

Full Length Research Paper

Knowledge, attitude and practices of peasants towards hyraxes in two selected church forests in Tigray Region, Northern Ethiopia

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Received 19 November, 2014; Accepted 7 April, 2015

Church forests comprise local as well as global hotspots as critical conservation areas for a large portion of Ethiopian biodiversity. This study was conducted in two selected church forests based on presence of hyrax species and forest coverage in Tigray region, Northern Ethiopia to assess knowledge, attitude and practice (KAP) of peasants towards hyraxes in the church forests. Data collection was carried out from August, 2012 to January, 2013 using questionnaires' which contains both open and closed ended questions. The knowledge, attitude and practice of the local people towards the hyraxes and church forests were varied among the two church forests. Most respondents from Michael Tsilwo church forest had negative attitude towards the hyrax species although most respondents from Michael Romanat had positive attitude. The church forests have great contribution as habitat and source of food for the hyraxes in particular and many wild animals in general. Most of the local people living around the church forests do not seem to understand the ecological roles of the hyraxes and wildlife. Therefore, awareness creation programmes should be organized to the community and it will help to develop positive attitude towards hyraxes.

Key words: Attitude, church forests, hyraxes, interview, peasants, practice.

INTRODUCTION

Ethiopia is known for its topographical and biological diversity in Africa. It encompasses highly diverse flora and fauna. The country is endowed with diverse ecosystems and great varieties of habitats that contributed to the occurrence of diverse biological wealth of fauna, flora and microbial species (Yalden, 1983). According to Cole et al. (1994), 26 orders of living mammals are found in the world. Of these, 97.5% of the species occupy terrestrial habitat while the other 2.5% inhabit marine environments.

Worldwide, 136 families 1,135 genera and 4,700 species of mammals are recorded (Cole et al., 1994; UNEP et al., 2009). Of the world's 4,700 mammal species, a quarter (1,229 species) occurs in Africa (UNEP et al., 2009). Large number of species of mammals including about 960 species and 137 species are found in sub-Saharan Africa and Madagascar, respectively. The eastern and southern savannahs also contain large number of mammals (UNEP et al., 2009).

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Ethiopia is also among the few African countries with high mammal species diversity (Yalden et al., 1996). It possesses a diverse mammalian fauna of 284 species of 52 families (Cole et al., 1994). In addition to mammalian species; other fauna of Ethiopia is also highly diversified with 861 species of birds, 201 reptiles, 150 fish, and 63 amphibians (Hillman, 1993). Out of these, 19 bird species, 40 fish species, 9 reptile species and 24 amphibian species are believed to be endemic to the country (Avibase, 2014; Hillman, 1993). However, attention given for conservation and sustainable use of these biodiversities is too little. Biodiversity of Ethiopia is under serious threat due to overexploitation, expansion of cultivation and settlements that are accompanied by excessive deforestation, overgrazing and pollution. As a result, distribution and population of many mammals of the country are dramatically declining (BIDNTF, 2010).

Mammals are important ecological components of all terrestrial ecosystems and they are important indicators of ecosystem health and integrity (Dirzo et al., 2009). However, because of lack of detailed information on the study of most of the mammals for instance in sub Saharan Africa, the current status, distribution and ecology of the mammal species is little known (Dirzo et al., 2009).

Hyraxes are medium-sized herbivorous terrestrial mammals, which belong to the order Hyracoidea, with short legs, a rudimentary tail, and round ears (Kingdon, 1997; Wossenseged Lemma, 2008). They are the smallest ungulate type mammals and they are alike in size and appearance to woodchuck or marmot (Estes, 1991). They are rabbit sized animals with very long bodies, blunt fingered hands, and feet, large mouthed, deep jawed and long fur. They have long and tactile hairs on their muzzle, cheeks, throat, brows, rump and limb joints (Kingdon, 1997).

