Volume 17 Issue 28
Originally issued as C4

Global Journal of human-social science: C
Sociology & Culture
Volume 17 Issue 4 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

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Keywords: *Indigenous veterinary medicine-healing- Saasiggaa-biomedicine-livestock Challenges.*

GJHSS-C Classification: *FOR Code: 370199*



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Utilization of Indigenous Plant-Based Veterinary Medicines among Saasiggaa Oromo of South West Ethiopia: A Case Study

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Keywords: indigenous veterinary medicine-healing-saasiggaa-biomedicine-livestock challenges.

I. Introduction

Ever since the human life started on this earth, disease and death co-existed with him and with his animals. Therefore, efforts have been made to get relief out of it using herbs in various forms as a medicine from the very beginning of the human civilization. Traditional veterinary medicines are the least expensive be locally prepared and traditionally rooted in the life style of the people.

Indigenous veterinary medicine is the first chosen in developing countries where biomedicine for livestock healthiness is difficult to get (McGaw et al. 2007). As (Iqbal et al,2003) state out more than 80% of the community in our world today dependence on indigenous remedies to for curing and treating both human being and livestock ailments.

From the historical corner, the cultivation and use of spices, herbs, medicinal and other essential oil-bearing plants are not new to Ethiopia. It is as old as the crop themselves, and its history can be traced back to the reign of Queen Sheba ca.992 BC (Endashaw 2007). Ethiopia is the origin and/or center of diversity for many of these plant species The various literature available show the significant role of medicinal plant in primary health care delivery in Ethiopia where 70% of human and 90% of livestock population depend on traditional medicine similar to many developing countries particularly that of Sub-Saharan African countries.

In addition, FAO state that due to the shortage of modern medicine to treat diseases and infection countries of the world. The indigenous healing practice through medicinal plant species is still in use in many cultures and by veterinarians as well as medical experts. The transmission of indigenous knowledge system of veterinary medicine and healing practice is determined by personality and socio-cultural dynamics. But currently, due to the colonial power of the biomedical drugs of the western culture and other challenges, there is a great delay of indigenous veterinary medicines all over the culture of humankind.

Many scholars have conducted researches on Indigenous medicine in general and indigenous veterinary in particular from various perspectives and field of studies. In this view, Raat, (1948) studied Homeopathic Treatment of Domestic Animals; Joshi,(1984)Traditional (Indigenous) systems of veterinary medicine for small farmers in Nepal; research on the role of indigenous drugs in veterinary medicine in India by Bhandari & Mukerji,(1958); Gidey, (2009) Assessment of indigenous knowledge of medicinal plants in central zone of Tigray; Abdulhamid,et al (2004) Promoting production of medicinal plants for human and animal health in and around Bale Mountains National Park and Use and management of ethno veterinary medicinal plants by indigenous people in Boosat, Welenchi area, Ethiop by Debela et al,(2004).

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In Ethiopia, the use of indigenous medicinal plants in veterinary medicine is also at risk. Although in igneous medicine plays an important role in Ethiopian society, knowledge about the extent and characteristics of traditional medical practices is limited. Thus, this folkloric study motivated on the indigenous veterinary medicinal plants utilized by *Saasiggaa* Oromo western Wallaga zone. Therefore, this study aimed to meet the following objectives related to indigenous veterinary medicine:

To explore the concept indigenous veterinary medicinal plants in study area;

1. To assess the Livestock diseases and values of Indigenous veterinary medicinal plants;
2. To describe the roles of belief system in plant-based medicines utilized in indigenous veterinary practices; and
3. To put out the mode of preparation and management of indigenous veterinary medicinal plants among the *Saasiggaa* Oromo.

II. Research Methodology

a) The Research Design

The researchers have been employed qualitative research model for the sake of meet the general objectives and answer basic research questions. The logic behind to select qualitative approach is to explore outlooks, conduct, daily activities and know-hows via research methods such as key informant interviews; focus group discussion and none participant observation.

