

Money Overweighed the Traditional Beliefs for Hunting of Chinese Pangolins in Nepal

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Abstract

Traditional beliefs of local communities usually contribute to biodiversity conservation and management. We studied status, existing traditional beliefs, explored cause and prevailing hunting practices on Chinese pangolin (*Manis pentadactyla*) using semi-structured interviews in central and eastern districts of Nepal. All respondents speculated rapid decline of pangolins in last five years and most of them perceived sighting/hunting of pangolin as a bad omen in their traditions. Money is speculated as a driving force behind increasing the hunting of pangolins as most of the people have low socio-economic status. The most commonly used hunting practices is filling burrows with water and hitting on snout of pangolins when they attempt to escape from the burrow. We conclude that the high monetary value of pangolins in China has overweighed the existing traditional beliefs to increase hunting and decline of pangolin's population. Awareness, understanding and uplifting livelihood of local communities with strong law enforcement are necessary for the conservation of pangolins in Nepal.

Keywords: Traditional belief; Chinese pangolin; Nepal; Hunting practice; Monetary value

Introduction

Traditional beliefs of local communities are contributing to biodiversity conservation and management [1-3]. These beliefs are invisibly controlling people and ultimately preserving the biodiversity from small to large scales [4]. Socio-economic status, particularly low economic status of people also affects biodiversity conservation [5,6]. However, this interplay between biodiversity conservation, traditional beliefs and socio-economic status of local people has not been well understood, especially in Nepal.

People in Nepal have strong traditional, cultural and religious beliefs which directly or indirectly contribute to biodiversity conservation [7,8]. Establishments of sacred forests, temples, stupas, monuments etc. by local/rural communities are some examples of these traditional beliefs in Nepal. Unlike for some plants and animals [9], people also do have strong traditional beliefs, a sign of bad luck towards the sighting of Chinese pangolin (*Manis pentadactyla*) (hereafter pangolin) in some districts of Nepal [10,11]. However, there has been no study about the impact of traditional beliefs on pangolin's conservation. Now pangolin is considered as one of the most highly traded mammals in Nepal and Asia in broad manner although it is categorized as Critically Endangered in IUCN Red List of Threatened Species [12-14]. Thus it is necessary to understand scenario of existing traditional beliefs towards pangolin and why such beliefs are not contributing on pangolin's conservation. For this, we interviewed people of central and eastern districts of Nepal to know their perception on status and sighting of pangolin including the motivating factor for its hunting. We also explored the hunting practices commonly used by the local hunters.

Materials and Methods

We conducted our study in three districts of central (Sindhupalchok-27°46'N 85°42'E) and eastern Nepal (Ilam-26°54'N, 87°56'E and Dhankuta-26°58'N, 87°20'E) in 2014 and 2016 (Figure 1). Only Sindhupalchok district has direct open border with Tibet (China). Moreover, all these districts lie outside the protected areas of Nepal. Major ethnic groups living in these districts are Tamang, Sherpa, Rai and Limbu, with few Brahmin, Chetri and Newar. Farming and animal husbandry are two important ways of sustaining livelihood in these districts and most people belong to low socio-economic status.

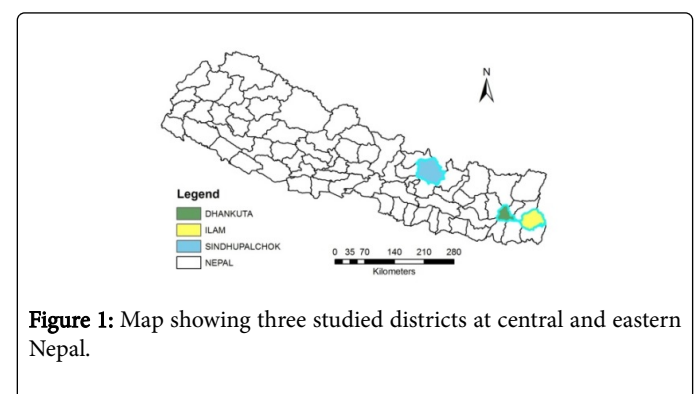


Figure 1: Map showing three studied districts at central and eastern Nepal.

We used semi-structured interviews [10,12] from the district headquarters to remote villages with people of different disciplines such as community forest users' groups, forest officers, police officials, traders, teachers, ethnic groups and local hunters about status, traditional beliefs towards sighting/hunting of pangolins, cause of hunting and hunting techniques in their localities. We interviewed adults and elders people. Traditional beliefs towards sighting/hunting of pangolin were categorized as bad luck, good luck and nothing. We used the word hunting to mean killing for trade, meat, medicine or any

other purposes. Similarly, we also related the cause of hunting in terms of money (income source), bush meat, ethno-medicine and don't know. In addition, we recorded the hunting practices that were prevailing in the study sites. On completion of data collection, we pooled all the views of the respondents in percentile form to understand their perception.

