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Myths, taboos and biodiversity conservation: the case of hunters in a rural community in Ghana

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ABSTRACT

Reported in this paper are the results of interviews conducted with 35 hunters in the Akposo Tradionional Area in the Volta Region of Ghana on animal myths and taboos of the people of Akposo and the awareness of the hunters on Ghana Wildlife Regulations. The taboos and myths were analysed for their significance to biodiversity conservation in the area. Approximately 94.3% and 97.1% of the hunters respectively were not aware of the close season and license requirement for hunting, contrary to high levels of awareness and compliance with many of the myths and taboos. In spite of the popularity of the myths and taboos they appeared to have played minimal role in the protection and conservation of biodiversity in the area because they either misdirect attention from real conservation problems or have a ritual as a remedy for the violation which serve as an antidote against the intrigue and fascination associated with the beliefs. Rather than integration of the myths and taboos into biodiversity management, there is the need for resource managers in the area to focus on education of the hunters and enforcement of the Wildlife Conservation Regulation to achieve set targets for species protection and conservation.

Key words : *Conservation, Community based, Myths, Taboos, Hunters*

Introduction

Evidence exists that the fences-and fines approach to protected area management in which central governments write and enforce laws prohibiting or severely limiting human use of resources had not worked in developing countries due to community responses to real or perceived malfeasance, misfeasance or nonfeasance on the part of governments (Barrett *et al*., 2001). As a result of this, many conservation practitioners in recent times advocate bottom – up conservation strategies labelled *Community Based Natural Resource Management* in which some level of decision-making authority is vested in the local people. Community Based Natural Resource Management programs are often based on the premises that local people will do more to conserve biodiversity when local values and externalities are incorporated in conservation policies (Barrett *et al*., 2001; Western & Wright 1994).

Taboos and myths have long been identified to play important roles in species protection and conservation and thus form an important element in Community Based Natural Resource Management (Colding and Folke, 1997; Berkes *et al.,* 1995; Gadgil *et al*. 1993; Dwomoh, 1990, EPC, 1976). In Ghana for instance, as many as 1904 small patches of forests exists as sacred groves and protected by customary laws (Biodiversity Support Program, 1993). Indeed, the contribution of taboos and myths to the successful protection of white colobus monkey (*Colobus polykomos*) and the mona monkey (*Cercopithecus mona)* among the people of Boabeng and Fiema villages in Ghana has long been acknowledged (Fargey, 1991; Kankam, 1997). However, Kellert *et al* (2000) indicated that although such Community

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Based Natural Resource Management systems may be successful to some extent, they are often associated with serious deficiencies.

To other authors, the practice of myths and taboos is irrational, a hindrance toward development (Edgerton, 1992) with no ecological reasons behind them (Rea, 1981) and consequently of no value in nature conservation (Alvard 1993, 1994). Nevertheless, many such myths and taboos exist in many African societies alongside constituted wildlife laws.

Ghana has Wildlife Laws (Ghana Wildlife Conservation Regulations, 1971, and Ghana Wildlife Conservation (Amendment) Regulations, 1988; 1995) which categorise animal species into two Schedules based on the level of protection required for a particular species. Animals listed on Schedule I are completely protected hence their hunting, capture or destruction is prohibited at all times. Those on Schedule II are partially protected such that their hunting capture or destruction is absolutely prohibited between 1st August and 1st December (closed season) whilst the hunting, capture and destruction of their young ones, or adult accompanied by young, is absolutely prohibited at all times. In addition, a licence is required for hunting or trading in wild animals. These regulations are enforced by the Wildlife Division of the Ghana Forestry Commission. These constituted Wildlife Laws and Regulations thus exist alongside customary laws mainly in the forms of myths and taboos that govern local use of resources in many communities.