Hyraxes play a crucial role in the ecosystem. They are described as umbrella and keystone species. As a result, they are used in conservation of other biodiversity in the environment. They also play an important ecological role in maintaining health of ecosystem, where they support a number of terrestrial and aerial predators as food supply. Hence, they influence the structure of the ecosystem (Chiweshe, 2007; Barry and Mundy, 1998). Hyraxes have ecological role in which they disperse seeds of plants and their waste products is used in localized nutrient cycling since it contains calcium carbonate. Hyrax middens are used as a high-resolution archives of long-term environmental change because it contain a great diversity of proxies including fossil pollen, stable isotopes, biomarkers, micro-charcoal, ancient DNA and phytoliths, thus readily enabling a multi-proxy approach to environmental reconstructions (Chase et al., 2012). Hyraxes have also direct importance to human beings. They are an important source of food in many parts of the world although it is not known in Ethiopia. For instance, species belonging to the genera of *Procavia* and *Heterohyrax* are source of protein for people living around in Matobo National Park

in Zimbabwe (Chiweshe, 2007). Hyrax's meat is an important component of food in Yemen. It is the highest quality meat and source of income for people with low economic status in the country (Stevenson and Hesse, 1990). Hyrax's sticky solid called crystallized calcium carbonate is used as a medicine called hyraceum that is used to treat different diseases such as epilepsy and convulsions (Olds and Shoshani, 1982). On the other hand, hyraxes have negative effect to humans. Studies reported that the two species of hyraxes, *P. capensis* and *H. brucei*, are reservoir host of leishmaniasis (Wossenseged Lemma et al., 2009; Wossenseged Lemma, 2008). According to Moran et al. (1987), hyraxes also damage crops in some parts of the world.

Hunting, snaring, forest degradation and habitat loss are likely to threaten populations of many mammal species (Cordeiro et al., 2005). In the past several decades, wildlife populations in Ethiopia are under continuous threat due to deforestation, expansion of farmland, drought and illegal hunting (Melaku, 2011). The principal threat on hyraxes is likely to be human activity. In different localities of Africa, hyraxes are hunted for different purposes including medicine, food, and skin. They are caught in snares, extracted from their holes using a stick or forced from their trees by cutting or burning and then killing with spears or dogs (Topp-Jørgensen et al., 2008). Hyraxes are source of food through illegal poaching in different areas of the world (Chiweshe, 2007; Stevenson and Hesse, 1990). In addition to illegal killing they are also facing numerous threats by human activity such as road construction and habitat loss. In Jordan for instance, *P. capensis* are highly threatened by habitat degradation, through intensive farming, road construction and urban expansion (Rafai et al., 2000). Different studies showed disease, predation and drought are also causes for the decline of number of hyraxes (Barry and Mundy, 1998; Hoeck et al., 1982).

Survival of medium sized and large mammals is threatened by anthropogenic impacts such as habitat destruction and hunting (Dirzo et al., 2009). Similarly, the population of hyraxes is jeopardized by human activities including, habitat degradation, hunting and killing for different purposes, such as medicine, food, skin and ritual (Topp-Jørgensen et al., 2008; Rafai et al., 2000). Very little is known if the people practice the same in Ethiopia.

Mutually supportive relationships between communities and nearby wildlife are critical to the long-term success of conservation efforts (Anderson and Grove 1987 as cited in Sundufu et al., 2012). Understanding view of local people with respect to biodiversity and their attitude towards wildlife is very important to incorporate development goals into conservation practices (Tessema et al., 2010). Church forests comprise local as well as global hotspots as critical conservation areas for a large portion of Ethiopian biodiversity. In different parts of Ethiopia, in northern Ethiopia for example, the Ethiopian Orthodox Tewahido Churches are the predominant places where

