

## OBSERVATIONS ON SUBSISTENCE HUNTING ALONG THE PHU YAI MOUNTAIN RANGE, XANAKHAM DISTRICT, VIENTIANE PROVINCE, LAO PDR

*Troy Hansel*<sup>1</sup>

### ABSTRACT

Subsistence hunting and preferences for wildlife game meat were observed while conducting a presence–absence survey for large mammals, using local informants and village militia, along a proposed road upgrade in Xanakham District, Vientiane Province. Unregulated hunting by village militia and local residence occurs along this survey route. Village militia is modifying government issued ammunition to increase their efficiency at hunting small game in the area surveyed. Locally organized gun “hand overs” may have questionable impact if government issued weapons are being used to hunt small and large game. In this region, lowland Lao consider wild game meat a delicacy over domestically raised livestock, casting doubt that hunting is motivated by necessity alone.

Key words: hunting technique, subsistence hunting, wild game preference

### INTRODUCTION

Unregulated subsistence hunting continues to threaten wildlife populations in Lao PDR (DUCKWORTH, 1999; NOOREN & CLARIDGE, 2001). Observations on subsistence hunting and preferences for wild game meat were made during a participatory biodiversity assessment (PBA) (STEINMETZ, 2000) conducted to determine the presence or absence of large mammals along a proposed road upgrade crossing the Phu Yai Mountain Range.

The survey followed the existing overgrown road alignment built by the Lao military during a border dispute with Thailand in 1984, between Na Sack village (18° 04' 09" N; 101° 41' 37" E) and Khockhao Do village (18° 09' 50" N; 101° 23' 40" E) Xanakham District, Vientiane Province (Fig. 1). This 48 km of road forms a portion of National Road No. 11 which, when finished, will reduce the length of travel from Vientiane Municipality to south and central Xaignabouri Provinces. Villagers have kept the road passable for tractor-type vehicles on the extreme ends of the road, although the middle 25 km of the track has grown into bamboo and secondary forest and is now a narrow walking track. The area surveyed has no legal conservation or protected area status. However this proposed road upgrade bisects the proposed Muang Khi protected area as proposed in SALTER & PHANTHAVONG (1989). The Muang Khi proposed protected area (118,740 ha) was rated as a moderate priority for inclusion into the Lao PDR protected area system and ranked in the top 39% of all protected areas proposed by SALTER & PHANTHAVONG (1989).

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<sup>1</sup>Associate Conservationist, Wildlife Conservation Society, P.O. 6712, Vientiane, Lao PDR, email: hansel@wcs.org  
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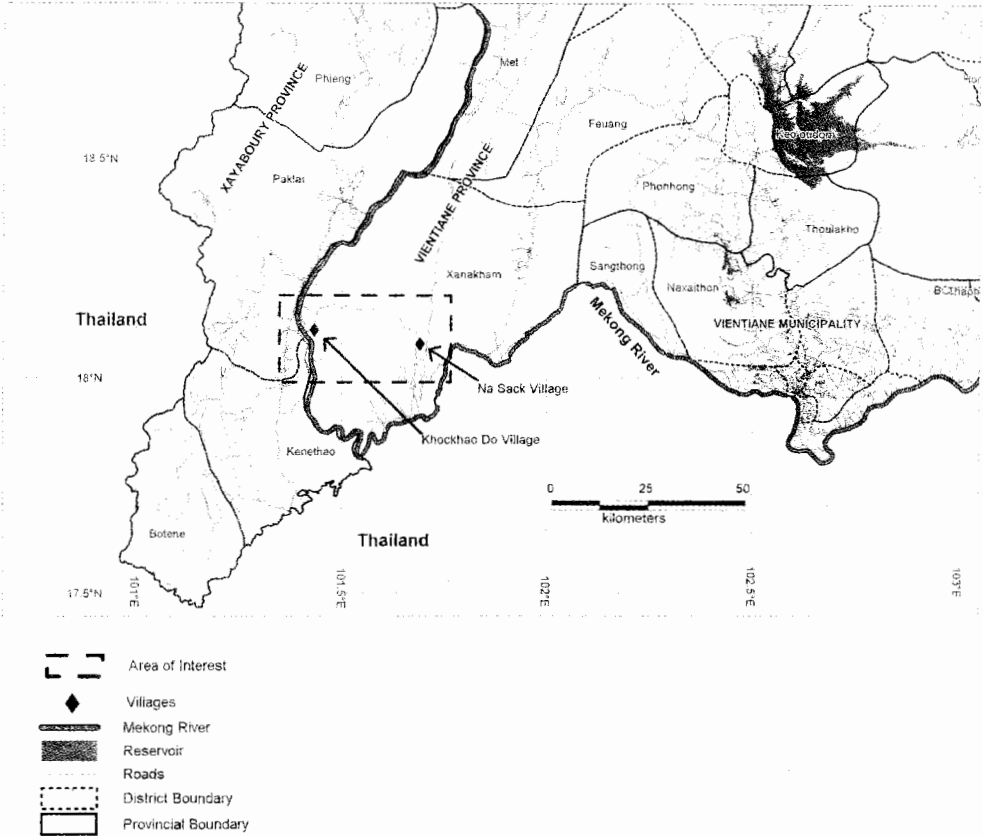


Figure 1. Area of interest.

