A thesis submitted to the Department of Environmental Sciences and Policy of Central European University in part fulfilment of the Degree of Master of Science

COMMUNITY ATTITUDES TOWARD BEARS, BEAR BILE USE AND BEAR CONSERVATION IN LUANG PRABANG, LAO PDR

Darunee SUKANAN

July, 2017

Budapest

Notes on copyright and the ownership of intellectual property rights:

(1) Copyright in text of this thesis rests with the Author. Copies (by any process) either in full, or of extracts, may be made only in accordance with instructions given by the Author and lodged in the Central European University Library. Details may be obtained from the Librarian. This page must form part of any such copies made. Further copies (by any process) of copies made in accordance with such instructions may not be made without the permission (in writing) of the Author.

(2) The ownership of any intellectual property rights which may be described in this thesis is vested in the Central European University, subject to any prior agreement to the contrary, and may not be made available for use by third parties without the written permission of the University, which will prescribe the terms and conditions of any such agreement.

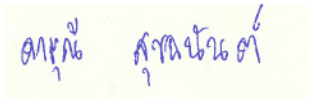
(3) For bibliographic and reference purposes this thesis should be referred to as:

Sukanan, D. 2017. C*ommunity attitudes toward bears, bear bile use and bear conservation in Luang Prabang, Lao PDR.* Master of Science thesis, Central European University, Budapest.

Further information on the conditions under which disclosures and exploitation may take place is available from the Head of the Department of Environmental Sciences and Policy, Central European University.

Author's declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.



Darunee SUKANAN

CENTRAL EUROPEAN UNIVERSITY

ABSTRACT OF THESIS submitted by:
Darunee SUKANAN
for the degree of Master of Science and entitled: Community attitudes toward bears, bear bile use and bear conservation in Luang Prabang, Lao PDR
Month and Year of submission: July, 2017.

A new bear sanctuary is under construction in Luang Prabang, Lao PDR, which aims to provide a haven for bears rescued from bile farms and wildlife traffickers. However, in order for conservation efforts at the sanctuary to be truly successful, collaboration with local communities is essential. Understanding the level of support in those communities is therefore vital for ongoing conservation efforts, including outreach. This research comprises a household survey that was administered in five villages in the immediate vicinity of the new bear sanctuary as well as in-depth interviews conducted with key community representatives. The questionnaire was designed to assess local people's economic status and their current attitudes towards bears, bear bile use and bear conservation in general. In addition, a representative of the conservation organization (Free the Bears Fund) behind the new sanctuary was interviewed in order to gain insight into the nonprofit's public relations programs targeted at nearby communities. The results of the research show that people in the communities have generally positive attitudes towards bears and bear conservation. However, many locals lack sufficient knowledge about the current situation of both wild bears and captive bears in Lao PDR. This could be due to as yet inadequate outreach to create incentives for locals that might positively influence their attitudes. Based on these results, it is argued that local communities will need to be further integrated into conservation efforts while simultaneously enhancing knowledge of conservation issues in these communities through improved outreach and communication.

Keywords: attitudes, conservation, Lao PDR, bear bile, bear farming, public relations

---

Acknowledgements

I am grateful to all the individuals and organizations who have provided assistance throughout the research. Firstly, I would like to thank the Central European University and Free the Bears Fund Inc. for providing assistance and funding, without which this project would not have been possible.

Secondly, I would like to thank my supervisor, Associate Professor Dr. Brandon Anthony, for his invaluable guidance and support.

I would also like to thank Matt Hunt, Brian Crudge and Luke Nicholson (the CEO, the research program manager and the Lao program manager of Free the Bears Fund Inc., respectively) for offering advice, guidance and assistance during my research in Lao PDR.

In addition, I would like to thank the Lao Forestry Ministry for granting me permission to conduct the research in the selected villages as well as the Lao Woman's Union of Luang Prabang for helping me carry the interviews out effectively. I would like to commend all five assistants recruited from the Lao Woman's Union on their hard work, dedication and professionalism.

Table of Contents

1 Introduction

The Luang Prabang Wildlife Rescue Center (LPWRC), a new bear sanctuary, is under construction in Luang Prabang, Lao PDR. Enlisting the support of local people living by and near the sanctuary as well as gaining their improved participation in wildlife conservation efforts will be crucial to sustainable conservation management (Govan *et al*. 1998).

The main aim of this thesis is to study the attitudes of local people in Lao PDR towards bears, bear bile use and bear conservation efforts as well as to understand how conservation efforts undertaken in their area may impact on lifestyles and livelihoods in five selected local communities located adjacent or near to a new bear sanctuary in Luang Prabang Province, Lao PDR. These findings, it is hoped, might be useful for designing and monitoring the outcome of educational programs and conservation campaigns, including employment efforts, of bear sanctuaries in countries where bears continue to be exploited for financial gain.

In order to provide a clear image of prevalent attitudes in the five communities towards bears, bear bile use and bear conservation, this thesis aims to answer the following research questions:

1) What is the socio-demographic and economic profile of the study area?

2) What are locals' attitudes towards bears and environmental conservation?

3) What are locals' understanding of bears and bear conservation?

4) What are public views on bear bile use?

5) What are public attitudes towards traditional and western medicines?

6) Do incentives provided by LPWRC impact attitudes?

7) Does their relationship with LPWRC impact communities' attitudes?

There are six chapters in this thesis with a different aspect of the research provided in each.

The "Introduction," in Chapter One, provides a brief justification, identifies the areas of the study and explains research problems.

The "Literature Review," in Chapter Two, presents an academic context pertaining to the area of the present thesis in the field of conservation. This chapter provides different perspectives on the conservation attitudes of local communities, the illegal trade of wildlife, and national and international registration initiatives combating wildlife crimes.

The "Methodology," in Chapter Three, explains how and why certain methods of research were designed and carried out in the study area, coupled with a discussion about the limitation of the research methods employed.

The "Results," in Chapter Four, shows the findings of the research presented in each topic.

The "Discussion," in Chapter Five, interprets and discusses the findings of the research regarding each research question.

The "Conclusion," in Chapter Six, states the main findings of the research in a brief summary and indicates plausible implications of those findings.