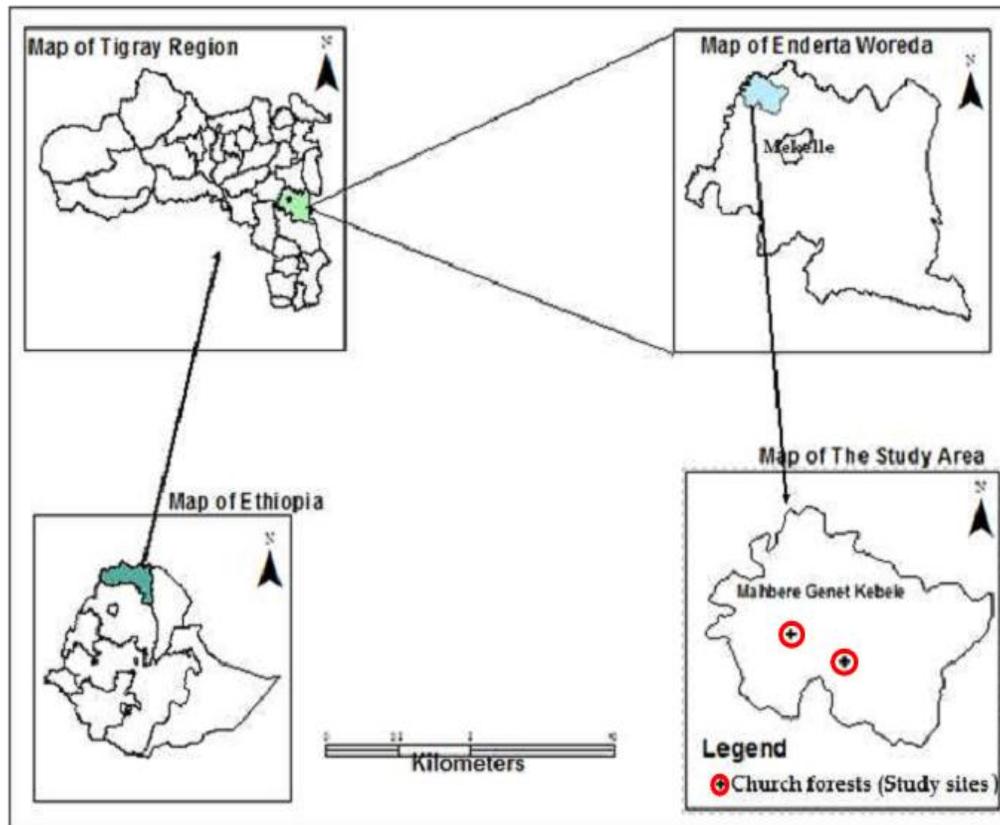


Figure 1. Map of the study area, showing map of Ethiopia (lower left), map of Tigray region (top left), map of Enderta Woreda (top right) and map of the study sites (right bottom).

patchy forested areas are left that contain several native plant species and several wildlife species, including mammals and birds (Colwell, 2010). As a result, hyrax species are found in some patchy forested areas of church forests. However, attitude of the peasants that live in and around the church forests towards the hyrax species, their knowledge on role of hyraxes in ecosystems and their practices in conserving of the church forests has not been reported in the region in particular and in Ethiopia in general as knowing attitude of peasants towards hyraxes is very crucial for the management and conservation plan of the animals. The present study, therefore, aimed to assess Knowledge, Attitude and Practice (KAP) of peasants towards hyraxes (*P. capensis* and *H. brucei*) in the selected church forests.

The two species of hyraxes are categorized as 'Least Concern' by the International Union for Conservation of Nature (IUCN) in its Red list category (Barry et al., 2008). However, populations of hyraxes are under threat throughout much of eastern and southern Africa, mainly due to habitat loss and illegal poaching. In order to conserve these species and prevent future decline, involving community based conservation practice is a must.

MATERIALS AND METHODS

Study area

The present study was carried out in two church forests in northern Ethiopia Tigray Province, Enderta Woreda. The two church forests (Michael Romanat and Michael Tsilwo) are selected from Enderta Woreda, Mahbere Genet kebele based on forest coverage and presence of hyraxes. The church forests lie between 13°34'54.1" and 13°34'81.2" latitude and 39°25'15.6" and 38°24'14.6" longitude, respectively (Figure 1). Michael Romanat church forest ranges in altitude from 1884 to 1914 and Michael Tsilwo church forest from 1778 to 1804 m.a.s.l. Mahbere Genet kebele is located about 23 km to the north west of Mekelle, the capital city of Tigray province, following the road that extends from Mekelle to Hagere Selam. Michael Romanat church forest covers an area of approximate 35,000 m² while Michael Tsilwo church forest has an area of approximate 40,000 m².

Rainfall and temperature data (2001 to 2012) were obtained from National Meteorological Agency, Mekelle branch. The mean monthly maximum temperature ranged between 22.4°C (December) and 27.4°C (June); whereas the mean monthly minimum temperature ranged between 9.17°C (January) and 13.8°C (May). According to the 12 years meteorological station data, mean annual rainfall of the area was 207.05 mm. The area has bimodal rainfall distribution characterized by prolonged wet season (main rainy season) from June to September locally known as "Kiremti" and short rainy season from April to May locally known as "Azmera". The driest season of the area is from December to February and it is locally

called “Hagay”.