The survey was conducted with local informants and village militia by crossing the Phu Yai mountain range east to west during 23 October to 3 November 2000. The villages along this survey route were mostly ethnic lowland Lao. However, it was reported that northeast of the survey area there were several Hmong villages that immigrated into the area after 1975. Villagers on both sides of the Phu Yai mountain range are mostly agriculturists growing paddy rice in the lowlands with some upland swidden fields. On the Na Sack side of the mountain, shifting cultivation fields were seen up to the area known as the "Nikhom" (military livestock raising area 18° 07' 49" N; 101° 38' 22" E). Small-scale household timber cutting was occasionally observed along the lower end of the road alignment near the "Nikhom". On the Khockhao Do side of the mountains, swidden agriculture can be found as far east as Houay Pang, Houay Hia, and Houay Thoun Streams. In addition, there are currently several timber concessions awarded to small companies to extract "Mai Da Kha" (*Azelia* sp. and *Pahundia* sp.). On both sides of the mountain there is local use of non-timber forest products.

## OBSERVATIONS

### Hunting Incidents

Hunting of both protected and unprotected wildlife occurs on both sides of the Phu Yai mountain range. Gunshots were heard throughout the survey period and evidence of snaring was seen, indicating a high level of hunting pressure.

Recent reports of hunting include a report from Xanakham District that on 24 September 2000 a male gaur (*Bos gaurus*) was shot by villagers in Na Dee village, 7 km north of Na Sack village. The fresh skull was seen at the district forestry office impoundment. A group of villagers were arrested and sentenced for killing the gaur which is listed as a "prohibited wildlife species" in Ministry of Agriculture and Forestry Decree 1074.

Villagers from Mai-Pak Thoun village reported snaring wild pigs and muntjacs for subsistence while tending their rice fields. One villager, who acted as our survey guide, snared a female muntjac while we were camped near Houay Pang and offered a meal of this animal to our survey team. One of our Vientiane-based government counterparts purchased the front quarter of the muntjac for a family gift.

The survey team met four young hunters at their camp on Houay Oum stream (18° 07' 20" N; 101° 29' 50" E) from Mai-Pak Thoun village equipped with five small-bore muzzle-loader guns. They claimed to have been camped at this location for only one night, but already had many kills (Table 1). All of the game was roasting on an open fire except the tortoise, which was bound with a strap prepared for transportation and ultimate sale to wildlife traders. Ironically, two days later during village interviews, the village headman from Mai-Pak Thoun village reported that the district officials had conducted gun collection two years earlier in order to control poaching and that, as a result, many small birds were beginning to return to the forests.

Evidence of small-game (i.e., birds and squirrels) hunting was seen regularly (Table 1). Tortoise and softshell carapaces were commonly encountered at forest camps and around rice field huts. Village guides commented on the increasing difficulty of finding and gathering softshell turtles and pythons. While walking along the road alignment, the survey team noted small clumps of feathers at 2–3-m intervals for 50–75 m at a stretch. Undoubtedly these came from villagers walking across Phu Yai Mountain while plucking small birds.

### Hunting Techniques

Village militia assigned to our team regularly took the opportunity to shoot birds and squirrels with their government-issued AK 47 semi-automatic rifles during the survey period. Village militia shot small-game with government issued, factory-manufactured cartridges, but replaced the solid lead bullet to lead shot. The lead bullet was removed from the brass casing and half the original gunpowder poured out and saved for later use. A small wad of paper was inserted on top of the remaining gunpowder followed by 18–22 lead shot of varying sizes that are readily available in any local market. A wax cap was pressed in on top to seal the lead shot (Fig. 2). This modified cartridge is the equivalent of a .410 gauge shotgun cartridge, making a very effective small game weapon accurate between 10 and 15 m. The remaining gunpowder and lead bullet were saved for making

Table 1. Evidence of small game hunting

Species	Date	Location	Number and Evidence
Phayre's Langur <i>Semnopithecus phayrei</i>	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	1 skin and skull
Lesser Mouse deer <sup>1</sup> <i>Tragulus javanicus</i>	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	1 unskinned whole carcass
Elongated Tortoise <i>Indotestudo elongata</i>	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	1 live animal
Red-headed Trogon <i>Harpactes erythrocephalus</i>	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	1 plugged bird, feather pile.
Forest rats	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	3 whole skinned carcasses
Squirrels	30/10/04	18° 07' 20"N; 101° 29' 50" E Houay Oum Stream	4 whole skinned carcasses
Asiatic Softshell <i>Amyda cartilaginea</i>	-	Various Locations	3 whole carcasses
Reticulated Python <i>Python reticulatus</i>	29/10/04	Near Ban Khock Khao Do	1 fresh killed whole carcass

<sup>1</sup> Pregnant female w/ very mature fetus.