Though it has been the vision of the Government of Ghana to transform the country into a state where people live in harmony with the natural environment, the number of people involved in wildlife trade including, hunters, traders and exporters continue to increase over the years (Kassim 2002; Odonkor, 2007). Thus despite the collective efforts of Government and several NGOs, enforcement and compliance with wildlife regulation generally remains weak to the extent that carcasses of many species listed on Schedule I are sold openly in markets and by some major roads in the country (Attuquayefio and Fobil, 2005; Odonkor, 2007)

In relation to the above, many attempts were made to explore the significance of the involvement of local values of communities that interact with wild animals into wild animal conservation so as to ensure harmonious fusion of scientific strategies of conservation and cultural and traditional methods. However many of such studies in Ghana were limited to the Central, Eastern, Western and Ashanti regions of the country even though the Volta Region and the regions in the northern parts of the country are home for many species of wildlife and inhabited by different ethnic groups of diverse culture. This paper examined the animal myths and taboos of the people of Akposo Traditional Area, – a small rural and deprived community in the Volta Region of Ghana where the influence of foreign culture and religion is minimal. The animal myths and taboos were examined for their popularity among the people vis-à-vis Ghana Wildlife Laws and their potential implications for species protection and conservation assessed.

Materials and Methods

Study area

The Akposo Traditional Area in the Jasikan District of the Volta Region of Ghana, West Africa, comprises a cluster of three villages namely Akposo-Kabo, Akposo-Kubi and Akposo-Okrabe that lie between the parallels of latitude 7°26 and 7°42 North, and the meridian of longitude 0°19 and 0°35 East. Akposo-Kabo and Akposo-Kubi are located along the main access road to the traditional area while Akposo-Okrabe can only be reached by footpath. The people of Akposo, similar to most rural communities in Ghana, are largely subsistence farmers some of who doubled as petty traders, hunters and artisans.Among the people, an individual is considered to be a hunter if he carries a gun anytime he ventures into the bush in preparedness to kill game animals and or frequently ventures into the forests at night to hunt game animals. A hunter is considered to be successful if he occasionally kills game at least the size of an antelope.

Located in the Akposo Traditional Area is the 136 km^2 Kabo River Forest Reserve which was established in 1928 and constituted in 1954. Admitted communal right in the reserve include unrestricted hunting, fishing and collection of snails, tortoises, honey, wild yams and mushrooms except for the use of snares and damming of rivers. Fire has been and continues to pose the greatest threat to the structure and composition of the reserve as a result of which the reserve was subjected to early burning in the 1960s to avoid late fires (Poku-Marboah, 1998).

Interviews

In each of the three villages 100 individual residing

in the village were randomly selected and separately asked to name all the individuals considered to be hunters in the village. The individuals that were mentioned by 80% of the respondents were then assumed to be hunters. These hunters numbering thirty five (35) of which twenty (20) were residents in Akposo Kabo, nine (9) were in Okrabe and six (6) in Kubi were separately interviewed in their individual houses. The interviews were conducted by the same individual in the local Akposo language.

The hunters were asked to list the animals that inhabit the Kabo River Forest Reserve and assess their abundance status as common, rare or no longer existing. They were also asked to show the animal trophies they acquired over the years to the interviewer. Each hunter was then taken through the list he provided and asked to narrate the animal myths and taboos that may surround any of the mentioned animals and indicate whether he would comply with the myth, not comply or unsure. The hunters were also asked to indicate the remedy available should one violate the myth or taboo and indicate whether they would comply or not comply with the dictates of the remedy should they violate them. Also each hunter was asked to nominate the hunter he considered as the most experienced in the village. The top two nominees in each village were assumed to be the most experienced hunters in each village. The compiled myths and taboos were then read out to a group of six experienced hunters and four elders for validation and harmonisation of discrepancies.

In addition, the hunters were asked to indicate whether or not they were aware of the existence of the Ghana Wildlife Regulations on game animals and accordingly state them and indicate whether or not they had licenses for hunting. Where a hunter fails to correctly state these regulations or is unaware of their existence, the regulations were read out to them as a way of educating them.

