

# Management assessment of cattle exposed to trypanosomosis challenge in the new settlement and native areas of the Ghibe Valley, Southwestern Ethiopia

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## Keywords

Cattle – *Trypanosoma* –  
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## Summary

A study was conducted from October 2007 to April 2008 using a semi-structured questionnaire and blood samples in the Ghibe Valley, southwest of Ethiopia, to assess the management of cattle exposed to trypanosomosis in two communities, the natives and the new settlers. Blood samples collected from the ear of 429 cattle (210 from the natives and 219 from the new settlers) revealed an overall prevalence of 5.4%, with 6.2 and 4.6% in the natives and the new settlers, respectively. This difference between communities was not significant ( $p > 0.45$ ). Qualitative and quantitative information was obtained from 50 natives and 51 new settlers randomly selected using the questionnaire. Most management practices of cattle in the natives' and new settlers' communities were found to be significantly different. Although the prevalence of trypanosomosis infection was not significantly different between the two communities, more animals were found anemic in the natives' herds than in the new-settlers'. Further research should be carried out to determine the major reason that contributed to the difference observed between the PCVs of both communities. Moreover, attention toward effective management of trypanosomosis in both communities of the Ghibe Valley is needed to improve prevention and control strategies.

## INTRODUCTION

Tsetse-transmitted trypanosomosis is a widespread protozoan disease affecting cattle and a wide range of other hosts in sub-Saharan Africa. Its course may run from a chronic long lasting disease to an acute and rapidly fatal one depending on parasite-host interactions (2). It is mainly characterized by intermittent fever, progressive anemia and loss of condition of susceptible hosts which if untreated leads to heavy mortality. It is caused by pathogenic species of trypanosomes transmitted cyclically by tsetse flies (*Glossina* sp.) and non-cyclically by other biting flies, except *Trypanosoma equiperdum*, which follows another epidemiological route of transmission among the equine population in its endemic areas. Trypanosomosis is the main constraint to cattle production on the continent of Africa

and prevents full utilization of land. Much of the best grazing land on which cattle can be raised is infested by tsetse flies which can transmit the pathogenic trypanosomes: *Trypanosoma congolense*, *T. vivax* and *T. brucei brucei* (7). Out of 165 million cattle found in Africa, only 50 million are found within the tsetse belt. These are mainly low producing breeds that are maintained on high drug management regimens to keep trypanosomosis under control. The presence of tsetse flies and trypanosomosis forced people and livestock to crowd into partially environmentally-fragile tsetse-free areas leading to overgrazing and erosion (13).

In Ethiopia, five species of tsetse flies are known to exist and an estimated total of 220,000 km<sup>2</sup> of land is infested (9). Four species of tsetse-borne trypanosomes are found in the country, namely *T. congolense*, *T. vivax* and *T. b. brucei* in livestock, and *T. b. rhodesiense* in humans (6). Because of trypanosomosis, the majority of human and livestock populations are concentrated in the tsetse-free areas leading to depletion of natural resources and recurrent attacks from drought and famine. All these factors being major driving forces, the need is rapidly growing now to settle in the areas of river basins including the tsetse-infested fertile valleys. To this effect, extensive operations have been undertaken since 2003 to resettle 2.2 million people within a period of three to five years.

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Most of the settlement areas are tsetse-infested which poses major constraints to the program and to livestock keepers to maintain themselves in their new home areas. In the majority of the newly established settlement schemes of Western Ethiopia, bovine trypanosomosis is the most important disease. During the first year of the settlement, disease caused heavy mortality in certain settlements, even to the extent that large numbers of introduced work oxen were lost. As information on the status of the disease was insufficient, and in response to the complaints raised by the community, the present study was proposed to address the problem. Understanding the epidemiology of the disease will facilitate the choice of suitable control methods and help the planning of development programs in the area. Likewise, as new settlers come from different areas and have different cultures, they may have specific cattle management practices, which may have their own impact on the prevalence of cattle trypanosomosis. Therefore, this study was carried out to generate baseline data that may assist in decision making for setting up the settlement programs and administer appropriate tsetse and trypanosomosis control with the following objectives:

- To assess any possible differences or similarities in the management of cattle trypanosomosis between the new settlers and the natives in the Ghibe Valley;
- To determine the prevalence of the disease in the herds belonging to the new settlers and to the natives, and to determine risk factors associated with the occurrence of the disease.

