Marketing channel of hunting products in northern Nimba County, Liberia

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Abstract

Mount Nimba is one of the most famous sites for biodiversity conservation in West Africa and has been identified as a priority Hotspot for conservation. In Liberia, the iron ore that constitutes the mountain body is exploited by ArcelorMittal Company. In the framework of its impact assessment process, bushmeat study in its mining concession was conducted by Sylvatrop. Surveys of different persons involved in bushmeat industry and hunting activity monitoring in northern Nimba County have been realized during eleven months.

The results presented in this paper provide a first understanding of the Marketing channel of hunting products in this region. The hunting activities are mainly dedicated to feeding the hunter’s family but commercial bushmeat activities are also important in the area both at the hunter community level and at the regional level. All kinds of animals are considered to be potential prey except sometimes those which are hard to find or too dangerous to hunt (buffalos, panthers…). Most of the caught game appears to be Rodents and forest Antelopes. The actors involving in the bushmeat industry in Northern Nimba County are hunter/farmer, rural and urban households, intermediaries, sellers of bushmeat in markets and in restaurants. Hunters sell their in their community towns, in the cities’ market and restaurants but transboundary bushmeat trade also exist between the three countries that share the Nimba range (Guinea, Liberia and Côte d’Ivoire).

Key words: bushmeat, hunter, market, seller, trade, trans-boundary

Introduction

Nimba County, in the north east of Liberia is located in the Western part of the Upper Guinea Ecoregion which extends from Sierra Leone to the Sassandra River in Côte d’Ivoire. This sub-region supports several endemic Mammals species and subspecies, unfortunately, this region hotspot is one of the most critically fragmented on the planet. Much of the remaining forest is exploited for timber or threatened by hunting and does not represent intact habitat (McGinley 2008).

The ArcelorMittal Company has obtained authorization from the Liberian government, to exploit the iron ore deposits in Nimba County, near Mount Nimba in. To be in compliance with Liberian law, ArceloMittal should conduct an environmental impact study before implementing its mining operations. Thus, biological preliminary assessments implemented by AML were characterized by ecological baselines and provided a reliable basis for biodiversity impact assessments. It is known that large-scale mining for iron ore, diamonds, gold, and bauxite, particularly in mountain areas, and small-scale mining for gold and diamonds also pose a major threat to the forests and biodiversity. Furthermore, these practices introduced populations further stress the forest resources through hunting of wild animals, particularly antelope and primates (Sery et al 2006, 2008, Lauginie 2007).

Preliminary ecological baseline study commended by ArcelorMittal in 2009 revealed that communities around and inside of the concession are reliant on bushmeat as food source and income.

Indeed, bushmeat utilization is currently one of the most important conservation challenges in the moist tropical forest region of Africa, from West Africa’s Guinean forest hotspot to the wilderness area of Central Africa. In 1993 publication entitled African Biodiversity laid out the extraordinary dependence of Africans on locally available biological resources for food, medicine, and materials for shelter. Indeed, hunting and bushmeat utilization have been an integral part of traditional human livelihood throughout Africa for generations (Mendelson et al 2003). Although the bushmeat crisis has been and is still being brought to light in numerous publications across the continent and throughout the world, the development of appropriate and practical solutions remains hampered by a limited understanding and treatment of the underlying complexities involved in the commercial bushmeat trade (Bowen-Jones 1998, 2002, Mohamed et al 2002). Wildlife harvest rates for subsistence use and the commercial bushmeat trade may represent a threat to the maintenance of biodiversity (Bowen-Jones and Pendry 1999).

In Liberia, the civil conflict from 1989 to 2003, and the resulting collapse of the national economy, may have promoted the expansion of the wildlife harvest. Hunters take their catch directly to a local or urban market. Transporters (bush taxis, logging trucks, and government and NGO vehicles) serve as links in the commodity chain between the hunter and marketer. A strategy to control bushmeat hunting is therefore considered urgently necessary by ecologists. However, a coherent bushmeat hunting mitigation strategy needs to include specific measures that can only be developed using detailed information collected during a medium to long term survey. This would establish, as far as possible, the current baseline level of hunting and the territories used by different communities (Bene and Dufour, person commun; Bene et al submitted). It is considered important to look at this aspect of rural livelihoods in northern Nimba County as future mining activities may cause hunters to lose access to current hunting areas, or push hunting activities into adjacent protected areas. The aim of this study was to determine the bushmeat...
commercialization in the northern Nimba County.