Results and Discussion

Fauna of Kabo River Forest Reserve and their present status

A total of 45 species of reptiles, birds and mammals were reported to inhabit the Kabo River Forest Reserve (Table 1). Although assessment of the abundance of the animals was subjective, there was a strong indication that 62.2% of the animals are still common in the wild, 20.0% might be rare, 13.3% might be locally extinct whilst no conclusion could be drawn on the abundance status of 4.2% of the species (Table 1). Some of the trophies kept by the hunters include the hand of the chimpanzee (*Pan troglodytes*), the hide of the aardvarks (*Orycterous afer*), the skin of the African pythons (*Python sebae*) the horns, jawbones and skin of bushbacks (*Tragelaphus scriptus*) and the tails of the brush-tailed porcupines (*Atherrurus africanus*).

Comparative awareness on myths, taboos and hunting regulations

Similar to the findings of Odonkor *et al.* (2007), all the 35 hunters were males and therefore clearly confirming hunting of wild animals as a male exclusive profession in Ghana. Years of hunting experience ranged from 6 to 35 with an average of 25. In relation to the awareness on hunting regulations, all the hunters attested to knowing about the existence of the Ghana Wildlife Hunting Regulations but 94.3% of them could not tell the time of the close season (1st August to 1st December) and only 2.9% were aware of the requirement of licence acquisition. None of the hunters in the three villages had a licence for hunting though they indicated they were active hunters. These clearly indicate that the hunters know about the existence of the National Wildlife Hunting Regulations but had no knowledge about the details and could not therefore comply.

However, all the myths and taboos about reptiles and mammals among the people of Akposo were nearly narrated correctly by each of the hunters. This thus indicated that awareness on the Ghana Wildlife Hunting Regulations was lower than that of the taboos and myths and therefore compliance with the Ghana Wildlife Hunting Regulation as compared to taboos and myths is likely to be lower.

The animal taboos and myths among the people of Akposo

The myths and taboos compiled pertained to specific animal and have been grouped into four categories as follows:

i. Myths and taboos portraying animals to have mystical powers to cause death or serious mishap when killed unless rituals are performed to avert the mishaps or deaths.

There exists a myth that "a*nyone who kills a large cat* (*Panthera spp*) *without provocation stands the risk of*

Table 1. List of animals in Kabo River Forest Reserve and their abundance status as reported by hunters in Akposo Traditional area

Class	Order	Common Name	Scientific Name	Conservation significance			
				Reported Status	*Ghana Regulations*	*Wildlife*	*Conservation*
Reptilia	Crocodilia	Broad fronted crocodile	*Osteolaemus tetrasapis*	C	I		
		Nile crocodile	*Crocodylus niloticus*	C	I		
	Chelonian	Marsh terrapin	*Pelomedusa subrufa*	R	II		
		Hinged tortoise	*Kinixys sp.*	R	II		
	Squamata	Nile monitor	*Varanus niloticus*	C	I		
		Royal python	*Python regius*	C	II		
		African rock python	*Python sebae*	C	II		
		Spitting cobra	*Naja nigricollis*	C	II		
		Gaboon viper	*Bitis gabonica*	C	II		
Aves	Galliformes	Crested guinea fowl	*Guterrera pucherari*	C	I		
		Helmeted guinea fowl	*Numida meleagris*	C	I		
		White breasted guinea fowl	*Agelastes meleagrides*	E	I		
		Ahanta francolin	*Francolinus ahantensis*	C	I		
		Stone patridge	*Ptilopachus petrosus*	C	II		
	Coraciiformes	Pied hornbill	*Tockus fasciatus*	C	I		
	Columbiformes	Laughing dove	*Streptopelia senegalensis*	C	II		
	Falconiformes	Crown eagle	*Stephanoaetes coronatus*	R	I		
Mammalia	Rodentia	Giant rat	*Cricetomys gambianus*	C	II		
		Grasscutter	*Thryonomys swinderianus*	C	Not listed		
		Crested porcupine	*Hystrix cristata*	R	II		
		Brush tailed porcupine	*Atherurus africanus*	C	II		
		Beecrofts anomalure	*Anomalurus beecrofti*	C	I		
		Striped ground squirrel	*Euxerus erythropus*	C	II		
		Slender tailed squirrel	*Protoxerus aubinii*	C	II		
	Insectivora	White bellied hedgehog	*Erinaceus albiventrix*	C	II		
	Pholidota	Common pangolin	*Phataginus tricuspis*	C	I		
	Tubulidentata	Aardvark	*Orycteropus afer*	R	I		
	Carnivora	Genet	*Genetta sp*	NX	II		
		Gambian mongoose	*Mungos gambianus*	C	II		
		Leopard	*Panthera pardus*	E	I		
		Lion	*Panthera leo*	E	I		
	Artiodactyla	Red river hog	*Potamochoerus porcus*	C	II		
		Giant hog	*Hylochoerus meinertzhageni*	E	I		
		African buffalo	*Synceros caffer*	R	I		
		Bongo	*Tragelaphus eurycerus*	NX	I		