2 Literature review

2.1 Introduction

Many local communities in developing countries depend on and utilize natural resources such as wildlife. Thus, conservation efforts are critical to prevent the overexploitation of those natural resources and maintain their productivity and continued existence.

This literature review presents different perspectives on the conservation attitudes of local communities, the illegal trade of wildlife, and national and international registration initiatives combating wildlife crimes.

2.2 Attitudes towards wildlife and conservations

Enlisting the support of local people and integrating their participation to conserve wildlife are crucial to sustainable conservation management and efforts (Govan *et al.* 1998). Attitudinal surveys can produce important data that assist conservationists in understanding local people's attitudes, perceptions and value orientations that have a bearing on their behaviors (Browne-Nuñez and Sandra 2008) and are widely accepted and used to comprehend why certain decisions are made and why certain behaviors are expressed in particular ways (Karanth *et al.* 2008). However, in order to use the tools effectively and precisely, we must acknowledge and understand their limitations. Attitudes do not always accurately portray people's actual behaviors (Ewert and Galloway 2004), yet they can be used to predict certain behaviors (Glasman and Albarracin 2006) including the behaviors of local communities that can impact conservation efforts either positively or negatively (Kioko and Kiring 2010).

The attitudes of local people towards wildlife conservation is strongly impacted by the management and governance of conservation efforts (Bennett and Dearden 2014). According to Sekhar (2003), the attitudes of local people towards wildlife conservation are significantly influenced by socio-economic improvements that can be perceived by locals such as services and benefits provided by a protected area and ongoing conservation efforts there. When locals can perceive the possible benefits of a conservation intervention, they tend to adopt positive attitudes towards wildlife conservation, such as in the case of new economic opportunities that benefit local communities from tourism. However, negative attitudes can be triggered when indigenous people come to consider the services and benefits provided by conservation efforts to be too costly, such as when damage is done to their crops by protected wildlife (Thapa 2016) or else when their access to protected areas for their livelihood is restricted (Bennett and Dearden 2014). Moreover, positive and long-term conservation outcomes of wildlife are more likely to increase when conservation efforts are aim at enlisting support from local people by improving their economic equalities and livelihoods and preserving their cultures and ways of living (Oldekop *et al.* 2015). Thus, factors influencing people's attitudes should be studied carefully in an effort to achieve sustainability and efficiency in wildlife conservation.

However, beside socio-economic variables that can influence attitudes towards environmental conservation, many studies show that attitudes towards conservation also depend on socio-demographic characteristics such as gender, age and education (Mutisya *et al.* 2013). Many surveys find that men in general have more positive attitudes than women (Kioko and Kiring 2010) towards conservation. Education can also influence attitudes about conservation (Pinheiro *et al.* 2016).

2.3 Regulations combating the illegal trade in endangered wildlife

Illegal wildlife trafficking involves a clandestine trade in endemic and endangered animals and plants to a thriving international black market for exotic animals as pets, as sources of food, ingredients in traditional medicines and various other uses. This illegal trade often encompasses trafficking in all, or some highly prized parts, of protected animals: elephant tusks, rhino horns, tiger pelts, or bear paws and gallbladders (Warchol 2004).

Because of the extent of this international illicit wildlife trade, it causes myriad problems to wildlife conservation efforts. The demand for certain endangered species can cause animals to go extinct in the wild. The Sunda pangolin (*Manis javanica*), for instance, is listed as Critically Endangered by the IUCN due to the relentless hunting and poaching of the species across its range in Southeast Asia in order for the animals' meat and scales to be exported illegally to China and Vietnam, where they are highly sought as exotic ingredients (Challender 2014). The wild population of Sunda pangolins has plummeted by more than 80% over the past few decades (Challender 2014). The relentless hunting and poaching of such endangered animals also place great pressure on breeding populations and their genetic diversity, causing the fitness of surviving animals to diminish over time (Paquette and Lapointe 2007).

Animals bought and sold in the illicit wildlife trade are often handled and transported in poor conditions, which has raised animal welfare concerns. In many cases, animals die during the trafficking process. The Javan slow loris (*Nycticebus javanicus*) is listed as Critically Endangered by IUCN (Nekaris 2013). The mortality of Javan slow lorises in captivity is as high as 80% (Eleftheriou-Smith 2017). Often the animals are poached and loaded into small, cramped crates where they endure severe wounds and suffer from stress. Moreover, many of

the animals, which are routinely meant for sale as exotic pets, are defanged by traders, which causes great pain to the animals and significantly reduces their ability to feed (Eleftheriou-Smith 2017).

In most cases, the illegal trade flourishes when a legal trade in endangered animals and plants is prohibited or restricted (Lee 1996). Both national laws and international agreements are meant to monitor and eliminate the illegal wildlife trade (Oswell 2010). The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) is a multilateral agreement regulating the international wildlife trade and obliging ratifying nations to monitor the trade within their borders and to take action under its regulations (Rosen and Smith 2010). CITES is an important global convention for the protection of wildlife. Appendixes I and II within CITES delineate the restrictions of the trade of flora and fauna species as follows:

Appendix I: Flora and fauna species threatened with extinction. Trade in specimens of these species are prohibited between parties. However, there is an authorized trade in exceptional circumstances; for instance, for scientific purposes import and export permits can be granted.

Appendix II: Flora and fauna species which are not necessarily now threatened with extinction yet may become so unless the trade in specimens is strictly regulated. Species that possess similarities to threatened species are also included as an aid to enforcement. The licensing system of the commercial trade in wild specimens listed on Appendix II is controlled and monitored, although it is permitted between members of the convention.

However, occasionally enforcing national and international laws is bound to fail for various reasons. An important factor behind this failure is corruption, which can persist at every stage in the illegal wildlife trade chains: through poachers' bribing conservation staff to traffickers' bribing law enforcement officials to avoid investigation and prosecution (CITES 2016b).

By the same token, some studies point out that global regulatory systems often overlook local practices and neglect to take into account the diversity of local cultures, which can create unfairness, immorality and local resistance. Moreover, certain regulations of CITES, such as the distinctions between regulatory and prohibitive ones, can be ambiguous (Singh 2008).