In addition, as per folkloric study is concerned in dealing and investigating the lore of certain folk, the present study search for documenting the indigenous veterinary medicine and healing practices of the *Saasiggaa Oromo based on ethnographic evidence.*

b) Sampling Techniques

Bryman, (2004) states that qualitative research does not simply use samples as representatives of the population under study; rather it works with a small sample of a folk group, cases, or phenomenon nested in particular context. Thus, the researchers utilized judgmental sample procedure and we have identified them throughout an investigation. Therefore, we have identified key informants in circumstance whose wisdom may offer imperative sensitivities on the subject of our research questions.

c) Methods of Data Collection

The researchers have conducted 17 interviews with my informants, together with the judgmental chosen key informants who have knowledge on the issue under investigation. We have selected five key informants from local healers, knowledgeable elders, and cattle owners who have treated livestock with indigenous medicine based on our objectives. Data obtained from such key informants was considered as primary data sources and also we have interviewed 8 informants' officers those who gave us data regarding the general background study area. Since observation is vital in the study is Folklore to obtain original data from normal settings. According to (Bernard, 2006) observation is used in ethnographic fieldwork to get relevant and valid information and the foregoing conditions as it is in actual natural setting. Hence, the researchers conducted field work and lived in the society for one month and observe how they protect and healing livestock diseases by utilizing an indigenous medicine. Even if our observation is none participant we have been observed the way to prepare and treat their cattle.

The other *mechanism* is *Focus Group Discussions (FGDs):* accordingly, three FGDs were conducted with local elders and folk practitioners. Among these one FGDs were consisted seven (7) folk therapists those who treat human being; the second FGD consisted five (5) indigenous veterinary practitioners, as well as last group, consisted seven (7) local elders (male 5 and female 2). Finally, the researchers facilitated discussions and took field notes.

d) Data quality assurance

In line with the rationale of data quality assurance during an interview, each informant was contacted more than two times and the same questions were raised for different informants. By doing these we have been identifying and rejected the corrupted information's which far from the reality and the relevant and original data were gathered and documented via cross-checking validity. Further, the data quality was ensured through training of data collectors, pretesting of instruments, checking of missing data, data cleaning and double entry, and careful data analysis.

III. Description of Study are: an Overview

Saasiggaa is one of the *aanaa* in the Oromia Region state of Ethiopia and a part of the East Wallaga Zone. *Saasiggaa* is bordered on the south by Diga Leka, on the west by the Benishangul-Gumuz Region, on the northwest by Limmu, on the north by an exclave of the Benishangul-Gumuz Region and on the east by Guto Wayu. The administrative center of this *aanaa* is *Gaalloo Jaanjaa*. Other towns in *Saasiggaa* include *Gabaa Jimaataa*, *Sambat-duree*, *Guutee Wayyuu* and *Tigee*.

Part of this *Aanaa* is characterized by its undulating hills. Rivers include the *Qarsaa*, *Gumbii*, *Lagni Dagarree*, *Diddigaa*, *Qobboo* and the *Beggee* Rivers. A survey of the land in this *Aanaa* shows that 11.9% is arable or cultivable, 2.8% is pasture, 1.6% is forest and the remainder (83.7%) is swampy, marshy or otherwise unusable. Forested land is organized into the *Danbii*, *Laga Ayya*, *Baloo*, *Bareda* and *Gumbi* natural forests and the *Xigge* State Forest. Local landmarks

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include the Kolobo Cave and the Bereda and Cumbi Falls. Coffee is an important crop in this *Aanaa* with over 5,000 hectares of plantation.

Industry in the *Aanaa* includes 3-grain mills. There are 7 Potato Associations with 5,272 members and 5 Farmers Service Cooperatives with 4,727 members. *Saasiggaa* has 54 kilometers of dry weather roads and no all-weather road for an average road density of 57.6 kilometers per 1,000 square kilometers. In *saasiggaa* there *gandaas* such *Odaa Guddinaa*,*Milkii Guddinaa* and *Bareedduu Belloo*[1]. The 2007 national census reported the total population for this *Aanaa* to be 80,814, of whom 41,326 were men and 39,488 were women. 2,573 or 3.18% of its population are urban dwellers. The majority of the people (62.7%) observe Protestantism, while 21.55% are Muslim and 14.21% are Ethiopian Orthodox Christians.

Based on figures published by the Central Statistical Agency in 2005, 4,330 people or 6.91% of its population are urban dwellers, which is about the same as the Zone average of 13.9%. With an estimated area of 938.13 square kilometers, *Saasiggaa* has an estimated population density of 66.8 people per square kilometer, less than the Zone average of 81.4.