## ■ MATERIALS AND METHODS

### *Study area*

The study was conducted in the Ghibe River valley, located 180 km southwest of the capital, Addis Ababa. The area has a subhumid climate with a maximum temperature of 30–37°C and a minimum one of 10–15°C. It receives high and reliable annual rainfall averaging 1100 mm with a low interannual variation. In the valley, an estimated 6000 households or 30,000 people are raising 15,000 head of cattle (8).

### *Study animals, design and methodology*

A cross-sectional study was conducted on local zebu cattle of all ages and both sexes belonging to either the new settlers' or the natives' communities of the study area. The settlers were from the eastern part of Oromia Regional State, Ethiopia. They shared the same language and culture with the natives. The study animals included randomly selected cattle from both groups.

### *Questionnaire survey*

A structured questionnaire was prepared to assess the management practices and awareness of both the new settlers and the natives about bovine trypanosomosis. The questionnaire included questions on feeding and grazing activities and disease preventive measures that took place in both groups. A total of 101 farmers, 50 from the natives and 51 from the new settlers were randomly selected and interviewed during the study period.

### *Parasitological survey*

To determine the overall prevalence of trypanosomosis and check for possible differences in prevalence in cattle of both communities, blood samples were collected from an ear vein of 429 cattle (210 from the natives and 219 from the new settlers). The blood samples were collected using hematocrit capillary tubes and examined for the presence of trypanosomes by the dark ground buffy

coat technique (12) and the level of anemia was estimated by the packed cell volume (PCV) (19).

## *Data collection and analysis*

The data obtained from the questionnaire and laboratory work were recorded and analyzed using simple descriptive statistics and chi-square tests.

## ■ RESULTS

### *Parasitological and hematological results*

The overall prevalence of cattle trypanosomosis based on the examination of the buffy coat was 5.4% (n = 429). There was no significant difference observed between different age groups and communities. Male animals were found to be more affected than females ( $\chi^2 = 4.21$ ,  $p = 0.04$ ) (Table I).

Overall PCV results showed that 67.6% of the cattle was anemic (PCV < 26). The proportion of anemic cattle in the new settlers' and natives' communities was 54.8% (n = 219) and 80.5% (n = 210), respectively. A significant difference ( $p < 0.01$ ) was found in the level of anemia between natives' cattle and new settlers' (Table II). Among the anemic animals, 65.5% were negative

**Table I**

Prevalence of cattle trypanosomosis in the Ghibe Valley, Ethiopia

Variable	Category	Total tested	Num. (%)	$\chi^2$ (p value)
Site	Native	210	13 (6.2)	0.56 (0.45)
	New settlement	219	10 (4.6)	
Age (months)	6–18	64	1 (1.6)	2.26 (0.32)
	19–30	59	3 (5.1)	
	> 30	306	19 (6.2)	
Sex	Male	335	14 (4.2)	4.21 (0.04)
	Female	94	9 (9.6)	

**Table II**

Packed cell volume of cattle depending on the site, age and sex, and trypanosome infection status in the Ghibe Valley, Ethiopia

Variable	Category	PCV		$\chi^2$ (p value)
		Num. (%) < 26 (anemic)	Num. (%) $\geq$ 26 (normal)	
Site	Native	169 (80.5)	41 (19.5)	32.2 (0.0001)
	New settlement	120 (54.8)	99 (45.2)	
Age (months)	6–18	44 (68.75)	20 (31.2)	0.12 (0.74)
	19–30	38 (64.4)	21 (35.6)	
	> 30	207 (67.7)	99 (32.3)	
Sex	Male	227 (67.8)	108 (32.2)	0.30 (0.86)
	Female	62 (66.0)	32 (34.0)	

by the dark ground buffy coat technique, whereas all infected cattle were anemic.

**Questionnaire survey**

One hundred and one farmers (50 natives and 51 new settlers) were interviewed to get information regarding trypanosomosis management in the two farming communities. Overall, respondents owned five cattle per household (range 2–15). The new settlers reported to have an average of three cattle per household (range 2–6), whereas the natives owned an average of seven cattle per household (range 2–15). The difference in herd size between natives and new settlers was highly significant ( $p < 0.01$ ) when assessed by Poisson regression model, taking into account the number of cattle per household as a dependent variable, and the two communities as an explanatory variable.