Table 1. *Continued ...*

Class	Order	Common Name	Scientific Name	Conservation significance		
				Reported Status	*Ghana Regulations*	*Wildlife Conservation*
		Black duiker	*Cephalophus niger*	E	II	
		Maxwells duiker	*Cephalophus maxwelli*	C	II	
		Bay duiker	*Cephalophus dorsalis*	R	II	
		Bushbuck	*Tragelaphus scriptus*	C	II	
		Silver backed duiker	*Cephalophus silvicultor*	E	I	
	Primata	Chimpanzee	*Pan troglodytes*	R	I	
		Patas monkey	*Erythrocebus patas*	R	II	
		Lesser spot nosed monkey	*Petaurista sp*	C	II	
		Galago/ bush baby	*Galago senegalensis*	C	II	
		Potto	*Perodicticus potto*	C	II	

C - >70% of hunters attest to the species being common
R- >70% of hunters attest to the species being rare
E- > 70% of hunters believes species is no longer present.
NX - the conclusive figure of 70% could not be achieved.

Schedule I – species are completely protected under Ghana's Wildlife Laws (Ghana Wildlife Conservation Regulations, 1971, and Ghana Wildlife Conservation (Amendment) Regulations, 1988; 1995 (i.e., their hunting, capture or destruction is prohibited at all times)

Schedule II – species are partially protected under Ghana's Wildlife Laws (Ghana Wildlife Conservation Regulations, 1971, and Ghana Wildlife Conservation (Amendment) Regulations, 1988; 1995 (i.e., their hunting capture or destruction is absolutely prohibited between 1st August and 1st December of any season, and the hunting, capture and destruction of any young animal, or adult accompanied by young, is absolutely prohibited at all times)

a fatal revenge attack by another large cat on his subsequent visit to the wild". This was narrated correctly by all the 35 hunters and thus indicating the myth was widespread. In order to avert this mishap, the culprit must report to the chief of the town who would then summon some elders for his trial. A default guilty verdict is passed that attract a fine and pacification rituals to appease the gods. Also all 35 hunters narrated that, "*anyone who kills a bongo* (*Tragelaphus eurycerus*) *carries the risk of becoming insane if he does not consult a traditional priest with the consent of the elders, for pacification rituals*".

Generally, 97.1% of the hunters believed in these myths and confessed to the fear of cat attacks or insanity if they should kill the animals and fail to undergo the rituals. It was thus easy to deduce that the fear of death or insanity would be deterrent enough to prevent the hunters from pursuing the animals and that killing of the cats and bongos may be forsaken to inadvertently protect the species. Contrarily, information on compliance with the myth indicated that 97.1% of the hunters were prepared to pay the fines and or undergo the rituals which they alleged is humiliating. When asked whether the fines were not deterrent enough, it was explained that proceeds from the sale of bongos and large cats would exceed the fines and that undergoing the rituals wins them fame and respect as celebrated hunters in the community. Clearly, these myths and taboos would not contribute to the conservation of cats and bongos in these areas. This is supported by the fact that the many of the species of cats listed were assessed to be no longer present in the area, and the status of the bongo could not be determined (Table 1). Furthermore, hunters from surrounding villages who also hunt in the forest may not share the same culture and values with the Akposo people as reported by Alvard (1993, 1994).