2.4 Wildlife trade in Lao PDR

Lao PDR is located in between latitudes 13°50'N and 22°30'N, and longitudes 100°10'E to 107°40'E. The country shares borders with Viet Nam, Cambodia, Thailand, Myanmmar (Burma) and China (Figure 2.1). Natural resources are the major source of income for the nation's economy. "Biodiversity forms an integral part of rural livelihoods and poverty alleviation and plays an important role in supporting urban and commercial production and consumption in key sectors of the economy" (Lao PDR 2004). Lao PDR is situated in the Indo-Burma Biodiversity hotspot, which is listed for irreplaceability in the world's top 10 hotspots (Tordoff *et al*. 2012). "There are an estimated 8000 – 11,000 species of flowering plants. Lao fauna comprises reported 166 species of reptiles and amphibians, 700 species of birds (another 100 are reasonably likely to occur), 90 known species of bats and over 100 species of large mammals" (Lao PDR 2004).

Because of the rapid growth of the human population, economic development and new patterns of consumption, there has been an increase in the threat to the ecosystems of local hotspots (Tordoff *et al.* 2012). Likewise, the number of wildlife in the country has been decreasing with a major concern of impending extinction coming from the national and international wildlife trade (Singh 2008). Wild animals have been primarily hunted and sold for food, traditional medicine, pets and ornaments (Greatorex *et al.* 2016).

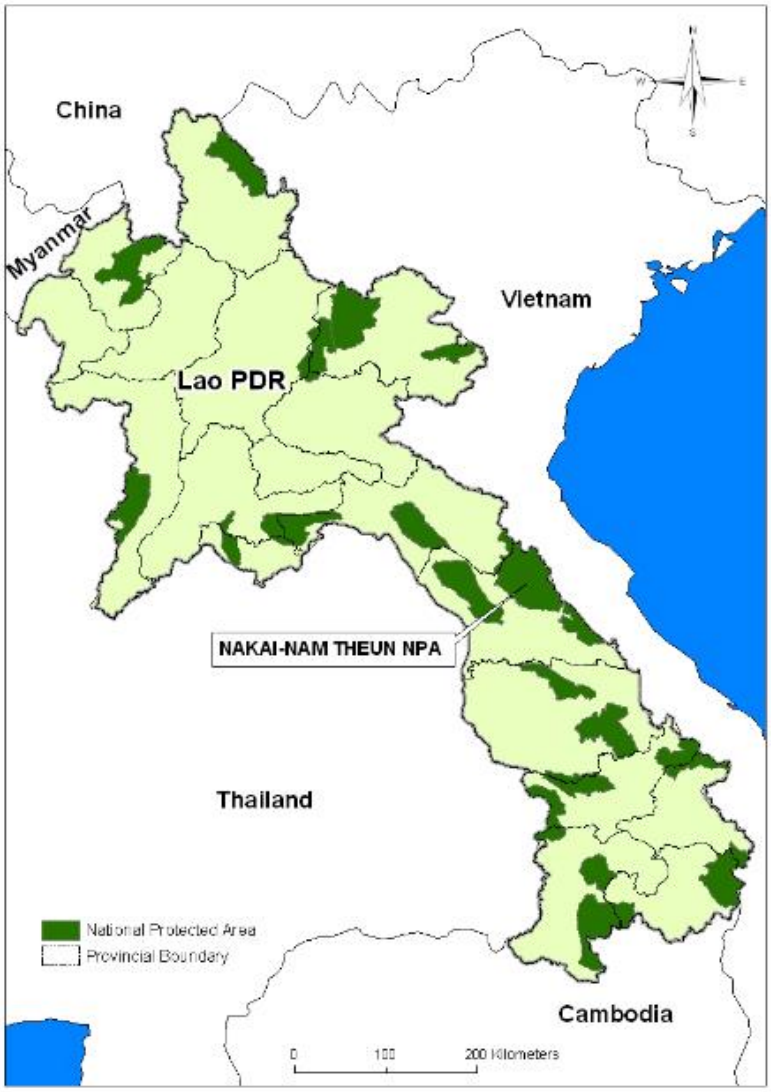


Figure 2. 1 Lao PDR, its national protected areas and neighboring countries (source: Robichaud et al. 2009)

2.5 Bear farming for bear bile

The Malayan sun bear (*Helarctos malayanus*) and the Asiatic black bear (*Ursus thibetanus*), also known popularly as the 'moon bear', are found across much of South and Southeast Asia, including Lao PDR. Both species are listed as 'Vulnerable' on the IUCN Red List of Threatened species because their overall populations have declined by 30% (Fredriksson *et al.* 2008) and 30-49% (Garshelis and Steinmetz 2016), respectively, over the past 30 years. The dramatic declines in the numbers of both bear species have been caused by the reduction of

suitable habitats, coupled with a widespread exploitation of the animals for their body parts, such as paws and bile, which are widely used in traditional medicine (Mills and Servheen 1994).

Bear bile has been used for thousands of years in traditional Chinese medicine. It has been proven to have a wide range of medicinal properties (Livingstone and Shepherd 2016). However, alternatives to bear bile originating from non-endangered animals and plants have been studied and introduced (Feng *et al.* 2009), including synthetic bear bile. Yet the consumption of and international trade in bear bile have proven resistant to such efforts (Davis *et al.* 2016). The consumption of bear bile has been driving a rapid decline in the number of Asiatic black bears and Malayan sun bears.

Bear farms have been established widely to extract bear bile without killing bears. By this means, the supply of bear bile is expected to be steady and meet demand. The number of wild bears poached for their bile should therefore decrease (Davis *et al.* 2016; Damania and Bulte 2007). Major bear farms have been established in China, South Korea, Japan and Viet Nam. Myanmar and Lao PDR also have their share of such farms (ENV 2010). However, recent studies show that some bears were illegally caught from the wild, or internationally imported and raised at bear farms (Actman 2016; Foley *et. al.* 2011). One factor is that in many cases bears caught from the wild are cheaper and easier to get than breeding bears at a farm, where conditions are often poor (Hance 2015). Moreover, consumers tend to value products obtained from wild animals as more potent than those obtained from farmed animals, which continues to provide a threat to wild bears (Livingstone; Shepherd 2014 and Shairp *et al.* 2016).