The two church forests consist of various plant and animal species. The dominant plant species of Michael Romanat church forest are *Acacia* sp., *Olea europaea* and *Schinus molle* followed by a number of shrubs. The church forest also harbours different species of mammals such as bush hyraxes (*Heterohyrax brucei*), spotted hyena (*Crocuta crocuta*), common jackal (*Canis aureus*), porcupine (*Hystrix cristata*), ground squirrel (*Xerus rutilus* and *Xerus erythropus*), different species of birds such as owls and eagles and other amphibians and reptiles. *Brucea antidysenterica*, *Acacia etbaica*, *Arundo donax*, *Combretum molle*, *Rhus natalensis* and *Euclea racemosa* are dominant plant species in Michael Tsilwo church forest. In this church forest, different mammalian species such as rock hyraxes (*Procavia capensis*), spotted hyena (*Crocuta crocuta*), ground squirrel (*Xerus rutilus* and *Xerus erythropus*), porcupine (*Hystrix cristata*), several bird species such as eagles and buzzards and other amphibians and reptiles are found (Personal observation and local community by interview).

Data collection

This study was carried out from August, 2012 to January, 2013 for consecutive of six months. Semi-structured questionnaires were used to interview local people who live in and around the two churches to survey their knowledge, attitude and practices on the two species of hyrax and the church forests. The interview questionnaires were prepared first in English and then translated into local language, Tigrigna, for interview. Significance of the church forest for hyraxes and other wildlife, advantage and disadvantage of hyraxes for the community, role of hyraxes for ecosystem were some of the questions. Questions related to their attitude towards the church forest and conservation of the hyraxes, their practices in conserving the plants and animals in the church forests and other open and close ended questions were raised to the local people. In each of the two churches (study sites), a total of 60 local people regularly attending the churches were interviewed. Data collected from the field were analyzed using MiniTAB 14 computer software programme and Microsoft Excel.

RESULTS

Knowledge, attitude and practice (KAP) survey

Michael Tsilwo church forest

The result of the KAP survey of local people living in and around Michael Tsilwo church forest, concerning *P. capensis* and the church forest is showed in Table 1. A total of 60 respondents were interviewed: elder males (33.3%), elder females (33.3%), priests (16.7%) and youth (16.7%), which composed of 60% females and 40% males. The age of the respondents ranged from 25-73 years. All the respondents were from “Kushet Tsilwo” the nearest village to the church forest.

Forty percent of the respondents revealed that *P. capensis* are the most common wild animals in the church forest (Table 1). Some of the respondents also mentioned that birds (30%) are the dominant animals in the church forest. Regarding the importance of hyraxes to the community around the church forest, most of them (63.3%) said that they have no benefit to them. On the other hand, when they were asked about the negative

effects of the hyraxes to the community, 30% of the respondents reported that the hyraxes damage crops while the majority of the respondents (86.7%) do not scare the hyraxes in the church forest, few of them (13.3%) do scare hyraxes while 40% of the respondents revealed that the abundance of *P. capensis* has increased in this church forest since the last five years, 10% of the respondents reported that the abundance of the animals has decreased. When asked regarding the habitat of *P. capensis*, most of them (70%) responded that rocky outcrops were the most preferred habitat. Concerning predators, 36.7% of the respondents believed that eagles were the most common predators of the hyraxes, followed by domestic dogs (16.7%).

Good proportion of the respondents (40%) reported that *Olea europaea* was the predominant source of food for the hyraxes in the church forest, followed by grasses (30%). When asked the distribution or presence of the animals in their residential area (out of the church forest), 86.7% of the respondents reported that they are absent. Large proportion of the respondents (56.7%) had negative attitude towards hyraxes. In contrast, few of the respondents (16.7%) had positive attitude. Majority of the respondents (70%) reported that the status (size and vegetation cover) of church forest has improved in the last five years. On the other hand, 20% of the respondents indicated that the status of the church forest has not changed in the last five years.