Results and Discussion

Of all respondents (N=298), only 40% had seen live pangolins and 98% had seen their burrows. Sighting of live pangolin is very rare as it is a nocturnal burrowing animal [15]. Burrows, which are also found in agricultural lands and other open areas including forests, are observed by most of the people when they go to forest and their agricultural lands [11]. Like Kaspal et al. [11], and Challender et al. [16], majority of the respondents (89%) reported that pangolins mostly feed on termites.

All the respondents speculated that pangolin's population has declined rapidly in the last five years. More than half of the respondents (60%) considered hunting, or even just sighting a pangolin as a sign of bad luck, and 10% of them favored it as a good luck while the rest said nothing will happen (Figure 2). People opined that if someone kills or sees a pangolin, then disasters (like accidents, illness and sometimes even death) follow in their family within a couple of months. Such ill beliefs have also been reported in different districts of Nepal [10,11,17]. However, this belief has not reduced the hunting of the pangolins in these districts. In the past, pangolins used to be hunted for meat and ethno-medicinal use, especially for local consumption [10,11,16,18]. However, it is now done primarily for money, high income source, ignoring the traditional beliefs [10,11]. In our study, 46% of the respondents agreed that this was the case (Figure 3). Although the maximum penalty for trafficking of pangolin in Nepal is NPR 75,000 or 10 years of imprisonment or both, seizures are infrequently made despite trade being a problem in Nepal [10,11]. This has been a motivating factor for local hunters to make money, between NPR 20,000-25,000/kg (USD\$ 200-250/kg), which is realized by local poachers living in the source areas with higher profits further up the trade chain e.g., when trafficking pangolins to China [10,17]. This is qualified by the low socio-economic status of the people living in our study districts where per capita income is <750 USD\$ [19]. Thus high profit margins in a short period of time is a key motivating factor in local people getting involved in pangolin's hunting and trade [20]. In contrast, Challender et al. [21], and Ingram et al. [22], reported hunting and trade were mainly driven by the use of traditional medicine and luxury meat at international markets. Next to the money was for meat (29% respondents) and very few respondents (11%) agreed on medicinal uses while remaining opined of not having any idea (Figure 3). However, we believe that hunting for meat is mostly in the areas where there is low poachers influx.

Local people used different techniques to hunt pangolins. Around 35% of respondents stated that most hunters fill the burrows with water and hit on the snout of pangolins as they attempt to escape the burrows. In addition, 12% stated that hunters dig pangolins out of their burrows in order to kill them, for e.g., we have reported large number of excavated burrows for hunting of pangolins in Dhankuta. Similarly 7.61% respondents perceived for using trained dogs and 14.28% asserted other methods like using fire, traps etc. at the burrows, 12.85% of respondents recognized the use of all these methods by local hunters while other remained unknown to it. Using of trained dogs to locate

the pangolins followed by digging them out of their burrows is also reported by Newton et al. [12] in Vietnam.

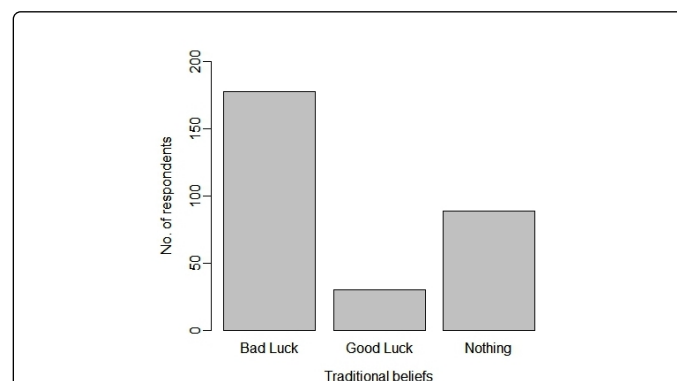


Figure 2: Traditional beliefs towards the sighting/hunting of pangolins.

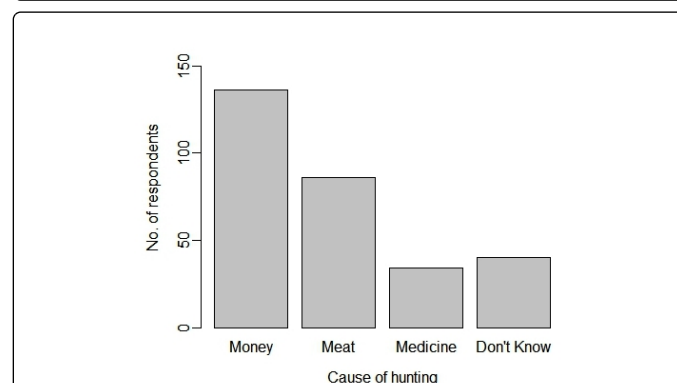


Figure 3: Respondent's perception behind the hunting of pangolins.