2.6 International and national wildlife legislation in Lao PDR

Because of an abundance of forests in Lao PDR, the country remains relatively rich in wildlife. However, habitat loss and hunting are major drivers behind the decreasing numbers of wildlife in Lao PDR (Johnson *et al.* 2009). International laws and national agreements are meant to monitor and combat the illegal wildlife trade (Oswell 2010). Lao PDR ratified intentional law by signing onto CITES in 2004 and adopted a new national wildlife law in 2007.

A) International law: CITES

Lao PDR was the last nation within the Association of Southeast Asian Nations (ASEAN), an economic grouping of 10 nations, to ratify CITES, which it did in 2004 (Singh 2008).

In 2014, CITES raised concerns about ineffectively implemented regulations in the trade of CITES-listed species, such as rhinoceroses, elephants, sun bears and Indochinese tigers. Wildlife farming and potentially fraudulent claims of captive breeding were observed (CITES 2016a).

In 2016, at the CITES conference in Johannesburg, South Africa, the Minister of Natural Resources and Environment from Lao PDR announced that the country would implement measures demanded by CITES and take its recommendations seriously (CITES 2016a).

National legislation, in the form of the Wildlife and Aquatic Law (2007), prohibits hunting and possession of wild bears and bear parts, including bear bile (Traffic 2014). However, under international legislation mandated by CITES, international trade in wild bears and bear parts is prohibited (Traffic 2014).

B) National law: Wildlife and Aquatic Law (2007)

The Department of Forest Inspection (DOFI), within the Ministry of Agriculture and Forestry (MAF), was established in 2007. DOFI is a lead agency aiming at preventing, detecting, investigating and suppressing forestry and wildlife crimes.

All wildlife and aquatic species in Lao PDR belong to the nation by law (Lao PDR 2007). The utilization and the protection of wildlife are regulated both by national law and international law. According to the National Wildlife and Aquatic Law (2007), Wildlife and Aquatic regulations in Article 10 are divided into the following three categories: prohibition, management, and a common or general category.

Article 11: Wildlife and Aquatic Prohibition species listed in this category are near extinct, have high value, and are of social-economic, environmental and scientific importance. The management, inspection and preservation shall be placed to preserve the animal species in this category and the permission of utilization shall be granted by the government.

Article 12: Wildlife and Aquatic Management Category: The animal species listed in the second category are of importance in national economic, social, environmental interests, livelihoods of ethnic communities and scientific research. The animals listed in this category shall be managed, inspected, protected. The utilization of the second-category animals will be controlled.

Article 13: Wildlife and Aquatic General Category: The animal species listed in the third category are considered to be able to reproduce wildly in nature and are of importance in social economic development and educational scientific research. The utilization of the animals is possible with the regulations that ensure not to overexploit the numbers or impair the ecological system.

Article 10 describes the different types of uses of animals, such as for public benefit, family purposes, and socio-economic purposes. However, CITES (2016a) points out that there are some loopholes in the law. Non-restriction can be found in the law and the distinction of each type of utilization can be obscure, such as a blurry distinction between domesticated animals and captive animals that were bred at farms. Moreover, the difference of responsibilities of each authority (government, ministries and provincial authorities) granted by the law can cause confusion about the divisions of labor. There are some inconsistences in the use of the law, such as wildlife farming operations and the trade in wildlife specimens (trade in ivory is prohibited but possession of ivory products is allowed, for instance).

2.7 Regional and international cooperation

A) The ASEAN Wildlife Law Enforcement Network (ASEAN-WEN) (2005)

The members of the ASEAN Wildlife Law Enforcement Network (ASEAN-WEN) are Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. The intergovernmental wildlife enforcement network was established to battle against wildlife crime throughout Southeast Asia (Interpol 2014). The regional agreement has been promoted as a way of cooperation against the illegal trade in wildlife (Singh 2008).

B) United Nations Convention on Biological Diversity (CBD) (1996)

Lao PDR became a signatory to the Convention on Biological Diversity (CBD) in 1996. Under this convention, Lao PDR has pledged to "protect biodiversity resources and to ensure their sustainable use" (Lao PDR 2004).

According to the National Biodiversity Strategy and Action Plan and National Reports of Lao PDR, the nation supports the establishment and maintaining of ex-situ research and

conservation projects of bears in cooperation with Free the Bears (FTB) (MoNRE 2016a). Sun bears are also listed in a "Lao Red List" of endangered and threatened species of fauna, which was established by the country's Department of Forestry and international organizations (MoNRE 2016a). Species on the list are categorized as meriting the highest level of protection (MoNRE 2016b).

2.8 Bear farming in Lao PDR

Endangered animals, including bears born in captivity as the second generation, are allowed to be traded with permission, according to Article 40 of the Wildlife and Aquatic Law (2007): "The prohibited category of wildlife and aquatic can be traded from the second generation and next generation…" Captive-breeding facilities in Lao PDR were categorized into 2 types: private zoos and wildlife farms (CITES 2016a).

Bear farms reportedly operated by Vietnamese nationals were established in Lao PDR after bile extraction at bear farms in Viet Nam had been banned in 2006 (Scotson 2010; Foley *et. al.* 2011). The numbers of captive bears in Lao PDR increased from 40 in 2008 to 122 in 2012 (Actman 2016; Livingstone and Shepherd 2016). Some farms that were surveyed did not have registered certificates to operate legally as breeding facilities and a high mortality rate was found at some of those farms, which indicates that captive bears were likely to be brought from the wild as replacements (Interpol 2014; Foley *et. al.* 2011).

However, at the CITES conference in Johannesburg, South Africa, in 2016, the government of Lao PDR committed itself to shutting down tiger farms and bear bile farms in the country (WFFT 2016). The commitment is seen as an important move towards closing down other farms housing endangered animals. "With the support of several embassies and international agencies we have presented a plan to phase out bear bile farming in Laos by 2020" (FTB

2016). As a result, over the next three years the number of bears rescued from farms will need a new facility to house them. “This could mean upwards of 150 bears being rescued over the next three years and would obviously require a significant investment in developing the new sanctuary ready to house the new arrivals but we (Free the Bears) are confident of this plans feasibility and look forward to working with our partners in Laos to ensure that bear bile farming is relegated to history before more bears are lost from Laos’ forests” (FTB 2016).