The 1994 national census reported the total population for this *Aanaa* to be 44,892, of whom 22,246 were men and 22,646 women; 2,423 or 5.4% of its population were urban dwellers at the time. The two largest ethnic groups reported in *Saasiggaa* were the Oromo (96.15%), and the Amhara (3.34%) and all other ethnic groups made up 0.51% of the population. *Afaan* Oromo was spoken as a first language by 96.78% of the population and 2.94% spoke Amharic while the remaining 0.28% spoke all other primary languages reported. The majority of the inhabitants were Protestants, with 60.14% of the population reporting they observed this belief, while 36.15% of the population said they were Ethiopian Orthodox Christians, and 2.56% were Muslims[2].

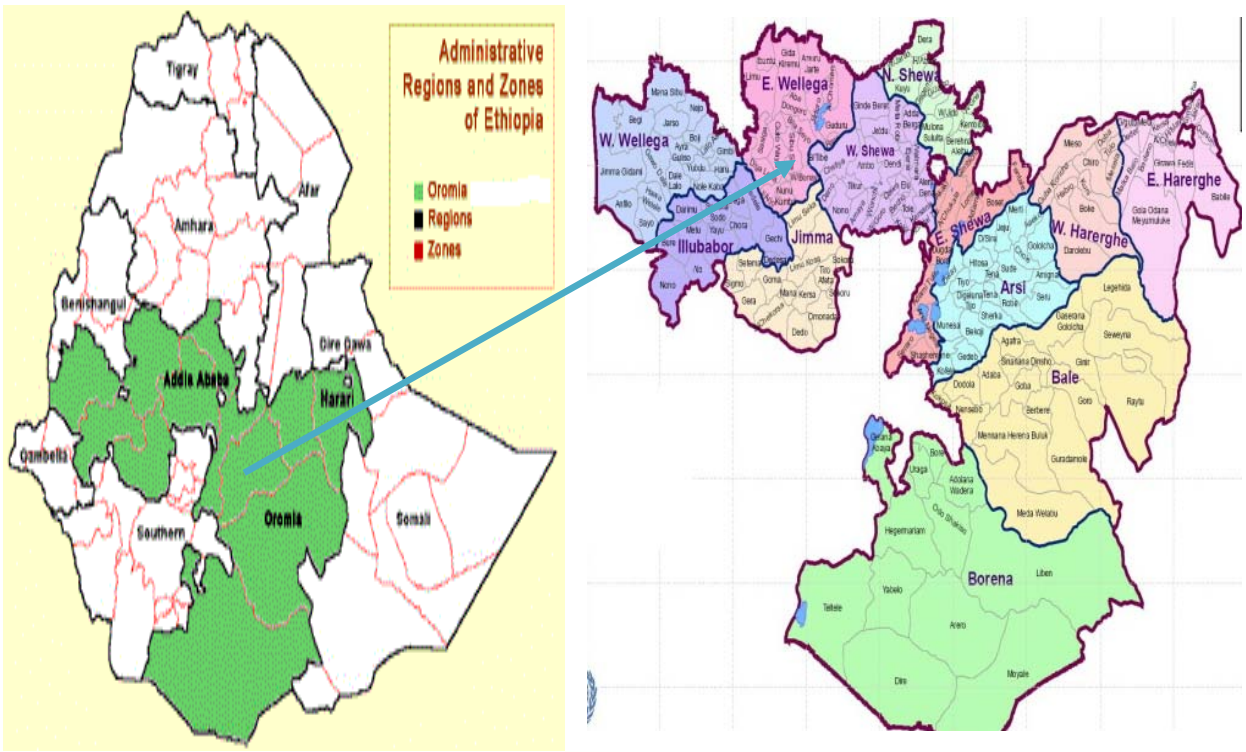


Fig. 1: Map of study area

[1] Data from written document: government communication affairs office of the *Aanaa*.