Most of the respondents (53.3%) believed that currently the church administrators are providing protection of the church forest. On the other hand, 16.7% of them said that all the communities around the church are protecting the church forest. 16.7% of the respondents have previously participated in planting seedlings and protections of the church forests. In contrast, large proportion of the respondents (60%) never participated in protection of the church forest. Majority of the respondents (93.3%) said that they don't care for conservation of wildlife in the church forest, whereas 6.7% of the respondents have participated in conservation of resources of the church forest (for example, planting seedlings and guarding the forest).

Michael Romanat church forest

The result of the KAP survey of local people living in and around Michael Romanat church forest, concerning *H. brucei* and the church forest is showed in Table 2. A total of 60 respondents were interviewed in this church forest: elder males (33.3%), elder females (33.3%), priests (16.7%) and youth (16.7%), composed of females (40%) and males (60%). The age of the respondents ranged from 27-70 years. All the respondents were from “Kushet Romanat”, the nearest village to the church forest. Out of the respondents interviewed in the church forest, many of those (53.3%) reported that birds were common observed wild animals. 23.3% of the questionnaire

Table 1. Knowledge, Attitude and Practice survey of local people living in and around Michael Tsilwo church forest, concerning *P. capensis* and the church forest.

Interview questions	Responses			
	Number (%)			
Most common animals in the church forest	Hyraxes 24(40%)	Birds 18(30%)	Hyenas 12(20%)	Porcupines 6(10%)
Purpose of hyraxes for people	Nothing 38(63.3%)		Do not know 22(36.7%)	
Negative effect of hyraxes	No effect 34(56.7%)	Crop damage 18(30%)	Do not know 8(13.3%)	
Do you scare hyraxes when you see them	No 52(86.7%)	Yes 8(13.3%)		
Situation of number of hyraxes in the last five years in the church forest	Increased 24(40%)	Decreased 6(10%)	No change 12(20%)	Do not know 18(30%)
Habitat of hyraxes	Rocky outcrops 42(70%)	Under stones 14(23.3%)	Boulder piles 4(6.7%)	
Potential predators for the hyraxes	Eagles 22(36.7%)	Hyenas 2(3.3%)	Domestic dogs 10(16.7%)	Do not know 26(43.3%)
Source of food for hyraxes	Grass 18(30%)	<i>Olea europaea</i> 24(40%)	<i>Acacia etbaica</i> 6(10%)	<i>Combretum molle</i> 12(20%)
Are hyraxes found in your residential area (out of the church forest)	No 52(86.7%)	Yes 8(13.3%)		
Importance of church forest for hyraxes	Shelter (habitat) 44(73.3%)	Protect from predator 10(16.7%)		Do not know 6(10%)
Your attitude towards hyraxes	Positive 10(16.7%)	Negative 34(56.7%)		No idea 16(26.7%)
Negative effect of hyraxes on the church or on the forest	No effect 46(76.7%)	Do not know 14(23.3%)		
Status of the church forest in the last five years	Increased 42(70%)	No change 12(20%)		Do not know 6(10%)
Who protect the church forest	All community 10(16.7%)	Church administrator 32(53.3%)		Priests of the churches 18(30%)
Your role in protecting the church forest	Planting and protecting 10(16.7%)	Protecting the forest 14(23.3%)		Nothing 36(60%)
Your role in protecting animals of the church forest		Try to protect 4(6.7%)	Do not care 56(93.3%)	

Table 2. Knowledge, attitude and practice survey of local people living in and around Michael Romanat church forest, concerning *H. brucei* and the church forest.

