide on the location on the ground of potential development programs. All areas which are meant for development lay outside of the boundaries of the nominated property.

In conclusion, the protection of the property and maintaining its OUV requires the joint and harmonious interplay between several institutions in the country; both governmental and non-governmental institutions.

3.2 Comparative Analysis

The Gedeo cultural landscape is compared to a number of properties that are on the list and a cultural landscape that is not on the List. A thorough literature survey was conducted to find properties that may be considered as having attributes that could be comparable. From properties that are found in Ethiopia and that are on the List, the Konso Cultural Landscape and the Tiya megalithic sites are reviewed. Although not on the List, the Sidama cultural landscape, which is adjacent and located to the north of the Gedeo cultural landscape is also compared because of the

attributes that qualify it as a comparative landscape. Outside of Ethiopia, few sites are also addressed in the comparative section. These include : Coffee Cultural Landscape of Colombia, Archaeological Landscape of the First Coffee Plantations in the South-East of Cuba, The World Heritage property Stonehenge, Avebury and Associated Sites, Stone Circles of Senegambia.

3.2.1 Coffee Cultural Landscape of Colombia

The Gedeo Cultural Landscape and the Coffee Cultural Landscape of Colombia (CCLC) are located on broadly comparable latitudes and altitude; although they are located in two different continents separated by several thousands of kilometers. The foothills and central ranges of the Cordillera de los Andes have six coffee farming landscapes are composed of small plots coffee growing communities. The tradition of coffee growing in the Cordillera de los Andes was introduced in to the area by the Spanish; but constitutes an example of human adaptation over centuries.

The CCLC coffee plantations are located on steep mountain ranges with slopes of over 25%. Similarly the Gedeo Cultural Landscape shows a land use of highly elevated and rising landscapes with slope gradient that reach 70 %. The difference being, the Gedeo cultural landscape is an onsite developed coffee cultivation. Research demonstrated that until 20 years a go, wild coffee was widely known in the Gedeo, but curently to be found in the neighboring Sidama in Aroresa district in the head waters of the Genale River. The Gedeo cultural Landscape land use system include other essential plants such as enset which is domesticated in the southern part of Ethiopia and consumed as local stapple. The traditional farming system in Gedeo appreciates not only coffee for the market; but agriculture for food sovereignty by indigenous communities. The Gedeo CLS has more components than the coffee element. The Enset growing tradition was always associated with the coffee farming. Enset and coffee are inseparable in Gedeo. The symbiotic relation-ship between the two has been observed in almost all of the Enset/coffee growing landscapes in South and South West Ethiopia. The resilience against draught, bacteria, and advantages gained in soil fertility (fertile humus and high level of hydrogen) are among the advantages of the co-cultivation of enset and coffee.

The Enste/coffee landscape of the Gedeo CLS has an important component that is not present in CCLC. The abundant stelae fields which flourished in the coffee/enset culture of the Gedeo

Cultural landscape are not present anywhere else outside of Gedeo and the adjacent areas in South and South Western part of Ethiopia.

This demonstrates the uniqueness of the agro-biodiversity of the Gedeo Cultural Landscape.

3.2.2 Archaeological Landscape of the First Coffee Plantations in the South-East of Cuba

The Cuban coffee plantations dates to the period of introduced coffee plantation by colonial powers.

The infrastructures are introduced from other areas to maximize products and ensure continuity. Whereas in Gedeo, the coffee plantations are rooted culturally and may even predate any living memory.

The Gedeo farmers are indigenous to their land where as the Cuba coffee plantations are realized by slaves and European know how.

Whereas the labor organization in the coffee plantations of Cuba is based on a well-organized management effective labour organization and managed living conditions for the workers in order to maximize profits, in Gedeo, the whole operation is based on sustainable traditional cultivation methods which surrounds the individual homestead and in pieces of land owned by individual farmers.

Tree shades for the coffee plantations by the coffee developers in Cuba is made using local flora as is the case within the Gedeo.

The Coffee landscape in eastern Cuba is created based on the introduction of a non-indigenous plant in to the area where as the Gedeo cultural landscape is a result of a sustained use and management of indigenous flora.

The Gedeo cultural landscape is not a solely coffee landscape, but it includes the plantation of an indigenous plant called enset which serves as staple food for the local people. The co-cultivation of enset and coffee in the same field has enabled both plants to prosper in a symbiotically naturally supportive way to each other. The shade and water that coffee plants get from the taller

and moisture rich enset plants in their natural setting is unique in traditional farming techniques, in enset and coffee landscape, on record.

3.2.3 The World Heritage property Stonehenge, Avebury and Associated Sites

The World Heritage property Stonehenge, Avebury and Associated Sites represent an outstanding achievement in architecture, ceremonial and mortuary practices and land use during the Neolithic and Bronze ages in Britain. Stone circles and Stonehenge, and burial mounds are among the major monuments.

Stonehenge is recognized for its impressive prehistoric megalithic monuments in the world. The arrangements of the stone circles in this property and the size of the prehistoric mound is referred to as an important architectural achievement in the world.

The stones used to make the stone circles were well selected rocks, some of which weigh 40 tones were transported from as far away as 240 Kms distance. Research in the World Heritage property Stonehenge, Avebury and Associated Sites have demonstrated that a sizable and significant area of the landscape is part of the site and is interconnected.

The Gedeo Cultural Landscape, like the The World Heritage property Stonehenge, Avebury and Associated Sites demonstrate an important set of megalithic monuments in a completely different setting. The Gedeo megalithic monuments are located on higher elevations, in the landscape, overlooking the surrounding area. Like the world Heritage property Stonehenge, Avebury and Associated Sites, some of the Gedeo megalithic sites and monuments, in Sede Mercato and Chelba Tutiti, demonstrate clear indication of alignment and orientation that could be demonstrated that they are aligned using celestial bodies. The Gedeo megalithic monuments are unique in their phallic style carved on huge welded volcanic rocks. The provenance and mode of transport of these rocks is under study.

Like the The World Heritage property Stonehenge, Avebury and Associated Sites earthen mounds are also used at Gedeo. Big earthen mounds were built and phallic and anthropomorphic stele were erected on them, The purpose of which is established as burial.

Like the Neolithic communities in The World Heritage property Stonehenge, Avebury and Associated Sites, the Gedeo Cultural landscape demonstrate the use of the sites by agricultural communities, with herders as an important groups as demonstrated by the rock engravings at the Odola Galma site and the adjacent Shappe site which is located about 15 KMs away towards the Rift center.

In addition, owing to its geographic setting, climate, unique agricultural practices, the Gedeo Cultural Landscape includes the unique agroforestry system which is mainly composed of coffee and enset growing landscape.

The traditional landscape management system in Gedeo is still preserved around the various components of the landscape such as the sacred sites, the council (Songo).

Thus, the Gedeo Cultural Landscape differs in major ways from The World Heritage property Stonehenge, Avebury and Associated Sites, by the very fact that it is a vibrant and living cultural landscape. In Gedeo, the ancestral memories are present around the megalithic sites, the sacred forests; and the unique coffee/enset agro-cultural component is an *insitu* developed system which ensures the food sovereignty of the extant traditional socio-economic system.

3.2.4 Stone Circles of Senegambia

The Stone Circles of Senegambia includes more than 1000 stone circles which are testimonies of great megalithic tradition located in Western side of Africa. These Stone Circles are found spread following the River Gambia and River Senegal. Out of this significant number of stone circles, only four, two in Gambia and two in Senegal are nominated. The stone circles are dated to be between 927AD and 1305 AD. The megalithic monuments are used as burials. The stone works show skill full stone working practices. The Senegambia megalithic complex represents vast cemeteries for a distinct cultural group over a long period.

As with the Senegambia stone circle monuments, the Gedeo Cultural Landscape is dotted with many megalithic sites which have about hundred sites which in total have thousands of stelae. The Gedeo megalithic sites differ from those in Senegambia in their architectural style. Whereas

the former are simple carved monuments, the Gedeo have a distinct nature of Phallic and/or Anthropomorphic carvings.