Feeding management was assessed based on the season of the year. During the dry season, most farmers (76%) used essentially a confined system by feeding cattle on crop residues. Ninety-four percent of the new settlers and 58% of the natives used a confined system during the dry season. There was a significant difference ( $p < 0.01$ ) between them. During the wet season, most farmers in the Ghibe Valley (76%) used mainly communal grazing lands, mostly bush land. Ninety-six percent of the natives and 59% of the new settlers used communal grazing during the rainy season, showing a significant difference ( $p < 0.01$ ) between the two communities.

The result of the survey showed that all interviewed farmers knew trypanosomosis was present in the area and prioritized the disease as a major health problem for their herds. There was no statistical difference between the two communities toward their awareness of the presence and negative impact of the disease. Regarding acquaintance with symptoms of cattle trypanosomosis, 76.5% of new settlers knew less than two symptoms indicative of the disease. On the other hand, 90% of the natives mentioned two or more typical symptoms of trypanosomosis. There was a significant difference ( $\chi^2 = 50.18, p < 0.01$ ) between the two communities in relation to their knowledge of the typical symptoms of trypanosomosis (Table III). Among the symptoms of cattle trypanosomosis mentioned by respondents, the most common were rough hair coat, swollen lymph nodes, tail alopecia, dullness and anorexia.

Most of the native residents (92%) and few of the new settlers (21%) were aware of the common trypanosomosis control measures with a statistically significant difference between the two groups ( $\chi^2 = 32.5, p < 0.01$ ). Mid-day grazing was considered to be safe in relation to risk for trypanosome infection by 68% of the native residents. In contrast, the respective figure for new settlers was 43.1%, with a statistically significant difference ( $\chi^2 = 16.9, p < 0.01$ ) between the two communities. According to the results

**Table III**

Level of awareness on the symptoms of cattle trypanosomosis among residents of the Ghibe Valley, Ethiopia

Symptoms	New settlers (%)	Natives (%)	Total (%)
Not aware	7.8	–	4.0
1	68.6	10	39.6
2	17.6	20	18.8
3 and above	6	70	37.6

of the survey, 41.2% of the new settlers practiced traditional control methods to combat cases of trypanosomosis, whereas none of the natives practiced these methods of control. Some of the traditional control methods the new settlers used consisted in surrounding cattle with smoke in order to reduce tsetse fly contact with cattle, and the farmers watched and disturbed the flies if they rested on the body surface of cattle.

A large proportion of native farmers (92%) responded that the best source of chemoprophylactics was the service cooperatives, which are organized and supported by the International Livestock Research Institute (ILRI). Provision of prophylactic drugs by service cooperatives was not known by new settlers who mainly knew of the veterinary service unit under the government. Most of the new settlers (80.4%) used the government clinic to treat cases of trypanosomosis and to get drug supplies. On the other hand, the natives were alternatively supplied by the service cooperatives and the government clinic. Few natives (14%) and new settlers (17.6%) depended on local village shops for the source of drugs (Table IV). The result of the interview showed that only 24% of the natives faced shortage of trypanocidal drug supply, whereas 47% of the new settlers encountered drug shortage from service providers.

**DISCUSSION**

**Parasitological and hematological results**

The overall prevalence of cattle trypanosomosis found in the present study (5.4%) was less than the previously reported prevalence of 37% *T. congolense* (14), or 52.4% *T. congolense*, 20% *T. vivax* and 18% *T. brucei* (1). This may be due to the continuous control effort being undertaken which gradually decreases the prevalence of the disease. Moreover, in this study, blood collection was carried out in March and April. According to Rowlands et al. (15), the prevalence of *T. congolense* infection in the Ghibe Valley seems to be lower between March and June. In addition to seasonal variation and control efforts, the continued human settlement in the Ghibe Valley led to destruction of bush lands and forests which disturbs the normal ecology of tsetse flies and thereby decreases the vector number.

The variation in prevalence of trypanosomosis showed no significant difference between the two communities. The wider use of chemoprophylactics by the natives did not result in a lower difference in prevalence of trypanosome infection compared to new settlers. This may be due to the fact that although the natives had more often access to chemoprophylactics, most of the new

**Table IV**

Source and usage of trypanocidal drugs by natives and new settlers of the Ghibe Valley, Ethiopia

Drug source	New settlers (%)	Natives (%)
Government clinic only	80.4	0
Service cooperative only	2	22
Government clinic and village shop	17.6	0
Government clinic and service cooperative	0	64
Service cooperative and village shop	0	14

settlers (94%) fed their cattle on crop residuals in confinement, which decreased the risk of infection, contrary to the natives who grazed their cattle in bush lands. Cattle which graze on bush land are more exposed to tsetse fly bite than cattle tethered within the village (17).