2.9 Free the Bears Fund Inc. (FTB)

The research will be conducted under the auspices of Free the Bears Fund Inc. (FTB), a registered Australian wildlife-protection organization that supports a variety of animal welfare projects in several Southeast Asia countries, primarily focusing on the three species of bears that are endemic to South and Southeast Asia: Malayan sun bears (*Helarctos malayanus*), Asiatic black bears (*Ursus thibetanus*) and sloth bears (*Ursus ursinus*). The nonprofit works to rehabilitate bears that are rescued and confiscated from bile bear farms, the exotic pet trade and wildlife traffickers.

In addition to providing well-equipped sanctuaries for rescued bears, the nonprofit also engages in a range of conservationist strategies in order to lessen the threats that continue to drive bears in the wild ever closer to the edge of extinction in such countries as Lao PDR, Thailand, Malaysia and Viet Nam. FTB conducts environmental education projects, undertakes conservation research, and works with law enforcement as well as wildlife agencies in several nations with the aim of reducing the threats on wild bear populations.

2.10 An existing bear sanctuary and a new bear sanctuary project in Luang Prabang, Lao PDR

FTB cooperated with the Provincial Agriculture and Forestry Office of Luang Prabang to develop a bear rescue center at Tat Kuang Si, Luang Prabang, Lao PDR. The total area of Tat Kuang Si Bear Rescue Center is 0.4485 ha (excluding visitor facilities). The bear rescue center ideally contracted to harbor 25 bears; however, currently there are 43 rescued bears[1]. FTB explained that Tat Kuang Si Bear Rescue Centre

> "is situated 20 km southwest of Luang Prabang City, Lao PDR. Free the Bears have been caring for rescued bears at this site since 2003. As of May 2014, Tat Kuang Si is home to 25 Asiatic black bears. The bears are housed in groups divided between 5 forested enclosures. All of the enclosures are extensively furnished with pools, rocks, hammocks, climbing frames, lush native vegetation and a variety of enrichment toys to ensure that the bears are kept happy and healthy at all times. Tat Kuang Si National Protected Area receives over 200,000 visitors annually, approximately half of which are Lao nationals. Free the Bears takes advantage of having a captive audience in order to raise awareness of illegal wildlife trade issues and promote sustainable behaviours."

Figure 2. 2 The location of an existing bear rescue center at Tat Kuang Si, Luang Prabang, Lao PDR

[1] Information from FTB

FTB will again cooperate with the Provincial Agriculture and Forestry Office of Luang Prabang to build a new and far more spacious shelter for bears: the Luang Prabang Wildlife Rescue Center (LPWRC). The project is approximately 8.5 km away from the existing bear sanctuary. The total project site is 24.8 ha. The area will be divided into 6 areas of bear enclosures, of which the total area is 6.6 ha, including a 0.88 ha quarantine area, and five separate enclosures ranging from 0.85 to 1.5 ha (PAFOLP and FTBo 2016).

Because the demand for bear bile for use in traditional medicine has been one of the main drivers of the decline in the number of wild bears in Lao PDR, one of the many objectives of the new wildlife sanctuary will be to take care of bears that have been or will be rescued from bear farms[2].

Figure 2. 3 The location of the Luang Prabang Wildlife Rescue Center (LPWRC) project, a new bear sanctuary project and 5 villages that are located adjacent or close to the site.

[2] Information from FTB

Residents in the two communities, Ban Nong Toke and Ban Tin Pa, which neighbor the planned sanctuary site, know about the project as there have been village consultation meetings[3]. People from other nearby villages such as Ban Xiang Mouarg, Ban Pa Nor and Ban Long Lao also know about the ongoing project because they can see a sign put up on the project site from the main road as they traverse the area[4]. People in these five villages have been surveyed by the author for this thesis in order to assess prevalent attitudes about bears, bear bile use and bear conservation.

There is currently no research study showing the results of the successes in bear conservation efforts. As the bear sanctuary is going to be built in Lao PDR, it is a good opportunity to conduct a study before the intervention of a targeted conservation effort. The study can provide a baseline to measure the performance of bear conservation efforts after the bear sanctuary is introduced in later years.

[3] The information from FTB and the village heads of Ban Nong Toke and Ban Tin Pa
[4] The information from the village heads of Ban Xiang Mouarg, Ban Pa nor and Ban Long Lao

3 Methodology

3.1 Introduction

The main aim of this chapter is to explain how the research methodology has been designed in order to collect and analyze data to answer the research questions. A secondary aim is to describe the study area.

3.2 Study area

This research was carried out in Luang Prabang Province, which is located in the mountainous north of Lao PDR, where a new wildlife rescue center is currently under construction. There are five villages – Ban Xiang Mouarg, Ban Pa Nor, Ban Tin Pan, Ban Nong Toke and Ban Long Lao – located either beside or in the close vicinity of the bear sanctuary along a single two-lane road that runs past the sanctuary and connects all villages in the area (see Figure 2.3). Thus, locals in these communities are likely to be impacted negatively and/or positively by the project. Ban Nong Toke and Ban Tin Pa are the only two villages that share boundaries with LPWRC, and the land that has been used to construct the new bear sanctuary was bought from villagers from these two communities[5].

[5] Information provided by Ban Nong Toke and Ban Tin Pa village heads

People who live in the area are comprised of 3 ethnicities: Lao, Khamu and Hmong. The Lao and Khamu people are predominantly Buddhists, whereas many Hmong people are animists[6]. The Khamu and Hmong have their own languages: Khamu and Hmong. However, Lao is the country's official language that most people in every ethnic group can speak to varying degrees: routinely, they use Lao to communicate with members of other ethnic groups[7].

3.3 Field methods and data collection

A combination of two methods was used for collecting both quantitative and qualitative data.

3.3.1 Quantitative data: household questionnaire

Close-ended questionnaires are suitable for acquiring a general overview of information in studied communities, including public attitudes towards conservation (Sekhar 2003). In the current research, a closed-ended questionnaire was administered during face-to-face sessions to individuals in all 5 villages in order to obtain an overview of socio-demographic and socio-economic status of the communities and the prevalent attitudes towards bears, bear bile use and bear conservation.