The three megalithic sites nominated in Gedeo are thus distinct in the style and the architecture and culture they represent. The Gedeo Cultural landscape, in addition to the megalithic sites, is a representation of a living culture where coffee and enset are cultivated and where people venerate the ancestral memories on the megalithic sites.

Unlike the Senegambia Stone Circles located in low lying altitude along river systems, the Gedeo Cultural landscape is located in a rising escarpment along the East African Rift System in rolling landscape which is between 1307 meters and 3072 meters above sea level. The physio-geography has enabled the Gedeo to preserve indigenous trees and agroforestry system. The Gedeo CLS also has evidences of continuous occupation since the arrival in the area of the first herders which date to before/the beginning of the Christian era; demonstrated by rock art engravings of hump-less cattle. (Note that the humped cattle called Zebu arrived in the area much latter).

3.2.5 The Konso Cultural Landscape

The Gedo Cultural Landscape and Konso Cultural landscape are separated by 300 Kms distance. Whereas the Gedeo Cultural Landscape is located in the South-eastern escarpment of the Main Ethiopian Rift, Konso is located at its terminus. The landscape settings as well as rainfall rate of the two landscapes are different. Whereas Konso has low rainfall, Gedeo gets more rain and has higher precipitation.

The Konso Cultural Landscape is characterized by a very extensive dry stone agricultural terraces, stone walled traditional towns placed strategically on the summit of high grounds, megalithic monuments in the towns and in the farms, traditionally protected forests and traditionally constructed ponds. The Konso cultural Landscape is a result of at least 500 years of *in situ* agricultural practice in dry land, forged by a strong traditional management system which enabled the organization of labor groups for the construction and maintenance of the cultural properties in the landscape. The Konso Cultural Landscape is an example of a dry land agroforestry system.

Contrary to the Konso environment, which mainly grows sorghum and dryland variety of crops and trees which include some coffee, Gedeo has year-round higher precipitation. The agroforestry is mainly characterized by indigenous trees, enset and coffee.

Both cultural landscapes have sites with megalithic monuments. In Konso the megalithic tradition is alive and stelae are erected either as burial markers for heroes, or they are erected as generation testimonials near or in walled towns; whereas in Gedeo, the megalithic tradition is not practiced currently. In Gedeo there are no walled towns; the megalithic sites were used as grave markers and it is proposed that some sites were used for rituals.

The Konso stelae are not transformed into an art form; where as in Gedeo the stelae are carved to phallic, anthropomorphic or some engraved with vegetal and varied motifs including zoo-forms.

It is remarkable to note that the communities living in both landscapes practice an age grading system in which all members of the society are allocated specific tasks; but in different formats. Although there are marked comparative elements between the two cultural landscapes, the difference between the two is obvious. Gedeo enset and coffee varieties, trees, rock art, the megalithic monuments abundance and style, the food systems, land management systems are not found in the Konso Cultural Landscape.

3.2.6 The megalithic sites of Tiya

Tiya is a megalithic archaeological site located in central Ethiopia at the margin of the Ethiopian Main Rift in the foot hills of the Gurage Mountains. Tiya is known for its 36 megalithic monuments which are carved with representations of daggers and vegetal and other forms of motifs which are not yet deciphered. Tiya, although it is the main site on the List, there are more than 160 sites that contain megalithic monuments in the region. The larger area which is adjacent to it is not yet included in the nomination but has megalithic monuments described by archaeologists as, Anthropomorphic, Historie, Tamburine, etc…. Archaeological research in Tiya has demonstrated that the stelae at the main site were used as burial markers, based on the multiple skeletons discovered in the site, *insitu*.

The style of the megalithic monuments in Tiya is markedly different from those found in Gedeo. As noted earlier, the Gedeo megalithic monuments are significantly Phallic and anthropomorphic

(different from the ones at Tiya) indicating a marked cultural and stylistic difference between these megalithic traditions. Although the date of the megalithic sites in both areas shows contemporaneity, the styles applied and the socio-cultural manifestations are different.

The Gedeo Coffee/enset based agroforestry system is not as significantly represented in Tiya. Although there is an important enset based agricultural system in Tiya, and this enset system is more important in the surrounding higher altitudes called the Gurage highlands, the coffee element is not very significantly represented.

Although both Cultural Landscapes are located in the 1000 Kms long N-S stretch of rich megalithic distribution zone of Ethiopia, their differences in geographic location, geomorphology, megalithic typologies, agricultural systems, food cultures and socio-cultural affinities have contributed to the marked differences between the two.

3.2.7 The Cultural landscape of Sidama

The area called Sidama is located in Southern Ethiopia adjacent to the North of Gedeo Cultural Landscape. The word Sidama also denotes the people who are living in the area. There is a marked cultural and linguistic difference between the Sidama and the Gedeo. However, the Sidama area, like the Gedeo is known for its enset/ coffee agricultural landscape. The agroforestry system of Sidama is almost identical with that of the Gedeo. The Sidama area follows the same agricultural tradition in a similar environmental setting as in Gedeo. The fauna and flora present in both areas are similar. Recent survey has demonstrated that wild enset is still present in Eastern Sidama.

The megalithic tradition which abound the Gedeo is equally significantly present in Sidama. However the abundance of sites and their integrity is better conserved in Gedeo. Like the Gedeo, the Sidama also have a traditional system which commemorates new year celebrations called Chamballala (this is inscribed on the Representative List of Intangible Heritage few years ago).

In conclusion:

It is discussed above that the Gedeo Cultural Landscape shares some features with some sites on the List; whereas it is distinguished by important attributes that put it to stand alone. This

uniqueness is seen in the attributes discussed and which stand out as unique features of the Gedeo Cultural Landscape.

The enset and coffee based agricultural system that is practiced in Gedeo in not represented in any of the Cultural landscapes that are on the list. The Coffee Cultural Landscape of Colombia and First Coffee Plantations in the South-East of Cuba are not comparable with that of the cultural landscape of Gedeo because whereas coffee culture in both of the above properties is introduced and is cultivated for commercial purposes, coffee in Gedeo is cultivated in its natural habitat by indigenous people following traditional agricultural system which involves the domestication and cultivation of enset, an indigenous cultivar; in its natural setting under the shades of ingenious trees.

The Gedeo megalithic sites which occupy the high grounds in the middle of the coffee and enset landscapes are unique in their making and style. They mainly represent phallic and anthropomorphic forms and are found in abundance on tumulus; Whereas this characteristic is not shared by the World Heritage property Stonehenge, Avebury and Associated Sites, the Stone Circles of Senegambia or the Tiya Megalithic sites and the Konso Cultural landscape. None of these properties are developed in a culture that has developed an indigenous agricultural system which revolved around enset and coffee. The megalithic representations are significantly different from that represented in Gedeo. The high land adaptation system that developed in Gedeo is markedly different from that which is dryland adaptation system witnessed in Konso.

No site on the list shows the attributes that amalgamate enset/coffee/indigenous agro forestry system in an equatorial eco-system dotted by sites of a stylistically unique and important abundance of megalithic structures at higher altitudes, where still the local communities cling to the eco-system which may be endangered in the face of an ever changing conditions.

The Gedeo Cultural Landscape compares better with the Sidama and similar areas and cultures found in the South and South West part of Ethiopia, such as Gamo-Gofa, Ari, Kaffa, Shakka, Yem, Gurage, Wolayta, Dauro, Konta, Jimma, Kambatta and Hadiya. These areas are inhabited by distinct ethnic groups that cultivate enset and coffee. They all have a wealth of indigenous agroforestry system, which in most cases have megalithic sites and sacred sites. The South and

South West part of Ethiopia is inhabited by more than 25 million people who practice indigenous farming system which is basically enset/coffee agricultural system.