No differences in prevalence of cattle trypanosomosis could be identified between age groups. This result was in accordance with earlier reports in Dano, Western Ethiopia. In contradiction to the present study, higher prevalences of trypanosomosis infection in adults than in calves were indicated in other sites in Kenya (5) and West Africa (4).

Prevalence of trypanosomosis in sex groups indicated that there was a significant difference between males and females. Female cattle were found to be more often infected than males. This result was different from previous findings which reported no significant difference in prevalence of cattle trypanosomosis between sexes (3, 17). The small sample size of calves, young and female cattle in the present study could be responsible for the observed differences in prevalence.

The noticeably high degree of anemia observed in the present study might be attributed to recently treated or undetected trypanosomosis infections. The other possible causes of reduced PCV might be internal parasites and/or suboptimal nutrition or other factors. It has also been reported that the herd average PCV could be affected by factors other than trypanosomosis (16). These confounding factors are not always identifiable but they are likely to affect both trypanosomosis positive and negative animals (3).

A similar result in PCV readings in Dano, Western Ethiopia, indicated that out of the 248 randomly selected cattle, 62% had PCV values below 26 and only 26% were infected by trypanosomosis. However, a parallel survey about internal parasites' prevalence on the same herds identified a very high prevalence of gastrointestinal parasites in Dano cattle. Suboptimal nutrition due to feed shortage and overgrazing were important problems of cattle keeping for farmers in Dano (14).

The PCV results in the present study confirmed that there was a significant difference between cattle of both communities. A higher percentage of anemic cattle were found in natives than in new settlers. This could be associated with the management practice system, in which cattle in new settlement areas were fed at home with crop residues. Given that the herd-size of new settlers was small, the care given to individual cattle was good and there was a lower risk of malnutrition. Moreover, most cattle of new settlers were kept around the homestead, whereas the natives commonly used communal grazing on bush land areas of the Ghibe Valley which could make their cattle more exposed to trypanosome and other parasitic infections.

### Questionnaire survey

Trypanosomosis was well known and considered as a major disease problem by all farmers in the study site. A comparable study conducted in Kenya showed a similar level of knowledge about trypanosomosis among farmers (4). Although a similar response was observed about the risk of trypanosomosis in the area, the majority of the new settlers (76.5%) only knew one or none of the symptoms, whereas the majority of the natives (90%) identified more than one of the common symptoms which are consistent with the accepted symptoms by veterinarians. A low level of knowledge among farmers about trypanosomosis and its diagnosis makes control more difficult (14). Accordingly, in the current scenario, control in new settlement areas could be a challenge unless the creation of farmers' awareness is given emphasis.

Most farmers in the Ghibe Valley got drug supplies and treatments to their cattle from appropriate sources, which provided genuine and unexpired drugs. Despite this, the remaining farmers used drugs from village shops and administered drugs by themselves. This caused problems because drugs supplied by village shops were illegally introduced to the area despite the fact that all trypanocidal drugs were supposed to be imported and supplied under the control of the Drug Administration and Control Authority. The improper drug administration and regimen would be another key issue for veterinary extension, as it could lead to a build-up of drug resistance (18).

The native farmers also had the advantage over new settlers of using chemoprophylactic drugs for trypanosome infection thanks to farmers' service cooperatives which monthly supplied spot-on only to them (10, 11), and to the government clinic, which satisfied most of them (84%). In contrast, the new settlers, which did not have farmers' service cooperatives, had to rely on the government clinic only and were not satisfied (78.4%) by the limited access to treat their cattle. Only 11.8% of them got their supplies of chemoprophylactic drugs from the government, and they were not supplied all year round.

Due to the lack of adequate service supply and the trend of using traditional treatment for cattle diseases, 41% of the new settlers used ethnoveterinary control methods against trypanosome infections, whereas none of the natives used traditional medicine against this disease.

### CONCLUSION

This study showed different approaches in the management of cattle trypanosomosis by the two communities in the Ghibe Valley. The natives' knowledge about cattle trypanosomosis was better and, with the help of their service cooperatives, they used a more organized animal health system than the new settlers.

In the present study, the prevalence of cattle trypanosomosis had decreased in comparison to previous results at the study site. In spite of the fact that most of the natives, unlike the new settlers, had been using different measures to control cattle trypanosomosis, the natives' cattle were more anemic than the new settlers'. However, the prevalence of trypanosomosis in both sites was not significantly different. The blood sample results and particularly PCVs obtained in both sites could be associated with the statistically significant difference in cattle management between the two communities. However, the difference in disease management practice observed in both sites could not be considered as the cause of the difference in trypanosomosis prevalence.