[6] Information from village heads and villagers
[7] Information from village heads and villagers

There were 437 households in total in the 5 villages, and survey administers made an effort to reach as many households as possible. In order to conduct the survey, permission and a proper appointment were required from each village head. The Lao Women's Union of Luang Prabang, which had previously worked with villagers in these communities, assisted in obtaining the required permission. During the process, information about the researcher, as well as the purpose and content of the survey, were relayed to each of the village heads, who were then asked for their permission to allow the survey to be conducted before the survey administers could proceed.

The survey administers targeted one member of each household aged ≥18 years old.

The questionnaire consisted of close-ended questions with various sections as follows:

- Socio-demographic characteristics
- Socio-economic conditions that might be altered by the new sanctuary
- Attitudes and beliefs towards bears, bear bile use and wildlife sanctuaries

Some questions in the questionnaire were taken from research that had previously been conducted in Lao PDR (Davis *et al.* 2016).

The questionnaire was originally written in English before being translated into Lao by a professional Lao translator; subsequently, the text was translated back into English by another professional translator to check if any mistakes in translation had occurred inadvertently. It was pre-tested on 10 local Lao people to ensure that the questions on the questionnaire were understood the way the researcher had intended.

There is a variety of educational levels among Lao villagers, ranging from illiteracy to Bachelor's degrees; therefore, some questions were subsequently modified in order to ensure that locals with different levels of education understood them the same way.

Throughout the entire research process, both the CEU Ethical Research Guidelines and Ethical Research Policy were adhered to. All researchers conducted themselves in an ethical and professional manner in accordance with those guidelines. Five assistants from the Lao Women's Union of Luang Prabang were recruited for collecting data during the period of one week as they had experience conducting similar research surveys with FTB. The assistants were trained and each asked to sign a declaration form that they would not engage in any form of coercion with the participants and that they would adhere to the CEU Research Ethics Guidelines and Policy.

Before each interview during the survey process, the assistants informed each interviewee about the research, the purpose of the survey (brief information was written on the top of every questionnaire sheet), and asked for their verbal consent. As some villagers were illiterate, the assistants were asked to read out the questions to every household where they conducted the survey. The survey took four full days in all. I accompanied the assistants each day until the survey was completed in case there might be some important details provided by respondents that were useful for the research when they were answering questions.

3.3.2 Qualitative data: representative interviews

Semi-structured interviews are used for collecting qualitative data in an attempt to gain further insights into the views of selected participants – views that might be overlooked or could not be acquired from questionnaires alone (Newing 2011). In this research, the semi-structured interviews were conducted on 2 groups of representatives to get further in-depth information

about communities' attitudes towards bears, bear bile use and bear conservation. The representatives that were interviewed were (1) a representative of FTB and (2) the heads of the 5 villages who acted as the official representatives of their communities.

Semi-structured interviews that were conducted on the village representatives consisted of 4 sections as follows:

1) Attitudes towards bears and bears in the wild
2) Attitudes towards bear bile use
3) Attitudes towards the Tat Kuang Si Bear Rescue Center (the existing bear sanctuary)
4) Attitudes towards the new bear sanctuary

Semi-constructed questions were used as a guideline for the interviews. Each representative was visited individually at his village. To abide by the CEU Ethical Research Guidelines and Ethical Research Policy, the interviewees were first informed about the interviewer, the nature of the research and the purpose of the research. Later, the interviewees were asked for their verbal consent to participate in the interview. The representatives are not mentioned by name so that their anonymity can protect their identity in line with ethical research guidelines. The interview was conducted in Thai and the interviewees responded in Lao.

The semi-structured interviews that were conducted with an FTB representative concerned the nature of the organization's public relations outreach projects and bear management policies. The interviews were conducted in English and the interviewees, who were native speakers of the language, responded in English throughout the interviews.

The identity of local people who provided the data for the household survey and interviews will remain anonymous. The only way to ascertain the identities of respondents will be to access a separate file with identification information. Only this project's researcher will have

that access. This file will be kept strictly confidential and kept only for a single year following the completion of the research.

3.4 Data analysis

All the quantitative data acquired from the household survey were analyzed using Microsoft Excel 2013, using univariate and bivariate statistics, and presenting findings with bar charts, pie charts and stacked bar charts in order to assess the following information:

1) The profile of the survey respondents, such as their socio-demographic features and socio-economic status.

2) Common attitudes of the respondents towards bears, bear bile use and bear conservation.

Inductive analysis is widely used to analyze qualitative data (Newing 2011). In this study, inductive analysis was used to analyze qualitative data acquired from semi-structured interviews in order to gain some further insights from villages' representatives, which could not be obtained either from the close-ended household surveys alone or from the in-depth interviews conducted with FTB's representative. The results of the interviews were identified and categorized into themes associated with questions had been were asked. The themes of the interview results acquired from the villages' representatives were categorized as the following:

1) Attitudes towards bears and bears in the wild
2) Attitudes towards bear bile use
3) Attitudes towards the Tat Kuang Si Bear Rescue center

4) Attitudes towards LPWRC organizations working on conservation of bears and other endangered species

The interview results provided by FTB's representatives were categorized under the rubric of public relations outreach projects and bear management policies.

3.5 Limitations

There were a few limitations during data collection. Time was one of those limitations. The survey was conducted during cultivation season, but because the research project itself had time limits the completion of the survey could not wait until after the end of the cultivation season. As a result, a number of participants could not be reached as expected.

The available budget was another limitation. To save costs, the 5 assistants from the Lao Women's Union were hired for full work days so as to conduct the survey and to get to as many respondents as they could during the available time. Administering surveys all day long could be an exacting task for the assistants. Exhaustion could possibly have played a part in making the assistants miss some data. However, I could not go back to conduct the survey again to complete the missing data because the available budget was limited.

A language barrier was yet another limitation. Even though I can read Lao fluently and understand spoken Lao fluently, I could not use it fluently enough in speaking. Fortunately, most Lao people can understand Thai, a language that is largely similar to Lao. However, the survey could not have been successfully conducted without the hired assistants because some of villagers could not understand Thai adequately enough.