The Gedeo Cultural landscape agroforestry and megalithic system, however, shows a very important megalithic tradition and agroforestry in a landscape which still maintains its authenticity and integrity. However, important the Gedeo Cultural Landscape is, as representative of the above mentioned pristine cultural landscapes, it is faced with present and clear conservation and management haphazard that emanates from global climatic change, local mismanagement of resources, lack of education in conservation, and lack of resources, both skilled man power and finances.

3.3 Proposed Statement of Outstanding Universal Value

a. Brief Synthesis

The Gedeo Cultural landscape is situated in South Ethiopia flanking the Eastern ridges of the Great East African Rift valley. The landscape rises from 1327 meters above sea level at the center of the Rift near the Abaya Lake and rises to an altitude of 3072 meters above sea level in the East, within a distance of 20 Kilometers. The landscape is the result of volcanism, which created rich clay soil suitable for agroforestry. The landscape through its components depicts clear human – environment interaction, which is deeply rooted in the socio-cultural setup of the people.

The agroforestry system is the most prominent defining feature of the cultural landscape. It is a self-regenerating land use system, which is developed and managed through culturally embedded knowledge system and practices. It is a multi-layered and multi-purpose system composed of mainly coffee, enset, indigenous trees, root crops and shrub, which occupy distinct layers of vertical space of the plant community. Enset, being the dominant source of food for the people, is widely cultivated in the system. Enset is not only cultivated and used by the Gedeo. About 20,000,000 people in South and South western part of Ethiopia cultivate and utilize it as source of food, medicine and also for different cultural practices.

The landscape is also marked by its abundant megalithic archaeological sites. These archaeological sites are spatially distributed throughout the landscape occupying higher and prominent locations, following the natural contours and overlooking the surrounding areas. These megalithic sites are features illustrating the extraordinary stelae tradition, which once had attained its peak between the 8th and 15th century.

A prehistoric rock art site, which is testimony of the occupation of the region by prehistoric pastoralists is also present in the landscape. This rock art sites depict the occupation of the region by cattle herders prior to the megalithic culture in the region.

Moreover, the landscape is endowed with sacred forests and sites. These scared forests are under the custody of Gedeo traditional leaders and they serve as refugium for traditional medicinal plants and indigenous flora and fauna diversity. In general, this landscape is an example of rich evolving culture, resilience and sustainability.

b. Justification for Criteria

The Gedeo have adopted a megalithic culture in the whole landscape in at least 60 locations (so far documented) dated between the 8th. Century AD, and the 14th Century. These sites are located in the middle of this landscape witnessing an important history of several hundred years of megalithic traditions. Three of the most representative megalithic sites are nominated for inscription. The Gedeo still conserve these archaeological sites through their traditional institutions. In deep time, at the beginning of cattle herding, the landscape also witnessed a stage when hampless cattle were tended in the region. Petroglyphs representing earlier form of cattle are engraved in ancient cave walls, and are dated to the 2nd and 3rd millennium BC. As recently as few decades ago, the Gedeo used to communicate with their ancestoral sprits at these megalithic sites.

The megalithic sites are embedded within a rich and vast indigenous agroforestry system.The Gedeo practice a locally developed agricultural system, which positively sustain the food security of the communities since ancient times. Varieties of enset are documented elsewhere in the tropics. Whereas it is only in South West Ethiopia that it is domesticated and used as staple food. The Gedeo cultivate other root cultivars and coffee (Indigenous to this area) together with

enset. They use their traditional management system, which revolve around their traditional belief systems. These belief systems ensure the conservation and protection of the landscape.

All these features are illustrative of the complex social order and in situ cultural development.

The nominated property thus fulfills Criteria III as it **'**bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared'.

The Gedeo people have established an indigenous agroforestry system based on locally evolving knowledge, cultivating enset and coffee along with indigenous trees and shrubs; while maintaining the natural forest to sustain the environment. Using the locally evolving knowledge system, they cultivate enset (*enset ventricosum*), together with coffee and other tuber crops to ensure moisture for the coffee and other tuber crops, during dry seasons due to its water retaining nature. Although, varieties of enset are documented elsewhere in the tropics, it is only in South West Ethiopia that it is domesticated and used as staple food. The Gedeo cultivate more than 50 local varieties of enset and is one of the domestication spots for enset and coffee. Through their indigenous knowledge, they managed to pursue a sustainable land use system notwithstanding a high human population pressure and a landscape, which is susceptible to degradation and landslide. The agroforestry system developed several layers of canopy, in which the bigger indigenous trees provide shade to the underlying enset plant; which in turns provide shades and water during drought periods to the underlying coffee; while the smaller plants at the base are prospering with enough moisture. This symbiotic relationship between the various components is well understood by the Gedeo and is part of their evolving indigenous knowledge and practices. Through such practices they sustain their livelihood while ensuring environmental sustainability. These features are illustrative of the complex human – environment interaction which makes agroforestry system unique.

The Gedeo Cultural landscape, thus fulfils Criteria (v) as it "…be an outstanding example of a traditional human settlement, land use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change."

c) Statement of Integrity (for all properties)

The Gedeo Cultural landscape occupies a set of physio-geographic location on the eastern flank of the southern part of the Main Ethiopian Rift system. The landscape is endowed with locally developed and managed land use system, ritual places where the socio-cultural fabrics of the people are rooted, megalithic and rock art traditions that embrace/denote an in situ cultural development. The agroforestry system has emerged and developed through adapting to ever increasing human population, changing climate and topographic constraints. The system is known for its high adaptive capacity as it is rooted in the socio-cultural setup of the people. It harbours indigenous crops, mainly enset and coffee supporting livelihood of the entire 1.5 million people. Enset and coffee are the main feature of the landscape. The cultivation of these crops is the main task of the communities in the landscape.

Sacred lands are marked with traditionally protected forests. These fragmented traditional forests harbor important biodiversity. Indigenous tree species and flora are preserved in these forests. The traditional elders/ leaders perform rituals from these sacred places. The Songo institution preserves peace and order among the communities and performs rituals which attribute greater significance to nature-human relationship. The Songo assures the continuity of the traditional system which is now in a cross road with modernism.

Megalithic sites are also one of the main components of the cultural landscape.

The megalithic monuments at the turn of the last century were testified to number in tens of thousands of monuments. They are located at high points where the sites over-look the surrounding lowlands in all/most directions. The stelae in each of these sites number in several hundreds and are mostly phallic or anthropomorphic, grouped following a certain direction (orientation), mostly overlooking the surrounding low-lying area. Some of the most important groupings are erected on big tumulus (at Tuto-fela and Sede-merkato). In Tuto-fela, Sede-mercato and Chalba-tutiti, the stelae number 320, 663 and 1530 respectively. These stelae fall, typologically into phallic and anthropomorphic, some of which depict enigmatic carvings on them.

Research conducted in these megalith sites has shown that they were in use between the 8th and 14th century and were used for funerary and ritual purposes. The sites maintain their integrity and are managed by the local community and elders.

Engravings at the Odola Galma rock art site depict hampless cattle on a rock face. The cattle are depicted flocking in the same direction; and are attributed to be older than 2000 years, based on the style. This site is also considered as a testimony of the passage of pastoralist communities in the region.

d) ***Statement of authenticity for properties nominated under criteria (i) to (vi***

The Gedeo agroforestry represents a culture of sustainable traditional use of the land through indigenous agricultural and nature conservation systems. The Gedeo have developed an indigenous response to an ecological constraints presented by climate and topography.

Within this landscape, various megalithic sites and associated heritage are found. Phallic and anthropomorphic stelae sites are abundantly distributed in the landscape. These are studied since the beginning of the last century.

Most of the stelae are made on local ignimbrite and basalt

Some stelae reach up to seven meters high (when Phallic) with engravings depicting enigmatic representations marked on them. These engravings discs, vegetal forms, snakes and sun rays. The megalithic sites were dated between the 8th and 14th century A.D.