Our study concludes that traditional beliefs of local communities are not contributing for reducing hunting of pangolins due to high monetary value of pangolins in China. In addition, the use of pangolins for medicine and meat locally in Nepal has been substituted by its high trade value. Thus education, outreach activities and ensuring sustainable livelihoods among local communities as well as strong law enforcement are must do actions to secure the conservation of the pangolin in Nepal.

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References

1. Anthwal A, Gupta N, Sharma A, Anthwal S, Kim KH (2010) Conserving biodiversity through traditional beliefs in sacred groves in Uttarakhand Himalaya, India. *Resour Conserv Recy* 54: 962-971.
2. Lasker BA (2011) Traditional beliefs help wildlife conservation. *Sci Cult* 77: 235.
3. Uyeda LT, Iskandar E, Purbatraptsila A, Pamungkas J, Wirsing A, et al. (2014) The role of traditional beliefs in conservation of herpetofauna in Banten, Indonesia. *Oryx* doi:10.1017/S0030605314000623, pp: 1-6.
4. Colding J, Folke C (2001) Social taboos: "Invisible" systems of local resource management and biological conservation. *Ecol Appl* 11: 584-600.
5. Subaiee FSA (2016) Socio-economic factors affecting the conservation of natural woodlands in Central Riyadh Area-Saudi Arabia. *Saudi J Biol Sci* 23: 319-326.
6. Maxwell SL, Fuller RA, Brooks TA, Watson JEM (2016) The ravages of guns, nets and bulldozers. *Nature* 536: 143-145.
7. Katuwal HB, Bhandari J, Thapa V, Gurung R, Chaudhary R, et al. (2016) How many birds do the sacred forests hold? *J Zool Stud* 3: 07-19.
8. Jana S, Paudel NS (2010) Rediscovering indigenous people and community conserved areas (ICCAs) in Nepal. *Forest Action Nepal*, Nepal.
9. Niroula G, Singh NB (2015) Religion and conservation: a review of use and protection of sacred plants and animals in Nepal. *J Inst Sci Tech* 20: 61-66.
10. Katuwal HB, Neupane KR, Adhikari D, Sharma M, Thapa S (2015) Pangolins in eastern Nepal: trade and ethno-medicinal importance. *J Threat Taxa* 7: 7563-7567.
11. Kaspal P, Shah KB, Baral HS (2016) Pangolin (in Nepali version). *Himalyan Nature*, Kathmandu, Nepal.
12. Newton P, Thai NV, Robertson S, Bell D (2008) Pangolins in peril: using local hunters' knowledge to conserve elusive species in Vietnam. *Endanger Species Res* 6: 41-53.
13. Nooren H, Claridge G (2001) Wildlife trade in Laos: end of the game. *Netherland Committee for IUCN*, Amsterdam.
14. Challender DWS, Harrop SR, MacMillan DC (2015) Understanding markets to conserve trade-threatened species in CITES. *Biol Conserv* 187: 249-259.
15. Jnawali SR, Baral HS, Lee S, Subedi N, Acharya KP, et al. (2011) The status of Nepal's mammals: the national red list series. *Department of National Parks and Wildlife Conservation*, Kathmandu, Nepal.
16. Challender D, Baillie J, Ades G, Kaspal P, Chan B, et al. (2014) *Manis pentadactyla*. The IUCN Red List of Threatened Species. Version 2015.
17. Thapa P, Khatiwada AP, Nepali SC, Paudel S (2014) Distribution and conservation status of Chinese Pangolin (*Manis pentadactyla*) in Nangkholyang VDC, Taplejung, Eastern Nepal. *Am J Zool Res* 2: 16-21.
18. Boakye MK, Pietersen DW, Kotze A, Dalton DL, Jansen R (2015) Knowledge and uses of African pangolins as a source of traditional medicine in Ghana. *PLoS ONE* 10: e0117199.
19. NHDR (2014) *Nepal Human Development Report 2014-Beyond Geography, Unlocking Human Potential*.
20. Soewu DA, Sodeinde OA (2015) Utilization of pangolins in Africa: fuelling factors, diversity of uses and sustainability. *Int J Biodivers Conserv* 7: 1-10.
21. Challender DWS, Baillie J EM, Waterman C, the IUCN-SSC Pangolin Specialist Group (2012) Catalyzing conservation action and raising the profile of pangolins - the IUCN-SSC Pangolin Specialist Group (PangolinSG). *Asian J Conserv Biol* 1: 140-141.
22. Ingram DJ, Coad L, Scharlemann JPW (2016) Hunting and sale of African pangolins across Sub-Saharan Africa: a preliminary analysis prepared for WCS. *OFFTAKE Working Paper No. 1*.