ii. Myths and taboos purported to warn locals of perceived physical

dangers posed by an animal or its habitat

The African buffalo (*Synceros caffer*) was alleged to "*have horns so scalding hot that when they itch and are struck against a rock by the buffalo, the heat generated ignites nearby vegetation and causes bushfires"*. Approximately 71.4% of the hunters believed in this myth and attributed bushfires in the area to Buffalos whilst 28.6 % disregarded it. The buffalo has the reputation of being the most formidable game species in Africa (Nowak, 1991) and it is possible that the rural people were speaking figuratively about its repute but rather exaggerated ferocity. With the frequent bushfires in the area (Poku-Marboah, 1998) and several sightings of the "hot-horned buffalo" in the forest, it was easy to link the two events. Generally however, buffalo horns are made of keratin and dead cells and are naturally very hard, but are still part of the animal's body and their being very hot would naturally cause serious discomfort to the animal itself. Although, the prospect of confronting a ferocious animal with 'scalding hot horns' could be enough deterrent for any prospective hunter, this myth could hamper efforts at reducing the incidence of bushfires, since the local people would be encouraged to hunt and reduce the number of buffalos to ensure that their activities do not result in bushfires that tend to destroy their farms whilst the real causes of bushfires may not be tackled.

It was also narrated that "*if a person ventures into the burrow of an aardvark, the aardvark would emerge through another opening and then block the opening through which the person entered and thus trapping the person"*. To prevent being trapped in an aardvark's burrow, it was customary among the Akposos that a rope is tied to the person's waist, the end of which should be held by others standing outside. Approximately 34.3% of the hunters believed in this myth whist 65.7% were ready to disregard it. Of those who believed in it, none was prepared to have a rope tied to his waste to enable him hunt aardvarks in their holes.

Indeed, aardvarks create very complex underground tunnels commonly with several entrances and exits and that such tunnels are big enough to accommodate a normal-sized human being (Melton, 2008). It is also known that aardvarks sometimes seal some of the openings in the burrow behind them to protect themselves while inside the burrow (AWF, 2007). They do not do this to detain a human being. It appears that this behaviour of the aardvark has been exaggerated with a tinge of anthropomorphism; to serve the purpose of deterrence for any would be hunter contemplating entry into an aardvark burrow. Clearly, while the hunter is protected from a perceived harm, the extent of hunting aardvark to their burrows is likely to be reduced.

Another myth in this category concerns the nursing female red river hog *(Potamochoerus porcus) "alleged to attack any one accompanied into the wild by a domestic dog (Canis familiaris)".*Although this myth has the potential of deterring people from going to the forest along with dogs which eventually would reduce attack on wild animals, approximately, 68% of the hunters do not believe it and were prepared to venture into the forest with dogs and thus indicating the insignificant contribution of this myth to the conservation of hogs. Whilst it was apparent that the hunters do not fear hog attacks because they generally had their guns in possession, it was narrated that an ordinary Akposo person without a gun fears hog attacks and would thus not venture to the forest with dogs. It is worth noting that Red river hogs give birth to altricial young and are generally hostile to strange objects or events they perceive would endanger their own lives and those of the young. This behaviour is not peculiar to hogs; most other female mammals would also behave the same way under similar circumstances.

iii. Myths and taboos resulting from misconstrue events

Another aardvark myth was that "*the emergence of an aardvark from its burrow triggers a downpour"*. As anteaters, aardvarks feed primarily on termites and ants which emerge from their microhabitats after rains (Taylor & Skinner, 2003; AWF, 2007; Melton, 2008). Aardvarks may be taking advantage of this phenomenon to emerge from their burrow, a behaviour which may have been misconstrued by the indigenes to suggest that aardvark emergence triggered a downpour. It is also known that aardvarks dig burrows during rains when the ground is softer, and this could be another reason for linking aardvarks with rainfall. This myth however predisposes the aardvarks to hunting since the hunters may take advantage of the situation to hunt aardvark populations down.