These sites were very actively used when the megalithic culture had reached its apex in the central and southern parts of Ethiopia. The function could only be inferred from the findings that were recorded in sites that were excavated by French and American archaeologists. Some sites were used for burial and the stelae might have been used to commemorate the deceased, depict the clan he/she belonged to and to show his/her status. Excavations conducted under the monuments showed that some stelae were associated with single burial whereas others were

associated with group burials used during different periods, successively. Some stelae in some sites are not associated with burials.

e) Requirements for protection and management

The local communities ensured the protection of the cultural landscape throught their traditional land management and belief system. Management committees are formed at local and district levels to ensure the day to day management of the property. Cultural and natural heritages in Ethiopia are protected following a hierarchy of set proclamations and rules at various levels; from the Federal to district level. The Regional and zonal culture and Tourism Bureaus follow the immediate management issues.

Policies, proclamations, and directives provided for the protection of cultural heritages in the country apply for the Gedeo cultural landscape. This is further reinforced by a proclamation now provided for the protection of the nominated property.

4 State of Conservation and factors affecting the Property

4.a Present state of conservation

Gedeo community is known by its a long history of ecologically sound system of natural resource management, especially indigenous agroforestry land use with dense natural trees are left or grown in which coffee and enset and other crops are intercropped (Kippie, 2002). At present sacred forests are managed largely by community elders at various hierarchy (Aba Gada, *Aba Roga,* Hayicha or elders of clans), commonly by clan elders. Kebele (lower administrative level of the country) also take part in the conservation of forests.

The societal culture is maintained by *Baallee*, Gedeo *age grade* system used to maintain the relationship between the nature and society. In case if the new events happen in the community, members get together at their *Songo*, village ritual, recreational place with a hut and sport place and items (Kippie, 2002), located in the village around homes where there are some sacred trees to deal on societal matters including environmental aspects. Songo functions as sacred places and traditional institution in the area for biodiversity conservation. Songo as a holy place used to

request God when some unanticipated events such as war, pests, disease outbreak, and drought happen. It is also an institution used to resolve disputes and crimes, including aspects related to natural resource use.

4.a.1 Agroforestry system

The agroforestry is the way of life for the Gedeo. The Gedeo livelihood and life ways are deeply entrenched in the agroforestry system. Enset and coffee farming is the main preoccupation of the Gedeo. These two are the basis for the continuity of the Gedeo. The present state of the conservation of the agricultural landscape is in a very good condition. People continue to follow the traditional way of cultivating and managing their land.

4.a.2 Archacological sites

The Gedeo consider the megalithic sites as part of their own history. They, to an extent are preserved and protected; despite some negative activities recorded in the past few decades. Currently, the four megalithic sites and the monuments within them are protected by the government. The regional government has put fences around the sites and assigned guards to protect them. The sites are well entertained; trees are managed, grass cut periodically. Access to the sites is monitored by the guard, and they are open to visitors.

It is to be noted that many megalithic monuments are fallen due to age, ground soil movement; and animal and human activities. This is now controlled and managed.

At Tuto-fela and Chelba-tutiti, because of intensive archaeological activities, some broken and fallen stelae are conserved and re-erected. However, due to the soft nature of the rock used to carve the monuments, they are in a state of degradation and weathering.

The Odola-galma rock art site is also fenced and protected by the regional government. However, due to weathering and water, the rocks that contain the engravings are degrading.

All the archaeological sites will need further attention to help protect them from rain and sun.

4.a.3 The sacred forests and the natural setting

Gedeo community is known by its a long history of ecologically sound system of natural resource management, especially indigenous agroforestry land use with dense natural trees are left or grown in which coffee and enset and other crops are intercropped (Kippie, 2002). At present sacred forests are managed largely by community elders at various hierarchy (Aba Gada, *Aba Roga,* Hayicha or elders of clans), commonly by clan elders. Kebele (lower administrative level of the country) also take part in the conservation of forests.

In general, in Gedeo culture cutting trees from sacred places is a taboo in the locality, and cutting trees from ones farm is considered as if removing the life of the owner and hence it is forbidden in the culture. Moreover, large trees are managed in front of homes or on open fields to use as shade for social gatherings on which local court (Songo) is set to assess and judge on local disagreements.

As trees are used for spiritual purposes both Ballee system and songo meetings are significant in the conservation of sacred forests. Thus, sacred forests and the fauna in them are well protected by the community.

Both Ballee system and songo meetings are significant in the conservation of sacred forests. In this regards Birbirota and Wogida Amba sacred forests are well protected by the community. Accordingly, Birbirota sacred forest is a Podocarpus forest, protected by collaborative efforts of elders and Kebele leaders, even the dead tree is not allowed to take away (fig. 40). Similarly, Wogida Amba sacred forest where *Syzygium guineense, Macaranga capensis, Pouteria adolfi-friederici* are dominant canopy trees species is in a better ecological status.

Knowledge about environment (agroforestry), socio-economic aspects, passing on knowledge to youngsters, learning each other's, etc… were carried (Legesse *et al.*, 2013). Each village has its own *Songo* where mass prayer called *qeexala* is made (Kippie, 2002). The *songo* also serves as a place where local griviances and disputes regarding domestic violence, land ownrsheep, and theft are setteled by elders.

4.b Factors affecting the property

The Gedeo cultural landscape is subjected to changes that are prevalent in the world as a whole and in the country in particular. Among factors that is affecting the cultural landscape climate change, invasive plant species, local changes in the economy, non-local belief system, modern education, illicit traffic, population increase are the main ones.

It is noted during consultation meetings with the local administrators, elders/traditional leaders, women and youth representatives, that all of the above threats are affecting the cultural landscape.

(i) Development Pressures (e.g., encroachment, adaptation, agriculture, mining)

The increase in invasive species such as *parthenium hystrophorus, Argemone mexicana,* and *Oxalis* spp.have impacted the agricultural landscape; however, without much impact on the integrity of the landscape. The changing lifestyle of the people has increased the movement of the population and towns are developing in some areas. That, however, does not significantly affect the cultural landscape.

It was stated that western religion and abandonment of the traditional African religion and customs were found to be responsible for the decline of cultural practices in biodiversity conservation (Abugiche et al., 2017). In the past, people respected our ritual spaces and the laws of the *Songo*.

The main pressure to the property is rapid increase in the population. The Gedeo Zone has a total population of 1.5 million, which is one of the most densely populated regions in the country (769 persons /Km^2), the national average being 70 whereas the average farmland size is about 0.3 hectares (Central Statistical Authority, 2007). Some areas are experiencing exceptionally high rates of population growth, with population densities up to 1200 persons /Km^2. Consequently, there is shortage of land and there are land fragmentation problems due to land sharing among sons upon marriage in Gedeo culture (Legesse *et al.*, 2013). This, in turn aggravates poverty.

Thus, tree cutting inside sacred forests, regardless of the traditional protection is probably to struggle poverty. This is not happening during a day time for fear of the culture and community elders.

(ii) Environnemental pressures (e.g., pollution, climate change, desertification)

The effects of climatic change and reduction in rains are clearly felt by the fact that the coffee and maize are climbing in altitude and taking higher grounds that were traditionally used for cereal cultivation. It has climbed from 2300 m asl. to 2500 m asl. in the last 20 years. With climatic change, coffee bean yield varied in subsequent years, affecting the lives of the farmers. These changes are being mitigated by the community by planting enset along with Coffee trees.

The issue invasive plant species are linked with changes in the ways of economic lives of the local people. Due to increase of the population, the traditional land plot allocation system is highly affected. With the increased number of family members, the land plot is becoming more fragmented and they now are at the stage where no piece of land is available for the next generations to continue to cultivate. Some people plant fast growing tree species such as eucalyptus trees, which has multiple advantages.

The archaeological sites are negatively affected by non-traditional competing beliefs. Most of the monuments were subjected to destruction and the rocks were used as building materials for churches and as bridges to traverse small creeks. This is now under control for the nominated sites as they are strictly protected. However, the changes that resulted from weathering have left most of them vulnerable. In the past, they were protected by the fact that the plant cover which had played a role and by the traditional belief that venerated the ancestral sprits.