Method

Study site

Nimba County is situated in the Northeastern part of Liberia and shares borders with the Republic of Côte d’Ivoire in the East, and the Republic of Guinea in the Northwest. Nimba is also bordered by the counties of Bong, Grand Bassa, River Cess, Sinoe and Grand Geddeh. Sanniquellie serves as the capital. As of the 2008 Census, it had a population of 462,026, making it the second most populous county in Liberia. Nimba County is inhabited predominantly by two ethnic groups, the Mano speaking people and the Dan speaking people. The Mandingos or Malinky or Manding people, who were late arrivers in the region, make up the third group but are smaller in number than either one of the two major groups. In the northern Nimba County, six localities (Bonlah, Yekepa, Gbapa, Zołowee, Zortapa and Sanniquellie) have constituted the study sites (figure 1). It then extended to towns and villages in Guinea, when we realized a cross-border trade in bushmeat between the three countries that share the chain of Nimba namely Guinea, Côte d’Ivoire and Liberia.

Sampling

The method used for this study consisted in conducting a series of surveys of different persons involved in bushmeat industry in northern Nimba County. Indeed, these surveys of hunters, sellers in markets, intermediaries, restaurants and some households were intended to identify the places and ways of sale and purchase of bushmeat and transport mean used for the delivery of the meat.

Results

General information on hunting activity in northern Nimba County

Hunting in northern Nimba County is an activity practiced exclusively by men. It is mainly practiced by young men and most of them are between 30 and 39 years old (37%) and between 40 and 49 years old (28%). These hunters are farmers seeking protein and additional income from hunting. Beside collection of animals, digging or putting fire in warren in order to bring out their tenants, the northern Nimba hunters’ use two main types of tools to hunt: the gun and the trap. According to interviews among hunters, animals concerned of this hunting activity are mainly composed of rodents (46%) and ungulates (43%). Then, at a low rate, we have primates and carnivores with respectively 11% and 20% of the animals killed by hunting with shotgun. Regular monitoring of the hunting activity of some hunters identified that these animals are mainly constituted at the genus level, like Rodents (57.45 %), Ungulates (20.41%), Carnivores (12.97%), Primates (5.27%) and Pholidota (3.38%).

Commercialization of hunting products
Bushmeat is primarily intended for family consumption. However, sometimes the hunters sell some parts for money. In these cases, the parts sold are mainly the shoulder and thigh together, legs only or the whole animal. The meat is sold in the market of the hunter’s community and then to towns that are easily accessible by the hunter. The meat is sold either fresh or smoked. Two town markets have been distinguished, Yekepa and Sanniquellie markets. The Sanniquellie market takes place every Saturday but there is not a specific market day for Yekepa where only two women are involved in this activity with only a little meat from time to time. As shown in Figure 2, a total of nine (09) markets were identified as the places where the hunters sell their game. It is noted that the sale of game is also beyond the Liberian border in this case in Guinea. The markets: Sanniquellie (23%), Gbapa (11%), Bonlah (21%) and Zortapa (16%) recorded high rates of game sales followed by Zolowee (14%), Yekepa (7%), Lugbehaye (6%), Zorgowee (1%) and Guinea (1%).

Figure 2: Different market where the hunters surveyed sell their game and selling frequencies

We visited the weekly market of Sanniquellie to gather information on places where sellers purchase their bushmeat. Surveys have been made also in Yekepa market for the same purpose. Analysis of these data, as presented in figure 3, shows that at least 20 different towns in the region supply Sanniquellie market in bushmeat. Meat, which occurs at that market, also comes from Guinea and represents a rate of about 16%, and even the Upper Guinea (north-east of Guinea). The town which has delivered the most bushmeat is Sarklepia with 23%, then Tapeta with 21%. Among these towns three are part of our study: Gbapa (6%), Zortapa (2%) and Zolowee (2%). The survey in Yekepa market shows that 95% of the meat registered during the study is coming from Guinea.