[2] East Wallagga zone, office of the Communication affairs

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IV. Results and Discussions

a) *Utilization of Indigenous Plant-Based Veterinary Medicines among Saasiggaa Oromo of Southwest Ethiopia*

According to our research finding, a total of 25 indigenous veterinary medicines from plant type were documented which utilized to treat and control about 21 types of domestic animals ailments[3]. Indigenous plant species were distributed in four *Gandaas of Aanaa Saasigga*. Our data ravel that majorities of the indigenous veterinary medicines are prepared from indigenous plant species which mainly found in the study area (Table 1).

Table 1: Plants species utilized to treat livestock diseases in *study area*

Local Name	Parts	Therapeutic indications	Indigenous formulation
Dheertuu,Ija barbaree	Leaf	*Bushooftuu*	Powdered with salt and given to cattle
Cinaddaamaa,Jimaa	Leaf	Garaa kaasaa	Mixed with water swollen cattle
Bakkaniisa	Leaf	Dhukkuba Gurra ear ache	Grinding and tie on
Qomonyoo,Adaamii	Leaf	Tushkaa	Boiling with water and given to cattle in the form of broth
Xaaxessaa	Leaf	Michii	Grinding and mixing with liquid to held on
Qoree	Root	Eye disease	Chewing and drop it in cattle eye
Dhummuugaa,Fidoo	Leaf	Hen's disease	Cooking and given to hen
Algee	Coat	Maasa	Tying on the cattle tail
Loogii	Coat	Sinchii	Chomping gave to the cattle
Buqqee	Seed	Dog disease	Mixed with milk and given to dog early morning
Harangamaa	Leaf	Handhara	Mixed with ash and given to the cattle
Loomii fi Sanaafica	Coat	Hen's disease	Mixed and given to hen
Hoomii	Coat	Wound	Grinding and tying on the wound
Algee fi Muka bofaa	Coat	Abbaa sangaa	Collecting algee and Muka bofaa and mixing salt and given to cattle affected by this disease
Jinjiibila	Root	Eye ache	Chomping and mixing with water and drop once for three days
Qabarichoo, haanquu	Root	Dhukkuba hongee	Mixed Qabarichoo and haanquu and given to cattle via oral
Shinfii,Daabbusii	Seed	Bokoka	Mixed with water and given to cattle

According to table 1 the bulk of indigenous veterinary medicines were out of the medicinal plant species (25%). The finding of this study shows that (8%) indigenous veterinary medicines were utilized with integrated with different types of medicinal plants (13%) were used in single or without any integrate[4].

[4] Hailu Genet, April 2014,Ganda Galloo

[3] Interview with Bekumaa Biranu, April. 05, 2014, *Saasiggaa*.

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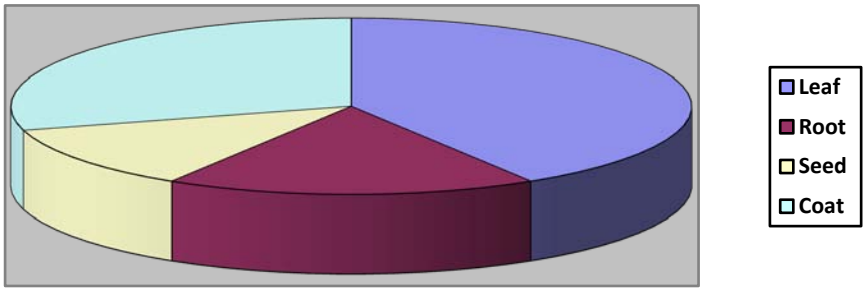


Diagram. 2: Parts of Indigenous Veterinary medicinal plants

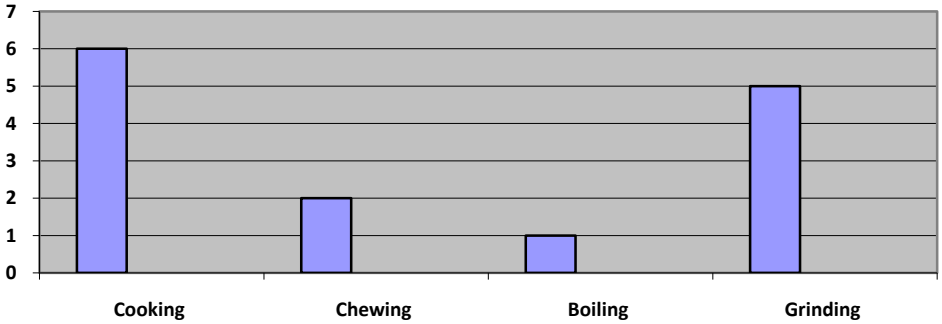


Fig: 3: The preparation mode and indigenous formulation of the Indigenous Veterinary medicinal plants