(iii) Natural disasters and risk preparedness (earthquakes, floods, fires, etc.)

The Gedeo land is full of faults, very rugged and rolling with the altitude which reaches climbs from 1307 m a.s.l to 3072 m a.s.l. in a short distance of less than 20 kms. from West to East. This makes the landscape vulnerable to floods and landslides. However, the agricultural system employed has so far prevented the landscape from a major calamity. The vegetational cover

protects the soil from sliding. Apparently, it is not unusual to experience landslides in areas that have steep slopes and loose ground. However, there is no history of wild fires or any report of major damages in the area. This is due to the fact that the landscape is wellprotected through the traditional land management systems.

(iv) Responsible visitation at World Heritage sites

Tourism is not well developed in Gedeo. The few tourists that come to the region are attracted by the megalithic sites. Tourists present themselves to the Zonal Culture and tourism office for permits in order to access the archaeological sites. There are few experts that overlook visitations at the sites and keep constant contact with the guards at each and every site. Few years a go, there were some incidents of theft that were reported; but now, this is under control.

(v) Number of inhabitants within the property and the buffer zone

Estimated population located within nominated area: 271, 305
Area of nominated property: 296.2square Kms
Buffer zone: See explanation for buffer zone
Total: 296.2square Kms
Year: 2020

5. Protection and Management of the Property

5. a. Ownership

Land in Ethiopia is exclusively owned by the state as stipulated by the land proclamation of 1975. Before the 1975 proclamation, which abolished the feudal land ownership system, land was mainly owned by landlords. The proclamation had provided the tenants have the right to use and protect the plots of land they occupy. Thus, farmers have land deeds. They can cultivate and

can pass it over to members of their family while alive and/or upon death. Farmers have the duty of paying tax for the government for use right. Land use is regulated by the state policy. However, the state ownership of the land did not affect the traditional use and farming system. All the coffee/enset landscape is thus owned and managed by the individual farmers. The ritual sites (forests) are used by the communities that live around them and managed by the elders.

The megalithic archaeological and the rock art sites are owned, managed and protected by the regional government, which is represented by the Bureau of Culture and Tourism. The sites are all fenced. The Gedeo Zone office of culture and tourism follows the day-to-day activities in the archaeological sites and ensure their safety. Budget needed for their protection and the personnel employed are handled by the regional culture and Tourism Bureau.

5.b Protective designation

The Gedeo people have political representations in both the regional and federal parliaments. The needs of the community are communicated to the higher level following the plotical structures.Although the modern management structure is in place and functioning, the traditional management system, which relies on the local elders / chiefs is the most vital instrument for the sustenance of the Gedeo culture and landscape.

The properties are managed using the Federal and Regional proclamations and directives. These laws and directives are provided to protect and administer the properties. In addition to the general laws, additional proclamation is to be issued, which is specific to the Gedeo cultural landscape.

Legally, the status of traditionally used land and its protection is enshrined in the Ethiopian constitution (Proclamation No. 1 /1995, Article 39-2), which stipulates that “Every Nation, Nationality and People in Ethiopia has the right … to promote its culture; and to preserve its history.” And further (in article 91-2) it is stated that “… citizens shall have the duty to protect the country’s natural endowment, historical sites and objects.” (see annex 1).

Equally the Ethiopian “Cultural Policy” of 1997 (Annex_2) has emphasized that “… that the conservation and preservation of cultural, historical and natural heritage are the duties and

responsibilities of governmental and non-governmental organizations, religious institutions and all Ethiopian nationals" and "Facilitating the necessary conditions to conserve and preserve the heritage of the country; … And "…ensuring the cultures of the country receive equal recognition, respect and chance to development''.

At the lowest local administrative level called the Kebele, the individual farmers elect their leaders who represent the local community and oversee the day-to-day wellbeing of the heritage property within their boundary. These local community elected officials work in collaboration with the local elders. The local elders and ritual leaders are considered very powerful in creating the links with the *Mageno* (the deity).The belief in Mageno ensure the respect of the community towards the local elders. This is the base of the management system of the Gedeo cultural landscape. They are supported by the higher administrative structure at the district (Woreda level). The Woreda level administrators are well enlightened university graduates (B.A. holders), for most part, and communicate with the better versed Zonal level management structure, which include the Department for Culture and Tourism Affairs. This last one has directives prepared by the regional culture and tourism bureau as to how to manage and protect the heritage properties). All archaeological sites are managed and protected by the Gedeo administration, the regional government and the Authority for Research and Conservation of Cultural Heritage (ARCCH) at national level.

In addition to the above, the Proclamation, which is issued to provide for research and conservation of cultural heritage (Proclamation No. 209/2000, annex_3) recognized the value and heritage status of properties "… that describes and witnesses to the evolution of nature and which has a major value in its scientific, historical, cultural, artistic and handicraft content." (Part 1 Article 3, No. 4). This same proclamation in its Preamble acknowledges that cultural heritage "…plays a major role…and hence the protection and preservation of cultural heritage has been made the responsibility of each citizen, the society and the state".

Last but not least important is the *Rural Land Administration and Utilization Proclamation No.110/2007*(annex_4).This proclamation is issued by the Southern Nations, Nationalities and

Peoples Regional State, SNNPRS on March ,2007. On ownership and use rights of the communities, it states that "The right of getting land for communal use…, that is for … social and cultural affairs and religion is reserved" (Article 6 no. 4); and the use right equally include the right of "Protecting wild animals, plants, birds, and other natural and artificial resources and heritages, which are harbored under it's possession" (Article 6 no. 7). The customary laws that are practiced by the community are accepted by this same proclamation, as it is stated in Article 16 no. 3 and no.4 that, "…local laws issued by the society, and customary practices…" are to be respected and communal users "…shall be responsible for protecting wild animals, plants, birds, and other natural and artificial resources and heritages found on the communally possessed land.". Further, Article 19 no. 1 ensures the sustainable preservation and use of "lands demarcated for forest, wild life, soil conservation…and historical use…"; and the "Right of the local community to share from the benefits gained from protected and preserved areas are reserved" (Article 19 no. 3).

As shown above, the proclamation has laid the necessary ground for a further legislation that ensures the protection of the cultural landscape.

Based on this proclamation, the South Nations, Nationalities and Peoples Regional State (SNNPRS) has drafted a proclamation to the effect of the conservation and protection of the cultural landscape. (annex_6).

The heritage properties are to be managed in the following manner.

At the local/ kebele level the management committee is composed of 11 people from elected members of the local community.

At the next higher level, the at district/woreda level, the management committee is composed of 16 members who are composed of all the administrative and relevant stakeholders.

At the zonal level, which is, administratively, at the higher level of the local administration that encompassed the whole nominated area located in the six Kebeles, the management committee is composed of 10 members who are assigned from all relevant government offices and non-governmental organizations and civil associations.

5.c Means of implementing protective measures.

The Ministry of Culture and Tourism is legally the highest institution empowered to protect sites of cultural importance in the country.

The Authority for Research and Conservation of Cultural Heritage (ARCCH), Ministry of Culture and Tourism is empowered by the ministry of culture and tourism, by decree, to follow-up and administer all heritage sites in the country.

The role of the Federal, Regional and Zonal administrative organs with regard to the protection of the cultural properties is indicated in the constitution. However, the functional harmony between the Constitution, the land proclamation and the traditional management system is under review and the legal document that is destined to protect the property (specific to the property) is under review. This new document is expected to address the issue based on the organic linkage between all parties and policies.

At the same time, the role of the various bodies and their basic responsibilities are outlined below.

The Federal Ministry of Culture and Tourism/ ARCCH is assigned to perform the following tasks:

- Issue polices related to natural and cultural properties,
- Provide capacity building training to the personnel working in the properties,
- Assign budget for the protection and conservation of the property,
- Work with international institution for fund raising,
- Look for and hire highly trained international expertise when conservation work requires such expertise; and supervise the work.