Figure 3: Localities that supplied the Sanniquellie bushmeat market

As described in table 1, most of the animals found on the market are represented by ungulates with about 75%, then rodents with 15%, primates (8%) and finally the carnivores with low rate. At the species level Maxwell's duiker (29.45%) and Bay duiker (29.11%) are the game mostly encountered. The first rodent encountered, brush-tailed porcupine appears in the third place at 5.82% that have the same rate like the Common warthog, then the cane rat with 5.48% sharing the same rate with the Bushbuck. Primates are represented by five species (Mangabey 3.03%, Campbell's monkey 2.74%, Lesser spot-nose 1.37%, Baboon 0.68% and Diana monkey 0.34%) that are at the bottom of the table with lower frequencies. In Yekepa market 95% of the meat registered is composed of Suidae coming from Guinea. Only one Primate species coming from Yekepa town has been recorded during the study.

Table 1: Animal species listed in Sanniquellie bushmeat market

<table>
<thead>
<tr>
<th>Order</th>
<th>Scientific name</th>
<th>English name</th>
<th>Local name</th>
<th>Number</th>
<th>Encounter frequency</th>
<th>Supply frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rodentia</td>
<td>Tryonomys swinderianus</td>
<td>Marsh cane rat</td>
<td>Sobeh</td>
<td>16</td>
<td>5.48</td>
<td>++++</td>
</tr>
<tr>
<td></td>
<td>Artherurus afericanus</td>
<td>Brush-tailed porcupine</td>
<td>The</td>
<td>17</td>
<td>5.82</td>
<td>++++</td>
</tr>
<tr>
<td></td>
<td>Cricetomys gambianus</td>
<td>Giant pouches rats</td>
<td>Bonon</td>
<td>7</td>
<td>2.40</td>
<td>+++</td>
</tr>
</tbody>
</table>
When considering the list of bushmeat encountered in these restaurants, dry meat from Guinea are constituted mainly the family of Suidae (warthogs and bush pigs) dominates with 84% of encounter rate. At a lower rate we have squirrel, bushbuck, the cane rat, the bay duiker, black duiker and Campbell monkey (figure 4).

Trans-boundary bushmeat commercialization

- Liberia – Guinea: According to the interviewers, cross-border trade in bushmeat exist in the region N'Diecké and Ganta. Depending on market days of the different towns in both sides of the border. The meat may come from the other side of the border. If this is not the sale, it is the purchase of bushmeat by nationals from the neighboring country who brings this meat back to their countries. These types of trade occur also in the region of Diaplay, Guinean town located about 2 km from Liberia, where frequent exchange of game with the localities of Lugbeyee, Bonlah and Bintoh, three towns all Liberians. These exchanges take place in both directions and sometimes hunters can cross the border to hunt in "foreign territory". During market surveys in Boudouma (Guinea), we met a Liberian (from Bonlah) came to buy smoked meat for the kitchen of a group of workers who should go in his farm.
- Guinea – Ivory Coast: The Guinean and Ivorian of N’Zoo region traded fresh bushmeat. According to the sub-prefect of N’Zoo and hunters, people of N’Zoo in Guinea, sell or buy bushmeat at Gbaplay, Yiaplay and Yitiba markets (in Ivory Coast). Here again, hunters have confirmed that they sometimes cross the border to hunt in the Ivorian forest.
- Ivory Coast – Liberia and Ivory Coast – Guinea: For security issues, no mission took place in Côte d'Ivoire to confirm or deny the information from Liberia and Guinea, but we can suppose that hunters and authorities of this country would confirm all the information from Liberia and Guinea side. Indeed, according to interviewers from cities like Foumandou, Guiasso, the meat is sold directly in Ivory Coast, the vendors of these localities can go way to the hunter camps whom they supply in ammunition.
- Species involved in cross-border trade: Qualitatively, according to the interviewers, the species encountered in the transboundary trade between these countries are essentially those commonly found in the region of the chain of Nimba (see table 2).