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### REFERENCES

1. AFEWERK Y., CLAUSEN P.H., ABEBE G., TILAHUN G., MEHLITZ D., 2000. Multiple-drug resistant *Trypanosoma congolense* population in village cattle of Metekel district, Northwest Ethiopia. *Acta Trop.*, **76**: 231-238.
2. BOURN D., SCOTT M., 1978. The successful use of work oxen in agricultural development of tsetse infested land in Ethiopia. *Trop. Anim. Health Prod.*, **10**: 191-203.
3. DAGNACHEW S., SANGWAN A.K., ABEBE G., 2005. Epidemiology of bovine trypanosomosis in the Abay (Blue Nile) basin area of Northwest Ethiopia. *Rev. Elev. Méd. vét. Pays trop.*, **58**: 151-157.

4. DELIA, G., THOMAS R., HIPPOLYTE A., DAO D., OMAR D., PETER-HENNING C., 2009. Characterization and validation of farmers' knowledge and practice of cattle trypanosomosis management in the cotton zone of West Africa. *Acta Trop.*, **111**: 137-143.
5. DOLAN R.B., 1998. The Orma Boran: a trypanotolerant East African breed. Fifteen years of research on Galana Ranch in Kenya. Kikuyu, Kenya, Kenya Trypanosomosis Research Institute, p. 96.
6. LANGRIDGE W.P., 1976. Tsetse and trypanosomosis survey of Ethiopia. London, UK, Ministry of Overseas Development, Addis Ababa, Ethiopia, Ministry of Agriculture, p. 1-40.
7. LUCKINS A.G., 1992. Trypanosomosis in small ruminants: A major constraint to livestock production. *Br. Vet. J.*, **148**: 471.
8. MACMILLAN S., 2002. Rebuilding lives in South Western Ethiopia where the tsetse fly no longer rules. [www.ilri.org](http://www.ilri.org)
9. NATIONAL TSETSE AND TRYPANOSOMOSIS INVESTIGATION AND CONTROL CENTER, 1996. Annual report. Bedelle Illubabor, Ethiopia, Ministry of Agriculture, p. 29.
10. OMAMO S.W., D'ETEREN G.D.M., 2003. Managing animal trypanosomosis in Africa: issues and options. *Rev. sci. tech. Off. int. Epizoot.*, **22**: 989-1002.
11. OMAMO S.W., WILLIAMS J.C., OBARE G.A., NDIWA N.N., 2002. Soil fertility management on small farms in Africa: evidence from Nakuru District, Kenya. *Food Policy*, **27**: 159-170.
12. PARIS J., MURRAY M., MCOODIMBA F., 1982. A comparative evaluation of the parasitological techniques currently available for the diagnosis of African trypanosomiasis in cattle. *Acta Trop.*, **39**: 307-316.
13. PATTEC, 2001. Plan of action. Addis Ababa, Ethiopia, Pan African Tsetse and trypanosomosis Eradication Campaign, 19 p.
14. RIEDEL S., CLEMENS W., WORKNEH A., TEMESGEN A., 2007. Participatory assessment of incidence and perception of bovine trypanosomosis by cattle farmers in Dano, Western Ethiopia. In: Tropentag 2007, International Agricultural Research for Development, University of Kassel-Witzenhausen, University of Göttingen, Witzenhausen, Germany, 9-11 Oct. 2007, 7 p.
15. ROWLANDS G.J., LEAK S.G.A., PEREGRINE A.S., NAGDA S.M., MULATU W., D'ETEREN G.D.M., 2000. The incidence of new, and the prevalence and persistence of recurrent trypanosome infection in cattle in Southwest Ethiopia, exposed to a high challenge with drug-resistant parasites. *Acta Trop.*, **79**: 149-163.
16. ROWLANDS G.J., MULATU W., AUTHIE E., D'ETEREN G.D.M., LEAK S.G.A., NAGDA S.M., PEREGRINE A.S., 1993. Epidemiology of bovine trypanosomiasis in the Ghibe valley, Southwest Ethiopia. 2. Factors associated with variations in trypanosome prevalence, incidence of new infections and prevalence of recurrent infections. *Acta Trop.*, **53**: 135-150.
17. SNOW W.F., WACHER T.J., RAWLING S., 1996. Observations on the prevalence of trypanosomosis in small ruminants, equines and cattle, in relation to tsetse challenge, in The Gambia. *Vet. Parasitol.*, **66**: 1-11.
18. VAN DEN BOSSCH, P., AKODA K., KUBI C., MARCOTTY T., 2006. The transmissibility of *Trypanosoma congolense* seems to be associated with its level of resistance to isometamidium chloride. *Vet. Parasitol.*, **135**: 365-367.
19. WOO P.T.K., 1970. Hematocrit centrifugation technique for the diagnosis of African trypanosomosis. *Acta Trop.*, **27**: 384-386.