The regional government shall perform the following duties:

- Prepare legal documents for the properties;
- Perform capacity building;
- Establish an office for the protection of the cultural landscape;

- allocate budget to run it;
- hire personnel to perform the tasks; and ensure the good functioning of the office;
- Collect revenues from the tourism activities and disburse the income to good use of the protection if the property

The zonal committee has the following duties and responsibilities:

- To ensure the allocation of the needed budget for the management of the property and follow-up its use;
- Follow-up the performances of the world heritage management office to be established; and shall provide the needed support to the office;
- Make decisions on measures, based reports from the world heritage management office.

The District (Woreda) management committee performs the following:

- Follow the day today activities within the property;
- Provide support within capacity;
- File in reports to the zonal administration on activities and issues encountered.

Kebele Heritage management committee, which is at the grass-root level, working very closely with the local communities, will be accountable to the Woreda heritage management committee.

- It does follow-up of the cultural landscape**;**
- Report to Woreda management committee upon any harm that befall the cultural property**;**
- Involve communities in the protection and use of heritage properties**;**
- Work in collaboration with the office of Woreda heritage committee;
- File report on monthly basis to the Woreda heritage committee; and act according to advises and directives of the same.

5.d Existing plans related to municipality and region in which the proposed property is located (e.g., regional or local plan, conservation plan, tourism development plan)

At this stage, the archaeological sites are all under the administration of joint Regional and Zonal culture offices. However, there was no an agreed upon plan prior to this nomination process. Now, as part of the process for the nomination, and after repeated consultations with all stakeholders, a management plan is put in place (Management plan attached). As noted above, the respective community leaders and elected members of the heritage protection committee ensure the agreed up on plan. There are plans at three levels to be implemented. The first one is the management of the agroforestry with all its values and its components. This plan ensures the continuity of the good and balanced use of the traditional agricultural system. The second one will be the protection of the ritual forests. This will be ensured following the traditional system by empowering the local ritual elders and leaders, as was traditionally done before; but the custodians will have more power which will be reinforced with the modern legal system. The third one is the management and protection of the archaeological sites for which the system is already in place as outlined above. The archaeological sites are protected by the laws provided for the protection of all cultural heritages of the land, and in addition to it, the detailed management plan is prepared in relation to the existing government structure which is in place.

5.e Property management plan or other management system

The property management plan has outlined in detail all the necessary measures, which assure its effective implementation in the protection of the Gedeo Cultural Landscape.

The indigenous Gedeo communities who are living in the property have traditionally used and traditionally managed the proper use of the cultural landscape. The communities own the agroforestry, the traditional forests, the megalithic sites and the rock art site. In the traditional management system, the Gedeo use the *baaboo* agroforestry management system, which entails a sustainable management of natural resources. According to the *baaboo* system, all members of the community, regardless of the age and the gender, plant indigenous species of trees and herbs. In the Gedeo belief system, *baaboo* is based on the inception of life; which is the basis for the

traditional agroforestry system. This is better explained as follows: a father of a newborn is supposed to plant minimum of four heads of the *enset* (*ensete ventricusom*) plant, in the four corners of the homestead to commemorate the new birth and to use the spot to bury the umbilical cord of the baby. This is further followed by placing indigenous trees branches as testimony for both male and female newborns.

It is expected that every member of the Gedeo community should have knowledge of the *baaboo* system because the system guides the overall life of the individual and the households. This system for management of resources (land, different levels of trees, water, soil, animals, etc), is common to all members of the Gedeo community. Thus, the *baaboo* is at the center of the Gedeo traditional management system which ensures the future conservation of the agroforestry system.

Due to a fear of calamities and ancestral curses indigenous trees are never cut or injured. This is reinforced by the *Songo* traditional institution which protects sacred places where cultural, environmental, social, and political issues are dealt with: local disputes and conflicts are resolved by elders, and knowledge is passed onto the next generation.

Thus, the *Baaboo* and Songo traditional institutions are backbone for the conservation of the Gedeo cultural landscape.

In addition to the above mentioned community based indigenous institutions, the management committee formed at different management level which also include local communities, the district authorities, Zonal Department of Culture, Tourism and Sport Office and the Zonal Administration are the main actors who will exert all efforts and are committed to protect and conserve the properties. The regional Bureau of Culture, Tourism and Sport, the Federal ARCCH and local NGOs are engaged by law to play a major role in the conservation and legal protection of the cultural landscape. They are also entrusted with the duties to promote research and use the same for education. The preservation of indigenous knowledge, management of demographic pressures, enhancement of local economy will greatly support both indigenous and government based /municipal conservation efforts. These are outlined in the Regional development Programs.

Issues identified in the course of the preparation of the management plan such as:

- Conflict between the old and new generation in world outlook, i.e., understanding of indigenous knowledge;
- Development and modernization pressures;
- Conservation issues ;
- Demographic pressure;
- Economic pressure;
- Research and education issues ;
- Legal issues were thoroughly analyzed.

Based on this analysis strategies and actions are devised to achieve objectives.

Implementation of the plan phased goals and action plans are outlined for each management levels, which include local communities, districts, and zone, regional and federal level.

Monitoring of conservations of the properties for each and every indicated property and their indicators are outlined together with the administrative arrangements.

In order to achieve the above an action plan is prepared outlining activities, implementation period, implementing agencies, partners and indicators. The outlined action plan covers the time period until 2026. The responsible agencies include local communities and their traditional leaders, government institutions in all hierarchies, educational institutions and NGOs.

The grassroot cultural landscape management committees are composed of community leaders, *Baallee* elders, representatives of religious organization, women and the youth, development agents and concerned governmental officials.

The tourism development plan of the SNNPR Bureau of Culture, Tourism and Sport has prepared five years plan with an implementation program (annex_7). This plan will be implemented with the direct involvement of the local community through Gedeo Culture, Tourism and Sport Department. According to the Tourism Revenue regulation of SNNPR, it is

regulated that 40 % visitors' fee will be used for conservation and protection of the cultural Landscape. This regulation is already under implementation.

Furthermore, the government is currently conducting an integrated watershed management program in which afforestation program using local indigenous trees is one activity. The Zonal Office of Nature and Environmental Protection is supporting the community in their efforts of the conservation and protection of indigenous plant species. The Office has begun to code big trees and has started posting tags for each indigenous tree. It has also embarked on educational programs on Environmental Impact Assessment/EIA in local agro-industry projects, such as coffee pulpry, and *enset* processing cottage industries when the case arises in the future.

The Gedeo cultural landscape has to be inscribed in World Heritage List because it encompasses different Outstanding Universal Values and can be sustainably conserved using traditional and modern community based governance systems.

5.f Sources and levels of finance

The finance needed for the protection of the cultural landscape, mainly the archaeological sites, is derived mainly from the annually allocated budget by the South Nations, Nationalities and Peoples Regional State (SNNPRS). The SNNPRS annually allocates the needed budget for each and every heritage property that is located within its territory (such as the Tiya, Konso and South Omo World Heritage sites). The regional government, in addition to allocating budget, also employs guards who protect the sites. The regional government is assisted by the Federal Authority for Research and Conservation of Cultural Heritages (ARCCH) financially and technically. The zonal administration also, in its capacity, allocated a modest amount of finance from its own budget and local revenues.

As for the agricultural landscape and the ritual forests, it is the responsibility of the individual community member who owns the portion of land on which he/she resides; and the responsibility of the ritual leaders and elders who perform rituals in the sacred lands. The Regional and zonal administrative organs do provide the needed support as the need arises. So far there is no direct finance-related interactions regarding the agricultural and ritual sites.

5.g Sources of expertise and training in conservation and management techniques

Regarding human capacity building by training the personnel needed for the protection of the properties, there has been training packages prepared and provided to all concerned cultural heritage personnel annually. A number of research projects were undertaken to better understand the properties. On site trainings were provided to local students about the sustainable use and protection of the properties.