Interview questions	Responses			
	Number (%)			
Most common animals in the church forest	Birds 32(53.3%)	Hyraxes 14(23.3%)	Hyenas 8(13.33%)	Jackals 6(10%)
Purpose of hyraxes for people	Nothing 46(76.7%)	Traditional medicine 4(6.7%)	Do not know 10(16.7%)	
Negative effect of hyraxes to the community	No effect 54(90%)	Do not know 6(10%)		
Do you scare hyraxes when you see them	Yes -	No 60(100%)		
Situation of number of hyraxes in the last five years	Decreased 26(43.3%)	No change 16(26.7%)	Do not know 18(30%)	
Habitat of hyraxes	Forest 30(50%)	<i>Olea europea</i> 12(20%)	<i>Mimusops kummel</i> 10(16.7%)	<i>Acokanthera schimperi</i> 8(13.3%)
Potential predators	Eagles 26(43.3%)	Owls 22(36.7%)	Do not know 12(20%)	
Source of food for hyraxes	<i>Carissa spinarum L.</i> 22(36.7%)	<i>Olea europea</i> 18(30%)	<i>Acokanthera schimperi</i> 10(16.7%)	Do not know 10(16.7%)
Hyraxes in your residential area (out of the church forest)		No 48(80%)	Yes 12(20%)	
Important of church forest for hyraxes		Shelter (habitat) 48(80%)	Protect predator 2(3.3%)	Do not know 10(16.7%)
Your attitude towards hyraxes		Positive 32(53.3%)	Negative 10(16.7%)	No idea 18(30%)
Negative effect of hyraxes on the church or on the forest		No effect 52(86.7%)	Do not know 8(13.3%)	
Status of the church forest in the last five years		Increased 50(83.3%)	No change 6(10%)	Do not know 4(6.7%)
Who protect the church forest		All community 18(30%)	Church administrator 36(60%)	Priests of the churches 6(10%)
Your role in protecting the church forest		Planting trees and protecting 6(10%)	Protecting 30(50%)	Nothing 24(40%)
Your role in protecting animals of the church forest		Protecting 24(40%)		Do not care 36(60%)

respondents also revealed that hyraxes were commonly observed animals in the church forest. Large proportion of respondents (76.7%) confirmed that hyraxes have no any positive value for communities around the church forest. In contrast, very few interviewees (6.7%) said that they are used as traditional medicine. Negative effect of hyraxes to the communities was also interviewed to the local people. Then most of the respondents (90%) said that they don't have negative effect. All the respondents don't scare hyraxes on the church forest.

Regarding the status of *H. brucei* in the last five years, nearly half of the interviewees (43.3%) confirmed that the abundance of *H. brucei* has decreased. In contrast, 26.67% of the interviewees believed that the abundance of *H. brucei* in the church forest has no change. Half of the interviewees reported that *H. brucei* live in the church forest (they did not list the species of the plants) while 20% of them listed that *O. europaea* was used as habitat. Among the interviewees, 20% reported that hyraxes are found in their residential area (out of the church forest).

Large proportion of the respondents (80%) believed that the church forest is used as habitat for hyraxes. In contrast, 16.7% of the respondents do not know significance of the church forest for hyraxes. Majority of the questionnaire respondents (53.3%) had positive attitude towards hyraxes, whereas 16.67% of them had negative attitude. When asked regarding the status of church forest in the last five years, most of the respondents (83.3%) believed that the church forests has increased and 6.67% of them do not know the status of the church forest. Large proportion of the respondents (60%) believed that currently the church administrators are providing protection for the church forest. But, 30% of them reported that all the communities around the church are protecting the church forest.

Out of the respondents, half of them have previously participated in planting and protection of the church forest and 10% of them have participated both in planting seedlings and protecting the church forest. On the other hand, 40% of the respondents do not care for planting seedlings and protecting the church forest. Most of the questionnaire respondents (60%) do not care for the wildlife found in the church forest. In contrast, 40% of the interviewees try to care in conserving of the animals. The some of the interviewees recommended that the government should give attention to the church forest and it should have permanent guards in order to conserve wildlife of the church forest.

DISCUSSION

Michael Tsilwo church forest

From the result of this study, most respondents in the study area reported that hyraxes were the most common animals in the church forest. They believed that female hyraxes give several young ones and is the reason for

dominance of the hyraxes as to what becomes the commonest of the animals. The respondents indicated also that the church forest is home to many other wild animals including hyena, common jackal, birds and porcupine. They revealed that it is due to the fact that people do not disturb/kill the animals in the church forest, compared to for instance other places around the village because the people believe killing animals in the vicinity of the church is sin. According to most of the respondents, the hyraxes never give any value to the community. In contrast, several researchers (Chiweshe, 2007; Rifai et al., 2000; Stevenson and Hesse, 1990) from Zimbabwe, Jordan and Yemen, respectively reported that meat of *P. capensis* is a source of food to local communities.