In study area, indigenous veterinary medicines were prepared from plant's leaves that accounted for (7%), followed by coat (5%), roots (3%), and seeds (2%) of the totality medicinal plant's parts account. Furthermore, indigenous veterinary medicines have been prepared in a range of techniques in healing different variety of sickness[5]. Accordingly, the different indigenous formulation was utilized, the leading one was grinding (5%) followed by boiling (1%), cooking and chewing (2%). Other indigenous techniques (*crushing, squeezing and burning)* also employed when measured suitable.

b) Indigenous veterinary medication and customary practices in the study area

In the process of indigenous healing practices in general and veterinary medicine particular, there is a connected belief system which manifested to increase the curing power of the medication. Above all, for the practitioners, it has a core value in healing and protecting ailments. In another way this can be worshiping often detained early morning privately and being in mass where the new emerged disease was affecting their livestock's. According to our data obtained from FGDs indigenous veterinary medicinal plants always determined by and tangled with the social, cultural and religious view of the folk. They claim and interconnect God, spirit, extraordinary and family spirits as well as the natural environment in the healing process. Thus, privately the cattle owner will pray early morning as follows:

Yaa uumaa nagaan nabulchite galanni siyaa gahu
Oh, Waaqaa! Thank you!
Ammas nagaan naoolchi
Protect me in peace, as you did in the night
Daafii sababii nalagi
Keep me away from the bad
Maatii waatiif naha laadhu
Give peace to my family and livestock's
Dhibee looni hin tolle narraa qabi
Keep my livestock's from chronic diseases
Yaa gooftaakoo yaa Rabbii
Oh, my lord master Waaqaa
Sikadhee nadhagahi
I do implore you to listen to my request.

In addition, in *saasiggaa* Oromo, there are different rituals on which women pray for the sustainability of the health and peace. For instance, *Ateetee* ritual is appeal to and admire on *hormataa* birth-rituals[6].

[5] Interview with Gulummaa Tuulaa, January 2014, Gaalloo Janja

[6] Interview with Dhaabaa Waqtolaa,Gaallo,2014

The *Ateetee* stage is prosperous with a feast and oral poetry including prayer poem which has metaphoric implications regarding healthy, fertile, prosperous, and happy.

Prayer	Mass Respondents
Yaa ateetee haadha dubartootaa	
Ohoo ateetee, the mother of women	
Wallaala keenya nuuf dhiisi	*Nuuf dhiisi*
Forgive our lack wisdom	*Forgive us*
Alaa mana sa'aa nama nuutiksi	*Nutiksi*
Keep all our families and livestock	*Protect us*
Kan gaddisni kee dhukkuba qabu fayyaan nu yaadadhu	*Nu yadadhu*
Your shadow does not have illness remember us in healthy	*Remember us*
Dhukkuba barri deemun nu oolchi	*Nu oolchi*

Moreover, the researchers documented those folk healers and their places in community. Many of them were old enough and have developed long life experience in indigenous healing wisdom. The wisdom of indigenous healing practice also kept as secret and considered as special gift from their *waaqaa* to sustain health and wellbeing[7],[8]. The data obtained from local practitioners also indicates that as have close interaction with natural environment and to which are found in native locations. Even if many of them are none educated of modern education they are wise, knowledgeable, matured enough and competent in the setting of their indigenous wisdom.

c) *Livestock diseases cured through Indigenous veterinary medicinal plants in the study area*

According to data that collected through focus group discussion livestock diseases were found in the study area which to be healed by selection of indigenous medicinal plants species. In this sense, the indigenous habitats of the *Saasigga* district have the remedies for both in external and external or skin related ailments according to their indigenous knowledge system. The common livestock diseases in the area are foot-and-mouth disease, skin disease, parasite infection, rabies and the like.