Non Governmental Organizations active in Gedeo zone are encouraged to provide support in the training of people who are interested in taking part in the service sector such as small catering services, cottage industries that specialize in the production of locally made gift articles; and support the human capacity building training programs.

In order to train the guardians of the traditional institutions, there will be a need to give them recognition, which enables them to continue to perform the culturally accepted roles.

It is planned to further work to hold more training programs by all concerned bodies from Federal all the way to the zonal levels.

5.h Visitor facilities and infrastructure

Visitors seldom come to visit the Gedeo Cultural landscape. They visit the unique coffee and enset farms and farming systems in the rolling landscape as they walk to the archaeological sites. The archaeological sites are mostly located within the proximity of major roads. The whole landscape is within close distance either from the zonal administrative town, Dilla, which has a number of reasonably accommodating hotels including tourist standard hotels and lodges which provide western dishes on menus and comfortable bedrooms. There are also clean hotels in Yirga-Chefee, a town known for its world standard coffee varieties. Visitors can also drive to Hawassa, a modern town 100 kms to the north of Dilla, for high class hotel services. The road between Hawassa and the property is paved. There is electricity service and mobile telephone network service at every small town in Gedeo. Mobile telephone network is available at any location, and the local community members use mobile phones. Internet/Wi-Fi service is available at major towns such as Dilla and Yirgacheffe.

Currently, the small towns in Gedeo are prospering and new tourist facilities are being developed.

Tourist information centers are constructed at all five megalithic sites. Although there is no ticket service so far, and tourist fees are payed at the center, at Dilla, there is a need to establish entrance ticket system at every site.

There are signs posted at main locations in the main junctures, indicating each megalithic site.

The foot paths leading to the megalithic sites pass through local villages with coffee and enset plantations. The visitor can admire the land use of the communities, see their back gardens while savoring the sweet smell of the herbs planted around the individual home steads. Sometimes, visitors could also see the way how enset plant is processed at its various stages and baked in to Kocho (the bread from enset). Local children could be seen playing around the home steads. The Gedeo are very peaceful people.

Based on the receipts and associated records from the Gedeo zonal culture, tourism and sport office, the following data (Table 10) is generated to show the frequency and type of visitors in the cultural landscape.

Table 10 Frequency and type of visitors in the cultural landscape

No	Year	Number of tourists			Income in Birr		
		Domestic	Foreign	Total	Business tourism	from visitors in archaeological sites	Grand total
1	2014	65,456	312	65,768	16,364,000	3,900	16,367,900
2	2015	73,296	489	73,785	18,324,000	61,125	18,385,125
3	2016	70,738	5012	75,750	17,684,500	626,500	18,311,000
4	2017	44,656	110	44,766	11,165,000	13,750	11,178,750
5	2018	53,612	220	53,832	13,458,000	27,500	13,485,500
	Total	307,758	6153	313,901	76,995,500	732,775	77,728,275

Regarding promotion of the sites, there is an effort, at semi-permanent phases at all stages including at the federal regional and zonal level using television/and/ radio programs and journals.

The personnel of the World heritage office in the Gedeo zone are expected to be trained in heritage management.

So far there are no locally organized tour operators in the Gedeo zone. However, there is a plan to initiate that in the near future and this is indicated in the tourism plan.

5.i Policies and programmes related to the presentation and promotion of the property

A Five years tourism plan is prepared for the nominated property. So far there are no information centers; but this will be undertaken soon. A cultural center is under construction in order to present and facilitate the promotion of the property. Steps to revitalize the traditional agricultural system are underway by the zonal natural properties protection sector office.

The Gedeo Development Association and the "Sustainable Land Management office (SLM)'' are working on the protection of the agricultural landscape and the ritual forests.

There is a plan by the zonal administration to protect the ritual sites called Songo; to support and provide recognition to the traditional legal system; and to create a documentation system in order to facilitate the traditional management system.

There has been training prepared and provided to all concerned personnel annually. Research is being undertaken to better understand the properties. On site training were provided to local students about the sustainalble use and protection of the properties.

Non Governmental Organizations in Gedeo are encouraged to provide support in the training of people who are interested to take part in the service sector such as small catering services, cottage industries that specialize in the production of locally made gift articles; and support the human capacity building training programs.

5.j Staffing levels and expertise (professional, technical, maintenance)

So far ten people are employed to protect the archaeological sites. These employees are selected from the local communities based on their interest in the protection of the property. They are trained on performing daily observations and take notes and report to the district authorities and the Zonal Culture and Tourism Department.

As for the agricultural landscape, the whole community will be in charge, using the traditionally acquired skills and there will be no need to hire additional people. To monitor the protection of the property, all the management committees at each stage, especially at the Kebele (grassroot level) will be in charge to take notes and communicate to the next highest level. The Zonal management committee performs regular quarterly visits to the sites and report findings to the regional culture and tourism bureau. The regional and federal culture and tourism offices ensure the bi-annual inspection of the property.

Tailor-made guide training for local youth is underway. Although this has a humble start, it will be strengthened as the tourism flow increases. In the future, it is planned to upgrade the qualification of the heritage protection experts in Gedeo zonal Culture and Tourism office through training programs tailored to this effect, with support from NGOs working in the area and the Regional and Federal authorities in the sectors of culture and tourisms. The Federal ministry of agriculture, institute for biodiversity, Hawassa and Dilla Universities will take part in future training programs.

6. Monitoring

6.a Key indicators for measuring state of conservation

It is noted that the megalithic sites of Tuto-fela and the rock art site of Odola-galma are in an extermly bad state of conservation; thus, they require immediate attention. In order to understand the degradation rate of the rocks from which they are made, a geo-chemical study is required as a first step. At the same time Tuto-fela megalithic site may require immediate intervention which may begin with having shelter in top of the monuments until such time when permanent conservation mechanisms are acquired.

The Odola-galma rock engravings are in a very bad state of conservation due to erosion from the running waters to which it is badly exposed. Lichens and algae which form after each rainy season negatively affect the engravings.

The sacred forests are all in identical state of conservation and the required conservation to maintain the tree species that are found within them is identical.

The enset and coffee landscape which is part of the cultural landscape is well maintained for the time being. The impact of global warming is minimal; so that interventions to be taken are not very evident at this moment. However, education on environment and its impact need to be given at all schools and farmers have to be sensitized.

The *Baallee*, Gedeo *Gada* system used to maintain the relationship between nature and society and their *Songgo*, will need to be maintained and strengthened in order to protect the functions of sacred places and biodiversity conservation. As trees are used for spiritual purposes, both the *Baallee* system and Songo meetings are significant in the conservation of the sacred forests. Thus, sacred forests and the fauna in them are well protected by the community.

List of key indicators that have been chosen as the measure of the state of conservation of the whole property is presented below.

Table 11 List of key indicators

Indicator	Periodicity	Location of Records
-Conservation and deterioration rate of stele in megalithic sites	Annually	Zonal, Regional and ARCCH
-Conservation and deterioration rate of the rock art site	Bi-annual	Zonal, Regional and ARCCH
-Inventory of tree species in the sacred forests	Annually	Zonal and Regional Culture offices and ARCCH
-Condition of the enset and coffee Landscape	Bi-annual	Zonal, Regional and ARCCH
-Continuity of the Songo and Bale Systems	Annually	Zonal and Regional
-Population increase	Annually	Zonal and Regional
Monitoring development impacts	Annually	Zonal and Regional
-Monitoring natural disasters	Annually	Zonal and Regional

6.b Administrative arrangements for monitoring the property

The condition of the property is monitored and evaluated at several stages based on time periods that are agreed up on by all management committees. It would be important to outline the roles, powers, duties and representations of the government structure for the follow-up of Cultural and Tourism affairs and the management committees established at the various levels. The office of the culture and tourism at Woreda and Zonal level is to perform duties that are entrusted to it by the regional culture and tourism bureau of the SNNPRS. Whereas, the management committees at Kebele, Woreda and Zonal stages are concerned, their duties and responsibilities are outlined in the proclamation provided for the conservation and protection and management of Gedeo Cultural Landscape (annex_6).