4 Results

4.1 Introduction

The results of the research are presented here and are comprised of two parts. The first part of the results details the quantitative data that were acquired from conducting the survey on households in 5 villages. The data include 1) the profile of the sampled respondents, and 2) public attitudes and beliefs towards bears, bear bile use and the new wildlife sanctuary. There were 437 households in total in the 5 villages. However, only 263 households, or 60.2% of the total, could be surveyed because the survey took place during the season for crop cultivation and many villagers left home before 7:00 am to tend to their fields and did not return home until after sunset[8].

The second part of the results details the qualitative data that were acquired from key one-on-one interviews. This part is comprised of two sections; 1) insights from community representatives and 2) the nature of the organization's public relations outreach projects and bear management policies.

4.2 The profile of respondents

The first part of the structured questionnaire were dedicated to accessing a general profile of respondents. This sections include respondents' socio-demographic features and socio-economic statuses.

[8] Information provided by village heads

4.2.1 Socio-demographic features of respondents

The data related to sex, age, household size and composition, and ethnicity were collected to better understand the socio-demographic aspects of the communities close to LPWRC.

4.2.1.1 Sex and age structures of participants

A total of 263 participants were surveyed from 5 villages, of whom 114 respondents were male (43%) and 149 respondents were female (56.7%). All survey respondents were equal to or more than 18 years old. The mean age of the survey respondents was 45.7 years (SD= 13.8), ranging from 18 to 82 years. The mean age of male respondents was 48.5 years (SD=12.1), whereas the mean age of female respondents was 43.6 years (SD=14.6).

For a better overview of the age variables, the ages of respondents are segregated into 5 groups (Figure 4.1). The largest group among male respondents was comprised of men in their 30s (11.8%) and 50s (11.8%), whereas the largest groups of female respondents consisted of women in their 30s (13.3%) and 40s (11.8%). The chart also includes missing values in both genders which the assistants forgot to fill in. The independent t-test is used to compare the statistical significance of possible differences between the mean ages of male and female respondents. The result shows that the mean age of men is significantly higher than women ($t=2.80$, $p<.05$, $df=252$).

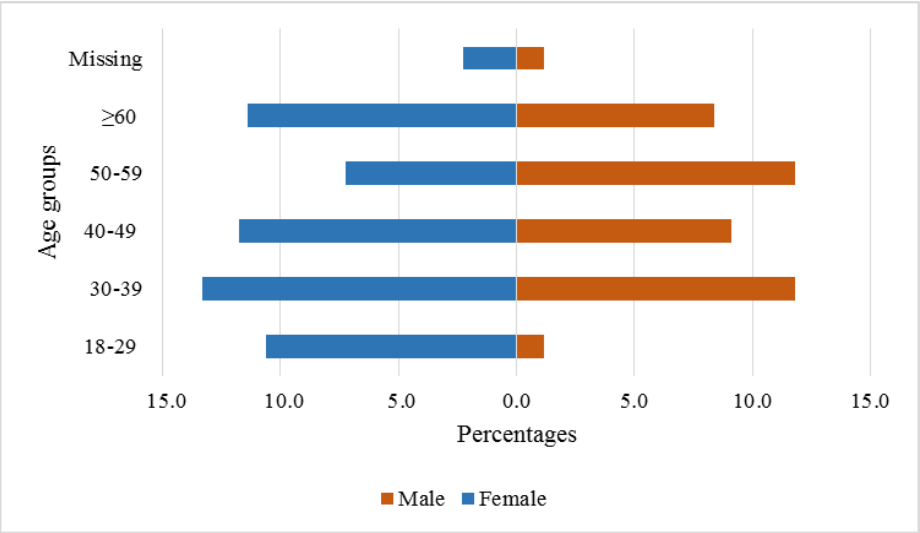


Figure 4.1 Bar chart showing the distribution of the survey respondents regarding genders and age groups (N=263)

As seen in Figure 4.2 most survey participants were heads of households (46.8%) or husbands or wives of household heads (46.8%). There were 87.0% total heads of households that were male and 13.0% were female.

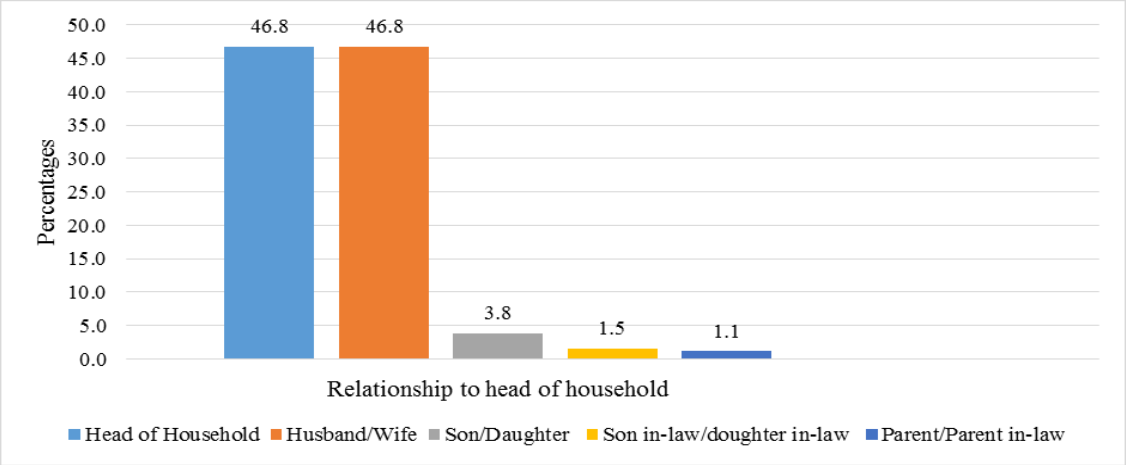


Figure 4.2 Bar graph showing the distribution of relationships of the survey respondents to head of household (N=263)

Other variables that were recorded for a depiction of socio-demographic conditions were the size of the household and the numbers of each age class living in the household.

Regarding Figure 4.3, small households that have members of up to 3 individuals represent 25.8% in total. Medium households where there are 4 or 5 members in one household represent 33.8%. However, large households that have more than 5 members have the highest percentage: 39.6% in total. When the missing value of 0.8% is excluded owing to the fact that it was omitted by the assistants, the mean number of members per household is 5.1.