Another misconstrued narration is that "*the number of pebbles found in a crocodile's stomach after death represents its age in years, since crocodiles are thought to swallow one pebble every year"*. Although crocodiles were reported to be common (Table 1) in the area, this misconception could induce adventures by the

indigenes to kill crocodiles in order to establish their age, with negative implications for biodiversity conservation and protection programs. However, no such an adventure has been reported. It is worth noting that crocodiles actually swallow stones or pebbles to cancel positive buoyancy and to prevent tail heaviness while floating (Taylor, 1993). Pebble swallowing is not done with any regularity and can therefore not be used to estimate age.

iv. Myths portraying animals to have mystical powers to cause mishaps for which no remedy is available. It was also narrated that "*a male child would be rendered impotent if he sees the genitals of a female aardvark*". No remedy was provided for the eventuality but the normal practice among the Akposos is to dissect and remove the genitals of captured female aardvarks at the scene of capture. All 35 hunters believed in the myth and 11.4 % attested to have complied with the dissection in the bush whist 88.6% had never killed a female aardvark. Whilst no explanation could be given for why the adults could not become impotent on seeing the genitals of female aardvarks, it was clear that this myth has no conservation significance since the hunters are not precluded from eviscerating the female aardvark at the site of the scene. It could be that the Akposos frown on exposing children to the process of cutting out human-like animal private parts since curious children would mostly likely gather around carcasses brought home from the bush.

The importance of the myths and taboos to biodiversity conservation

Odonkor *et al.,* (2007) observed that although the level of awareness on Ghana Wildlife Regulations among hunters and traders of wild animals in southern parts of Ghana was very high, such stakeholders exhibited minimal compliance with the regulations. As 94.3 and 97.1% of the hunters in this study respectively were not aware of the close season and license requirement, it was very clear that level of awareness on Ghana Wildlife Regulations among the hunters was very low contrary to the observations in southern Ghana (Odonkor *et al* (2007). However, with all hunters clearly narrating the myths and taboos surrounding the animals, this study has clearly indicated that the level of awareness on myths and taboos are higher than that of Ghana Wildlife Hunting Regulation. Also, with the high proportions of the hunters believing in the individual myths and taboos as compared to the general lack of the details of the Wildlife Regulations, there are indications that the taboos and myths are more popular among the people than the Wildlife Regulations.

Pandey (1996) and Soutter *et al*., (2003) suggested the need for the use of a plurality of knowledge systems in natural resource management. However, this study indicated that though the myths and taboos are more popular among the Akposo people than the Wildlife Regulations, the ritual window available as a remedy for violating the first category of myths and taboos serve as an antidote against the intrigue and fascination associated with the beliefs and thus renders the myths and taboos as artefact. The rituals are embraced by culprits and therefore ruling out any conservation significance the myths and taboos might have. Although the myths and taboos in the second category have the potential to impact the fear of physical harm and thus positively promoting the conservation of species, they also have the potential to misdirect attention from real conservation problems and thus negatively impacting on species protection and conservation. Those in the third category have the potential to initiate adventures but together with the fourth category they appear to be neutral to species protection and conservation.

With the rarity of many large game in the area despite the myths surrounding them, it is evident that the myths and taboos have played little role in the protection and conservation of species in the area similar to the findings of Edgerton (1992) and Alvard (1993, 1994). This therefore suggests that the resource managers need to focus on education of the hunters and enforcement of the Wildlife Conservation Regulation to achieve set targets for species protection and conservation in the area.

Conclusion

This study indicated the existence of low level of awareness on Ghana Wildlife Regulations among the hunters in Akposo Traditional Area in Ghana contrary to high levels of awareness on myths and taboos. Analysis of the myths and taboos however indicated that they have played minimal role in the protection and conservation of biodiversity in the area. There is therefore the need for resource managers to focus on education of the hunters and enforce-

ment of the Wildlife Conservation Regulation to achieves set targets for species protection and conservation

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