The administrative arrangement for the management of the Gedeo Cultural landscape is devised as follows:

The Kebele (local peasant association) is the institution which is at the grassroot level and is supposed to oversee anything significant that occurs within its community. The Management committee at this level is empowered to observe and protect the properties within its territory and report to the Management Committee and Culture and Tourism office at the next highest administrative level, the Woreda (district). The district (Woreda) Management committee upon receiving the report will evaluate the same and advice the Culture and Tourism office at the district level about measures that may need to be considered for negatively impacted properties; or upraise the reports. The district management committee compiles and files its reports to the Zonal management committee once every month. The same report is filled to the zonal culture and tourism office in the same interval through the district culture and tourism office.

The zonal heritage management committee functions hand in hand with the zonal office for Culture and Tourism. Whereas the Zonal Culture and Tourism office is concerned with all culture and tourism affairs in the zonal administration, the zonal management committee is concerned uniquely with the nominated property. Thus, there is no overlap of duties and responseblities between the two organs; rather they support each other. The zonal management committee, based on reports that it receives from the district management committee, analyses the reports, pass decisions on issues that are within its power and reaches, and after discussion with the zonal culture and tourism office, together, they may take action and /or they file the necessary report to the Regional Culture and Tourism Bureau every 3 months.

The regional Bureau of Culture and Tourism, as the main organ concerned with the property at the level of the SNNPRS reviews reports it receives; send experts to the property for bi-annual on- site inspection of the state of conservation of the property; and based on its findings takes appropriate action; while annually file its reports on the state of conservation and required interventions to the Federal Authority for Research and Conservation of Cultural Heritage (ARCCH).

6.c Results of previous reporting exercises

The wealth of cultural property that has now come together as the Gedeo Cultural Landscape has been a subject of several visits by the Regional culture and Tourism Bureau and the Federal Authority for Research and Conservation of Cultural Heritage. As such inventories were made by heritage research personnel of both institutions and researchers from abroad and students. Although these reports were not coordinated periodically, they have provided important inputs on the Megalithic and rock art sites, the bio-cultural data, the significance of the enset and coffee based agroforestry. Some of reports and publications which emanated from such exercises are outlined below.

The earliest report on the Gedeo megaliths dates back to the beginning of the 19th. Century.

François Bernardin Azaïs in his Cinq années de recherche archéologie en Ethiopie (1931) has introduced to the world the wealth of megalithic monuments he observed based on his travels and documentations conducted between 1922 à 1926 in southern Ethiopia. This monumental work could be considered as the first documentation of the Gedeo megalithic sites and its ‘‘more than 10,000 steles’’.

Since then, a number of researchers, such as F. Anfray and employees of the ARCCH and the Bureau of culture and tourism of SNNPRS have conducted multiple inventories of the megalithic sites and the stelae within the sites. R. Jaussaume had conducted multiple years of archaeological excavations in Tuto-fela for five years (from 1993-2000) and test excavated Chelba-tutiti and brought to light the functions of the megalithic sites. His work had enabled him to inventory the stele in the sites (320 in Tutofela and more than 700 in Chelba tutiti), photo document them periodically and to at last publish them in two volumes.

Heritage experts working in the Culture and Tourism Bureau and the Gedeo zone Culture and Tourism office have frequently performed inventories and did research on the conservation status of the megalithic sites and the rock art site. Their reports are all compiled and present in the archives of the Bureau.

Very important detailed data was generated by two young ARCCH archaeologists named Habtamu Tesfaye and Abebe Mengistu (2012) who did a very detailed inventory of the location of the megalithic sites, their state of conservation, the description of the sites and the monuments supported with photo documentation. Anne-Lise Goujon in her Master's thesis (2013, Université Lumière Lyon II UFR Archéologie Tome I and II) was able to systematically and cunningly demonstrate the distribution of the megalithic sites in Gedeo and present their inventory, style and GPS locations Goujon's, Habtamu's and Abebe's works are the last of the inventory and documentation works which were conducted prior the last visit and data verification by the team organized by the Association for the Conservation of Culture (ACC) for the preparation of this dossier.

These are just few of the examples of reports generated regarding the megalithic sites. Based on these reports, the significance of the sites and the danger they are in was evaluated and barbed fences are put around the main ones and guards hired to protect them.

Regarding the agroforestry, several reports and research are conducted and continue to be conducted by biologists and agronomists from Dilla University. Hawassa University biologists are also involved in this effort. NGOs working on bio-diversity and settlement from various corners of the country have joined force in documenting the amazing bio-cultural wealth of Gedeo. Their detailed works are referenced in the reference section of this dossier.

7. Documentation

7.a Photographs and audiovisual image inventory and authorization form

ID.No	Format (Slide Print /Video)	Caption	Date of photo (mo/date/Yr)	Photographer /Director of the Vedio	Copyright owner (if different than photographer /director of video)	Contact details of copyright owner (Name, address/tel/Fax and e-mail)	Non exclusive right
Dp.C TS 1	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 2	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 3	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 4	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 5	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 6	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 7	Digital photo	Chelba-tutitiStelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 8	Digital photo	Chelba-tutitiStelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 9	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 10	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 11	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 12	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 13	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO

Dp.C TS 14	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 15	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 16	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 17	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 18	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 19	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 20	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 21	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 22	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 23	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 24	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 25	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 26	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 27	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 28	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 29	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO

Dp.C TS 30	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 31	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 32	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 33	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 34	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 35	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
Dp.C TS 36	Digital photo	Chelba-tutiti Stelae	Feb,8-9/2018	Yonas Beyene			Granted to UNESCO
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7.b Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property

The draft proclamation to protect the Gedeo Cultural Landscape and the Management Plan are attached. Inaddition to these, the Regional government Constitution, the regional land proclamation, the Federal Cultural Policy, the Proclamation provided for Research

and Conservation of Cultural Heritages. The Regional State Tourism Plan and draft proclamation for the conservation and protection of the Gedeo cultural landscape are attached.

7.c Form and date of most recent records or inventory of property

Data relevant to inventoried traditional agroforestry system, sacred forests and megalithic sites in Gedeo (After R. Jaussaume, 2013)

Site name	Coordinate	Property_type	Tree species/ number of stela	Animal species	Date of inventory
Traditional agroforestry system	N 6° 14' 56" and E 38° 17' 16".	Traditional agroforestry	195 plant species		2018
Wogida Amba sacred forest	N 6° 17' 22" & E38° 20' 23"	Sacred forest	63 woody species	23 species of birds and six species of mammals	2018
Bolocho sacred forest	N6° 22' 20" & E38° 21' 55"	Sacred forest	69 different woody species	19 species of birds and six species of mammals	2018
Birbirota sacred forest	N6° 21' 48" & E38° 19' 28"	Sacred forest	28 different woody species of trees	19 species of birds	2018
Basura sacred forest	N6° 19' 5" & E38° 21' 43"	Sacred forest	15 different woody species of trees	19 bird species.	2018
Tuto-fela megalithic	N 6° 17' 45" and E 38° 14' 16"	Megalithic site	320 Stelae		2018
Chelba-tutiti megalithic	N6° 15' 41" and E38° 11' 48",	Megalithic site	1530 Stelae		2018
Sede-mercato Megalithic	N6° 07’ 05’’ and E38° 10’ 59’’	Megalithic site	663 Stelae		2018
Odola-galma Rock art	N6°17’23’’ and E38°20’23’’	Rock art			2018

7.d Address where inventory, records and archives are held

The records are done by Authtority for Research and Conservation and Cultural Heritage, (ARCCH), Bureau of Culture and Tourism (BCT), Association for Culture Conservation (ACC), Dilla University

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