Fig 4: Indigenous veterinary medicinal plant and its mode of Preparation

These ailments will highly affect the livestock healthy wise and trim down the productivity. The inclination ranking of medicinal plants that found in the study area was determined by their efficiency to heal illness. Washing with *waleensuu* leave is the most useful cure aligned with the external or skin related problem. According to folk healers, both external and internal

[7] Interview with Xahituu Atomsa, Gaalloo, 2014
[8] Interview with Abebuu Idoosaa, Gaalloo, 2014

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problems have been controlled and treated in the scope of the community's folklore. Besides, the wisdom of identification and knowing of livestock illness in the area study area was based on their indigenous knowledge. Thus the local practitioners or the owners of the livestock have developed long time experience in identifying indicators and corresponding livestock illnesses.

d) Culture and the concept of livestock ailments

Although the healthy disordered may result from cultural variation and the way of giving responses to the external antibody as well as breaking down of the *seera umaa*. Therefore, the Oromo of the study area has been diagnosis, express and treat the ailments which affect their cattle in the radar of their culture. Since they have developed long time experience of identifying all internal and external health problems in their cultural scope the risk of misdiagnosis and mistreatment were very low. As data obtained via key informant interview, the sources of ailments were also culture and the solution has also emerged from that cultural bounder. The cultural values will add the curative power of medicine if the cause of that ailment was from inside. Accordingly, the Oromo elders say that" *Waaqni jalqaba gaaf Oromoof loon yookin finna laatu rakkoolee gama fayyaatin is a muudataniifis furmaata late*". This implies that *waaqaa* give solution or medicine beside their livestock diseases early. Live stocks can get ailment unswervingly from disordered of creator's law, or circuitously, in the course of the environmental ache. In this view, the concept of livestock ailment will be elaborated and get a right remedy in its cultural environment. Out that cultural bounder, they may countenance a challenge to diagnosis and cure animal illness.

V. Conclusion and Recommendations

According to Our finding, about 25% medicinal plants were being used in the indigenous veterinary medicine in the study area to treat 21 diseases of domestic animals. This shows that there is indigenous knowledge concerning veterinary medication and healing practice of the local communities. In addition, most of the indigenous veterinary medicine in the study area is prepared from leaf (7%), which followed by coat (5%), roots (3%), and seeds (2%) of the totality medicinal plant's parts account. Besides, the folk healers of indigenous veterinary medicinal plants have been employing the diverse ways of formulation, which lead by cooking (6%), grinding (5%), chewing (2%) and boiling (1%). This ethnographic study put the routine to that future studies in relation to indigenous healing practices in general and veterinary medicinal plants in particular, which has been ignored in a modern healthcare knowledge system. Furthermore, the result of the study indicates that the customary knowledge local community regarding the use of plant-based medicines in veterinary healing practices is amerced with the folklore of the barer. It is the echo in which they have the sense of hearing their identity and wisdom. This indigenous knowledge corresponds to an option to biomedical or modern veterinary healing practices in the study area. The indigenous veterinary medicinal healing practice is important because it embedded in socio-economic, ecology, belief system and culture of the local community. Based on the result of the study the researchers suggest that to encourage and maximize the latent of the folk-healers all concerned bodies should listen the owner of this indigenous knowledge.

Based on the research results, the following recommendations are forwarded:

- Involving the local public in the preservation and administration of indigenous medicine and their indigenous knowledge system should be practiced.
- Classifying the sources of indigenous veterinary medicine and encouraging the folk healers is crucial.
- Awareness should be given to folk healers and local folks on the utilization of indigenous veterinary medicine.
- Encouraging and protecting indigenous knowledge of practitioners should be supported by legal of patent right.
- There should be a need for training and community-based development education to safe, transfer and empower folk healers in the study area.

Competing interests

The authors declare that there are no competing interests among authors.

Authors' contributions

The principal investigator carried out the field research, analyzed the data and wrote the manuscript in sources language, designed the study, conducted fieldwork and the second co-investigator have translate manuscript from Afaan Oromo in English language and revised the manuscript and besides, the reviewed the manuscript and advice the first author as main adviser. Then all authors read and approved the final manuscript.

Acknowledgement

The success of this ethnographic study was merely achievable for the reason that of the willingness of local communities, including farmers, folk practitioners and *Jaarsa biyyaa* elders in *the study area* to share information and indigenous knowledge on the ethno veterinary practices in general.

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