<table>
<thead>
<tr>
<th>Order</th>
<th>Scientific name</th>
<th>English name</th>
<th>French name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rodentia</td>
<td>Tryonomys swinderianus</td>
<td>Marsh cane rat</td>
<td>Aulacode géant</td>
</tr>
<tr>
<td>Artiodactyla</td>
<td>Cricetomys emini</td>
<td>Giant pouched rats</td>
<td>Bonon</td>
</tr>
<tr>
<td></td>
<td>Cephalophus dorsalis</td>
<td>Bay duiker</td>
<td>Belleh</td>
</tr>
<tr>
<td></td>
<td>Cephalophus maxwelli</td>
<td>Maxwell's duiker</td>
<td>Velette</td>
</tr>
<tr>
<td></td>
<td>Tragelaphus scriptus</td>
<td>Bushbuck</td>
<td>Zolo</td>
</tr>
<tr>
<td></td>
<td>Cephalophus niger</td>
<td>Black duiker</td>
<td>Gba</td>
</tr>
<tr>
<td></td>
<td>Phacochoerus africanus</td>
<td>Common warthog</td>
<td>Loubel</td>
</tr>
<tr>
<td></td>
<td>Hyemoschus aquaticus</td>
<td>Water chevrotain</td>
<td>Yiarwi</td>
</tr>
<tr>
<td>Primates</td>
<td>Cercopithecus m. campbelli</td>
<td>Campbell's monkey</td>
<td>Kanh</td>
</tr>
<tr>
<td></td>
<td>Cercopithecus petaurista b.</td>
<td>Lesser spot-nose</td>
<td>Golo</td>
</tr>
<tr>
<td></td>
<td>Cercopithecus diana diana</td>
<td>Diana monkey</td>
<td>Guei</td>
</tr>
<tr>
<td></td>
<td>Cercocetus aty atys</td>
<td>Mangabey</td>
<td>Kein</td>
</tr>
<tr>
<td></td>
<td>Phataginus tricuspis</td>
<td>Tree pangolin</td>
<td>Balakeleze te</td>
</tr>
<tr>
<td>Carnivora</td>
<td>Crossarchus obscurus</td>
<td>Cusimanse</td>
<td>Wehin</td>
</tr>
<tr>
<td></td>
<td>Civettictis civetta</td>
<td>African civet</td>
<td>Goua</td>
</tr>
</tbody>
</table>

Figure 4: Different types of bushmeat meat encountered in Yekupa restaurants

Table 2: Species involved in the cross-border trade according to hunters
**Arterurus africanus**  
**Brush-tailed porcupine**  
**Arthère d’Afrique de l’ouest**

**Cricetomys gambianus**  
**Giant pouched rats**  
**Rat géant de Gambie**

**Cricetomys emini**  
**Giant pouched rats**  
**Rat géant de Gambie**

**Eexerus erythropus**  
**Striped ground squirrel**  
**Ecureuil fouisseur**

**Prosoxerus stangeri**  
**African giant squirrel**  
**Ecureuil géant de Stanger**

**Cephalophus dorslis**  
**Bay duiker**  
**Céphalophe bai**

**Cephalophus maxwelli**  
**Maxwell’s duiker**  
**Céphalophe de Maxwell**

**Tragelaphus scriptus**  
**Bushbuck**  
**Guib harnaché**

**Cephalophus niger**  
**Black duiker**  
**Céphalophe noir**

**Syncerus caffer nanus**  
**Forest buffalo**  
**Buffle nain d’Afrique de l’ouest**

**Phacochoerus africanus**  
**Common warthog**  
**Phacochère**

**Cercopithecus m. campbelli**  
**Campbell’s monkey**  
**Mone de Campbell**

**Cercopithecus petaurista b.**  
**Lesser spot-nose**  
**Cercopithèque pétauriste**

**Cercopithecus diana diana**  
**Diana monkey**  
**Cercopithèque diane**

**Cercocebus atys atys**  
**Mangabey**  
**Cercocèbe enfumé**

**Papio anubis**  
**Baboon**  
**Babouin droguera**

**Perodicticus potto**  
**Potto**  
**Potto de Bosman**

**Varanus niloticus**  
**Varan**  
**Varan**

**Python sp**  
**Python**  
**Python**

**Crossarchus obscurus**  
**Cusimanse**  
**Mangouste brune**

**Herpestes sanguinea**  
**Slender mangoose**  
**Mangouste rouge**

**Genetta spp**  
**Genet**  
**Genettes**

**Civettictis civetta**  
**African civet**  
**Goua**

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**Actors in the marketing of bushmeat**

The following organization chart (figure 5) summarizes the bushmeat business organization in northern Nimba County. The hunter/farmer hunts in protected areas more than in areas to be operated by the mining company but also in the domains of the village. Wherever is the hunting area, the purpose of bushmeat is primarily for consumption. The parts that are intended for marketing are sold either directly to the village market concerned or the city market or restaurants in the village and the town. These markets therefore feed the village households and urban households.