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## Résumé

**Abunna F., Mekibib B., Kidanemariam M., Amenu K., Beyene D.** Evaluation de la gestion des bovins exposés à la trypanosomose dans les zones des nouveaux colons et des populations autochtones de la vallée du Ghibe, sud-ouest de l'Ethiopie

Une étude a été menée, d'octobre 2007 à avril 2008, à l'aide d'un questionnaire semi-structuré et d'échantillons sanguins dans la vallée du Ghibe, au sud-ouest de l'Ethiopie, pour évaluer la gestion des bovins exposés à la trypanosomose dans deux communautés, la population autochtone et les nouveaux colons. Des échantillons sanguins prélevés à l'oreille de 429 vaches (210 chez les autochtones et 219 chez les colons) ont révélé une prévalence globale de 5,4 p. 100, avec respectivement 6,2 et 4,6 p. 100 chez les autochtones et les colons. Cette différence entre les deux communautés n'a pas été significative ( $p > 0,45$ ). Les informations qualitatives et quantitatives ont été obtenues à l'aide du questionnaire auprès de 50 autochtones et 51 colons sélectionnés de manière aléatoire. La plupart des pratiques de gestion du bétail chez les autochtones et chez les colons se sont avérées significativement différentes. Bien que la prévalence d'infection trypanosomienne n'ait pas été significativement différente entre les deux communautés, l'anémie a été rencontrée plus fréquemment chez les animaux des autochtones que chez ceux des colons. D'autres recherches devraient être menées afin de déterminer la raison principale qui a contribué à la différence observée entre les valeurs de l'hématocrite des deux communautés. Par ailleurs, l'attention vers une gestion efficace de la trypanosomose dans les deux communautés de la vallée du Ghibe est nécessaire pour améliorer les stratégies de prévention et de contrôle.

**Mots-clés :** Bovin – *Trypanosoma* – Trypanosomose – Conduite d'élevage – Vallée du Ghibe – Ethiopie.

## Resumen

**Abunna F., Mekibib B., Kidanemariam M., Amenu K., Beyene D.** Evaluación de la gestión de los bovinos expuestos a la tripanosomosis en las zonas de los nuevos colonizadores y de los indígenas del Valle Ghibe, en el sur-oeste de Etiopía

Ha sido realizado un estudio, de octubre 2007 a abril de 2008, utilizando un cuestionario semi-estructurado y muestras sanguíneas en el Valle Ghibe, en el sur-oeste de Etiopía, para evaluar la gestión de bovinos expuestos a la tripanosomosis en dos comunidades, la población indígena y los nuevos colonizadores. Las muestras sanguíneas recogidas de la oreja de 429 vacas (210 en la población indígena y 219 en los colonizadores) han revelado una prevalencia global del 5,4%, con 6,2 % en los indígenas y 4,6% en los colonizadores. Esta diferencia entre las dos comunidades no fue significativa ( $p > 0,45$ ). La información cualitativa y cuantitativa fue obtenida por medio del cuestionario a 50 indígenas y a 51 colonizadores seleccionados al azar. La mayoría de las prácticas de manejo del ganado de los indígenas y de los colonizadores fueron significativamente diferentes. Aunque la prevalencia de la infección por tripanosoma no fue significativamente diferente entre las dos comunidades, la anemia fue encontrada con mayor frecuencia en los animales de los indígenas que en aquellos de los colonizadores. Deberían realizarse otras investigaciones para determinar cuál es la razón principal que ha contribuido para la diferencia observada entre los valores de hematocrito de ambas comunidades. Además, es necesaria atención para una gestión eficaz de la tripanosomosis en las dos comunidades del Valle Ghibe para mejorar las estrategias de prevención y control.

**Palabras clave:** Ganado bovino – *Trypanosoma* – Tripanosomosis – Manejo del ganado – Valle de Ghibe – Etiopía.