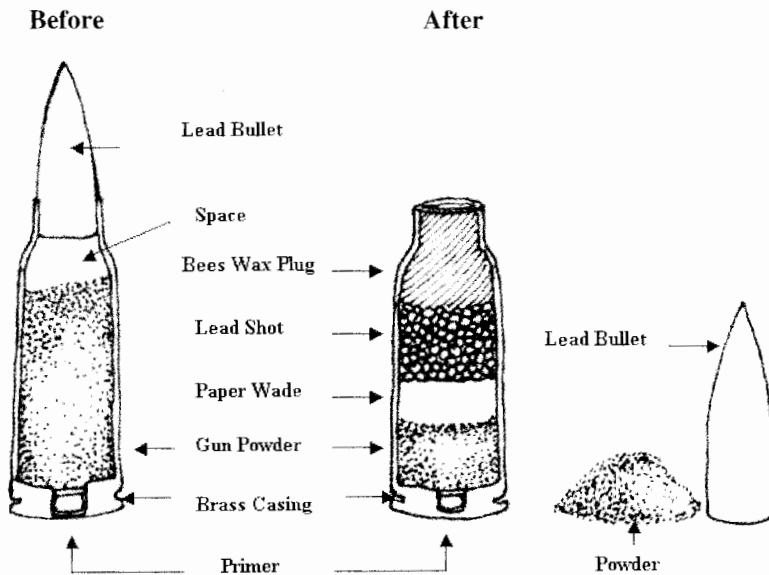


Figure 2. Section view of AK 47 shell before and after.

more shot shell cartridges in the future. After firing, the brass casings from the cartridges are saved for making new shell cartridges by heating the casings in a fire to remove the original primer and replacing it with a new market-bought primer cap. The remaining 50% of gunpowder from the original shell is then put back into the brass casing and the process is repeated. One government issued, factory-manufactured cartridge thus produces two shot shell loads at very low cost. The source of smoke-less gunpowder in Lao PDR is unclear, but with easy availability the process could be repeated indefinitely or until the brass casing fails.

These locally modified shot shell cartridges were alternately loaded into the gun magazine with government issued, factory-manufactured cartridges (lead bullets). This was done to maximize hunting opportunities. The cartridge in the breech was a modified shot-shell cartridge since encounters with small game are more likely than large game (i.e., pigs, deer, or primates). However, the second cartridge in the gun or the first cartridge in the magazine was a government issued factory-manufactured cartridge (lead bullet). The modified shot shell cartridge can be quickly ejected replacing it with the lead bullet cartridge if large game is encountered. This action was seen during one village militia's reaction to a small troop of Pig-tailed Macaques (*Macaca nemestrina*).

When village militias are issued firearms and ammunition they are only accountable for the firearm and the number of cartridges issued. When asked about the accountability for the original government issued factory-manufactured cartridge one village militia replied, "You must know a military personnel that can sell you shells for 3 Thai baht<sup>2</sup> apiece." Clearly there is little to no true accountability for the government issued cartridges since the supply for factory-manufactured replacement cartridges is so readily available. This method of creating shot shell cartridges from factory made cartridges greatly reduces the effectiveness of any gun collection scheme.

### Wild Game Preference

Subsistence hunting is clearly an important source of protein for rural families throughout the tropics, and particularly in Lao PDR (FOPPES & KETHPANH, 1997; DUCKWORTH, 1999, BENNETT & ROBISON, 2000). What is not clear is the extent to which subsistence hunting is by choice or by necessity. Most lowland Lao consider wild meat a healthy delicacy. The author's market observations show that given the opportunity to choose between a small Red Junglefowl (*Gallus gallus*) with less meat for more money and a domestic chicken with more meat for less money, most lowland Lao will choose the smaller wild game meat for more money. This tradition is ingrained throughout most of Lao society, including both the lowland Lao and many ethnic groups. This wild game preference was clearly illustrated during this field trip. Two government personnel, 4 local village militia, and 1 local villager guide had unlimited access to 5 kg of dried beef, 2 kg of sweetened dried beef, and 3 kg of salted fish. Even with this large supply of market meat, village militia and guides expended energy to build 4 traps for bamboo rats and go on regular hunting excursions for small game. Our meat was under no rationing and we had more than enough for 13 days in the field. When asked, the survey team said they liked the supply of market meat.

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<sup>2</sup> 3 baht = 7 cents

but that wild game tasted better, was healthier for you, and fun to pursue. On the last day of the survey, the team had a considerable surplus of dried beef and salted fish remaining.

## DISCUSSION

Observations made on this participatory biodiversity assessment reveal that unregulated hunting of wildlife still occurs along the Phu Yai mountain range. Many district officials are quick to explain how their villages have conducted collections of non-government issued guns. However, gun collection is an activity that needs to be conducted more often and more vigorously to have the intended effect on protecting wildlife. Government-issued weapons are being used to hunt both large and small game by local village militia making the efficacy of gun hand-overs questionable. Tradition, taste, and “sport” may well be the driving factors for these local villagers to trap forest rats, and shoot birds and squirrels to supplement the survey diet, not necessity (BENNETT, 2002). Local villagers in Xanakham District prefer wild game to supplied market meat casting doubt, at least in this region, that hunting is necessary for food security.

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