**Professional hunter**

The professional hunter is one who only hunts for his livelihood. This hunter has no other source of income other than hunting, which occupies the greatest part of his time. That kind of hunter is able to stay for weeks or months in the forest. There can usually be persons who primarily carry the meat from the killing place to the slaughter locations and these persons also transport the meat between the hunting camps and places of sale. In our study only two hunters have said to be engaged in such hunting. However, the hunting activities monitored in these project communities allowed us to understand that, even though some hunters have a higher rate of hunting than others, they cannot be classified as professional hunters.

**Hunter/farmer**

Beside the professional hunter we can distinguish hunter/farmer who is actually farmer who hunt as an additional activity that may increase their source of income. This applies to different hunters who have voluntarily agreed to work with our team during this study. They are not only the vital link in the supply of bushmeat for their communities but also to the entire Nimba County.

**Rural Households**

Rural households (town households) comprise the immediate families of hunters and also their community households. These families are supplied with animal proteins of different hunting products of the husbands. In addition, the sale of some parts of the bushmeat helps these families cope with the daily expenses of the household. Beyond his family, the hunter is not only the supplier of animal protein in his community but also neighbouring communities. Information will be provided on the share occupied by the purchase of bushmeat in the weekly expenditures of these households.

**Intermediaries**
Although most of the time hunters or their family members are responsible for selling the game at the different markets (of the
town or city), there are intermediaries between hunters and city markets. These intermediaries, either women or men are mostly
active during the moments before the market days of city.

**Sellers of bushmeat in markets**

This activity, as regards to Yekepa and Sanniquellie markets, is exclusive to women. There are two vendors in Yekepa and five in
Sanniquellie that were identified and agreed to comply with our survey and allowed us to perform qualitative inventories and
biopsy samples.

Figure 5: Different types of bushmeat meat encountered in Yekepa restaurants

**Restaurants**

Although it was not planned to take into account restaurants in the first phase of the study, we discussed with several restaurant
owners to get an idea of the animals they buy for their restaurants. These restaurants exist in towns and in cities. During the
second phase restaurants have been surveyed in Yekepa.

**Urban Households**

Urban households which we have not investigated also consume bushmeat. This could be seen through the crowd which is
observed around the bushmeat tables during our weekly visits to Sanniquellie market. In addition, the vendors confirmed the
successfulness of their business, which, in fact, is their only source of income. Households can buy whole legs or shoulders
(generally from 400 LD) for those with moderate standards of living. For others they are options like 50 LD (0.7 USD).

**Discussion**

**Bushmeat commercialization in northern Nimba County**

The majority of persons involved in the bushmeat business derive additional revenue from the exploitation of wildlife and
bushmeat is particularly valuable to rural communities. It provides cash for the purchase of household supplies and school fees,
and is essential to meeting protein needs. Recent research is reviewed which illustrates the importance of bushmeat to the
livelihoods of the poor. This perspective is also indicated when considering issues of forest governance. On the one hand,
instruments such as timber certification and associated codes of conduct need to take account of key livelihoods concerns. On the other, bushmeat management could support and leverage wider improvements in the quality of forest governance (Brown and Williams 2003). In the Nimba County, the hunter/farmers, intermediaries and other actors, the managers of restaurants and sellers, derive their main income and, therefore, are employed at least in the informal sector. Other sectors like manufacturing and sale of hunting tools, handicrafts, marketing of medicinal products based on wildlife have also owe their prosperity to the bushmeat industry.