During the present study, some respondents reported that *P. capensis* damage crops around the church forest. Similar negative effect has been reported by Moran (1996) from Israel who observed hyraxes causing damage to fruit trees such as avocado (*Persea americana*), persimmon (*Diospyros kaki*) and mango (*Mangifera indica*). The present result showed that very few respondents scare hyraxes. Peoples who scare the hyraxes were those who have farmland near the church forest because they believed that the hyraxes damage their crops.

Some of the respondents stated that the abundance of hyraxes in the church forest has risen in the last five years and few believed that abundance has dropped, although they did not describe factors for the decrease in the abundances. Few of the respondents reported that domestic dogs, particularly those that come to the church with the people praying there hunt the hyraxes. According to the majority of the respondents, hyraxes do not inhabit the residential area of the local people. This could be due to availability of food and a stability of the area from human disturbances. Distribution and diversity of medium and large-sized mammals is associated with the presence of food and water and stability of their habitat from disturbances (Meseret, 2010). The current collection of stones from the habitat of *P. capensis* for renovation of the church as well as the newly stated road construction close by may result destruction of their habitats which may lead to local extinction of the species. Furthermore, these habitat destruction activities and the ongoing frightening of the animals by local people may force the animals to migration. Habitat destruction such as road construction, frighten animals and create noise lead to changes in species composition (Blumstein, 2010).

Michael Romanat church forest

More than half of the respondents reported that common observed animals in this church forest are different variety of birds. However, few of them reported hyraxes are common animals. According to most respondents, local peoples never benefit from hyraxes. However, studies in Matobo hills of Zimbabwe indicated that *H. brucei* are

main source of protein to the local people (Chiweshe, 2007). Though, very few respondents use hyraxes as traditional medicine, they reported that it was difficult to kill the hyraxes. Based on the present findings, good proportion of the interviewees reported that the status of hyraxes has decreased in the last five years, but they did not know the factor for decreasing of the animals.

Very few of the interviewees, reported that hyraxes are distributed in their residential area as to ask the distribution of hyraxes out of the church forest. However, they confirmed that these hyraxes are different from the hyraxes that are found on the church forest both in color and habitat. These hyraxes could be *P. capensis*. More than half of the respondents of Michael Romanat church forest had positive attitude towards hyraxes. Reason given for positive attitude of hyraxes includes attract tourists, and generate income for the church. Positive attitude of local community towards wildlife has been reported by Tessema et al. (2010) who assessed attitude of community toward wildlife and protected areas in four National parks of Ethiopia. On the other hand, 46.7% of the respondents didn't know ecological value of hyraxes. This may be due to lack of awareness on the wild animals.

Conclusion and Recommendations

Based on the responses of peasants, the population status of *H. brucei* has been declining while the population status of *P. capensis* has been increasing in the last five years. Majority of the respondents had positive attitude towards the church forests. However, it has been for the sake of the church that they believe that cutting plants from the church compound is forbidden. Most local people do not seem to have concern about the hyraxes and few respondents from Michael Tsilwo church forest have positive attitude towards the hyraxes. The church forests have great contribution as habitat and source of food for the hyraxes in particular and many wild animals in general although the main purpose of the churches is worshipping.

Most of the peasants do not seem to understand the ecological roles of the hyraxes and wildlife. Therefore, awareness creation programmes should be organized to the community. The awareness creation campaign should also focus on teaching the community and the effect of hunting by domestic dogs on the hyrax population is appreciated for conservation of the species. In order to increase the number of people who have a positive attitude towards hyraxes, the responsible bodies might work to benefit the local community and to increase their awareness. Based on reports of the local people and personal observation; these church forests are containing various wild animals. So, regular assessment and monitoring of other wild animals should be conducted in the church forests. Moreover, possible solutions should be taken to reduce/stop livestock grazing in the church forests.

Conflict of interests

The authors did not declare any conflict of interest.

ACKNOWLEDGEMENTS

We would like to thank Mekelle University, Department of Biology for sponsoring this study. The authors would like to acknowledge Dr. Meheretu Yonas for his critical comments that greatly improved the manuscript and Mr. Tadesse Tekle for his assistance during the fieldwork. Our special thanks also go to local people and church administrators for their cooperation during the interview.

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