Unofficial channels are organized to carry the meat from production areas to the rural and urban centres. In Nimba County, this commercialization of hunting products involves a number of actors: hunters, whole sellers and retailers and managers of restaurants. Indeed, the products of hunting not consumed by the families of the hunters are sold in the town. The bushmeat is brought to the town as fresh meat or smoked. This hunting booty is generally sold to any customer. However, a network of permanent contacts is created with traders moving into the towns for the local purchase of meat. Anstey (1991) estimated that the sale of this meat to represent an average income of US$ 27 per hunter per month. In this area of extreme poverty, where the average town person makes less than US$ 0.50/day, bushmeat thus represents a significant source of cash income. And with one study estimating that hunters took 16.5 kg of meat per month, bushmeat is also an important source for hunters and their families. This bushmeat is a part of nearly every urban Liberian’s lifestyle, with an overwhelming 97% reporting that they eat it (Anstey 1991).

In Nimba County, prices of the meat are set by the hunter as a function of the hunting moment, the season, the price of ammunition and method of sale (whole or pieces). These prices are higher in low-season hunting (rainy season in Nimba County) and is also the period of intensive fieldwork. According to Caspary (2000 and 2001), the transport of bushmeat to points of sale always uses the same means from the bike to the plane. In Nimba County, the means of transport for bushmeat are composed primarily of bicycle, motorcycle and use of taxis or minibus. In addition, some hunters carry their hunting booties on foot to the place of sale. Walking, cycling and motorcycling allow the hunter/farmer to bring the products of hunting into the town but also to carry it to urban centres. However, with the rehabilitation of the railway to the needs of the ArcelorMittal company, it is feared that this way to be also used for bushmeat transportation from northern Nimba County to cities in south of the country. There is also an international component to the trade. Anecdotal data indicates substantial cross-border trade to Ivory Coast. With much higher market prices, there is a considerable incentive for hunters and marketers to illegally transport their goods across the border. This may also be true of trade to other countries within West Africa.

Trans-boundary bushmeat trade in northern Nimba Country

It is important to note that cross-border trades in bushmeat among the three countries that share the Nimba chain already exist before the mining operations of AML. The sale of bushmeat in markets is devoted to women and this business is in most cases the only source of income for these women. The acquisition of the meat is done directly between the hunter (or a parent they send) and the seller. However, in some cases, there is the intervention of intermediaries (male or female) who purchase the game with hunters in the various towns before reselling them to vendors in major cities during market days.

Some women work as wholesalers by buying fresh meat with hunters and intermediaries before supplying the different markets and restaurants of Guinea. These animals slaughtered from border towns located in Guinea, Liberia or in Ivory Coast and are most often composed of Rodents, Ungulates, Carnivores and Primates. Also, some exchanges happen almost daily but on a small scale, especially for direct consumption, between the towns of the immediate side of the border lines. For the smoked meat (Cocopah), the center of trade in South-Eastern Guinea is Nzérékoré town. This town has two market days in a week. A regular market day (Wednesday) and a special bushmeat market day (Thursday). During this day you can see the fresh bushmeat from Upper Guinea or Senegal that impress most of the times. A dozen warehouses of smoked meat are available in the market and receive the contents of these trucks. Ordinary days, these stores supply the surrounding cities and towns, and also cites and towns of Liberian like Yekepa, Sinniquellie, Ganta, Bonlafia ... In fact, Copopah vendors from Liberia purchase this meat either directly in Nzérékoré or in Guinea towns closest to the border that also purchase the meat at Nzérékoré market.

According to the Convention on international trade in endangered species of wild fauna and flora meeting held in Kenya in 2000, cases of cross-border trade in bushmeat are mentioned in several studies. However, a distinction is made between intercontinental dimensions and local issues and sub-regional. According to the same author Intercalional trade has only limited cultural and free-trade justifications, and none at all as regards poverty (bushmeat from developing countries is a luxury item on western markets). In Local and sub-regional trade, the equity and poverty dimensions are significant, and the cultural considerations need to be treated sensitively. Crossborder issues often have significant social dimensions, and governments may have limited control over the movement of goods. The potential for reduction in local cross-border trade in the short-term is likely to be very limited

Transportation of the meat across the country and borders is often in secret but sometimes the complicity of agents favors the movement by asking to the seller to pay taxes. Notes of recommendations are sometimes provided to certain vendors by the authorities. When faced with a control, vendors have just to show the letters that can enable them to pay less or pay nothing.

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References


Bowen-Jones E and Pendry S 1999 The threat to primates and other mammals from the bushmeat trade in Africa and how this threat could be diminished, *Oryx* 33 233–46.


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