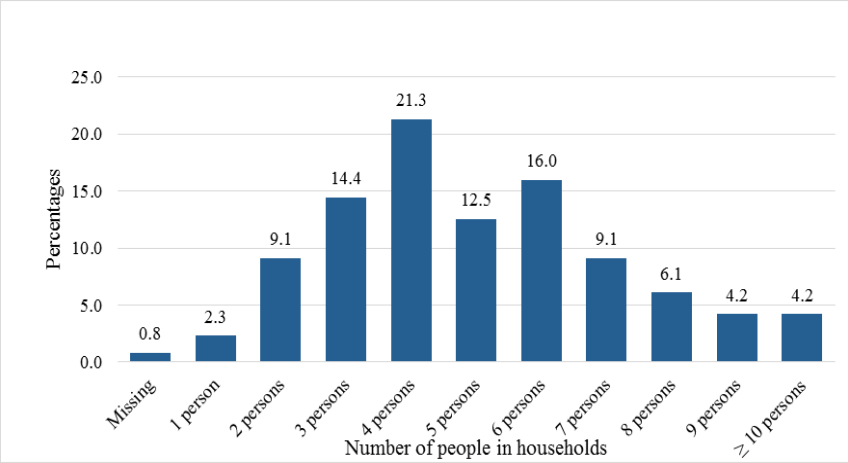


Figure 4.3 Bar graph showing the number of people in households (N=263)

There is another aspect of household compositions of respondents. The average number of members living in a household who were 0-14 years old was 1.3; 15-65 years old was 3.8; and over 65 years old was 0.1 (N= 259). This means that in the average household there were at least 2 generations living together.

4.2.1.2 Ethnicity

There are three ethnic groups living in the area surrounding the new bear sanctuary project: Lao, Khmu and Hmong[9]. Most survey respondents were Khmu (73.8%), while Lao and Hmong people accounted for 21.3% and 4.9% of survey respondents, respectively.

[9] Information imparted by village heads and villagers

4.2.2 Socio-economic status of the respondents' communities

Most villagers surveyed were farmers who earned a range of incomes from crop cultivation and livestock husbandry. In order to get an accurate and clear picture of the socio-economic status of the local communities surrounding the new bear sanctuary projects, many variables such as education, types of dwellings, assets and access to safe drinking water, energy sources and sanitation were used in the survey. Furthermore, in some research reports respondents' professions and annual incomes can be deemed sensitive matters for inquiry by the respondents and thus the information provided by them may not be reliably accurate (EVN 2010).

4.2.2.1 Education

The highest educational attainment of family members in a household can indicate the socio-economic status of a household because on average higher educational attainment signifies higher incomes. In Lao PDR, primary and lower secondary school levels are compulsory (PHC 2015). However, village heads and some villagers explained that education beyond a basic level is not automatically provided to citizens and as a result most people have to pay for their own or their children's education. Regarding their education levels, the survey respondents were divided into 4 groups. Most respondents (80.2%) said that the highest level of education that one of their family members had achieved were primary, secondary and high school (intermediate level) (Figure 4.4). A small number of respondents (5%) said that the highest educational level that one of their family members had attained were literacy certificates and partial completion of primary school (basic level). Some respondents (8.1%) said that all of their family members were functionally illiterate. However, 6.6 % of

respondents said that one of their family members had completed bachelor's degree programs or graduate degree programs (advanced level).

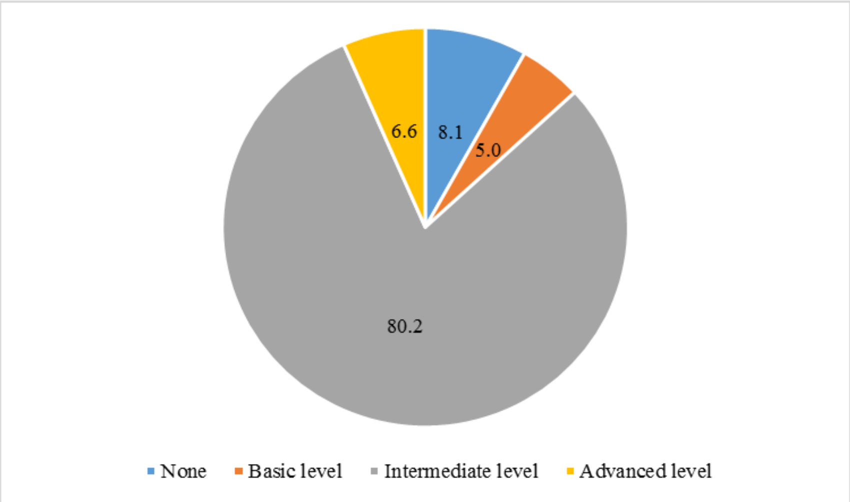


Figure 4.4 Pie chart showing the educational levels of local communities (as %, N=258)

4.2.2.2 Types of dwelling and assets owned by households

As most villagers were farmers that earned different incomes from crop cultivation and livestock husbandry[10], materials used for building dwellings and assets owned by households can be used as reliable indicators of socio-economic status. Financially better-off families were more likely to be able to afford better-quality materials with which to construct sturdier, more durable and safer houses for their households.

4.2.2.2.1 Materials used for constructing dwellings

Most dwellings (54.8%) were built with tile/Sipax[11] for their roofs. Other materials such as zinc and dry grass were used for building 36.1% and 9.1%, respectively, of all households surveyed. Further, most houses of the respondents (64.6%) walls were built using

[10] Information provided by village heads

[11] Sipax (ຊີແພັກ) is a roofing material that is made of concrete. It is widely used for roofing houses as it has durable properties and is produced in many colors.

brick/concrete. A smaller number of respondents said that the walls of their houses had been constructed from wood (15.6%) and bamboo (17.5%), whereas the smallest number of respondents (2.3%) said that the walls of their houses had been built from other materials.

The highest percentage of respondents (48.7%) said that the floor of their dwellings had been made of concrete. Other floor materials included ceramic/tile, wood, earth, or bamboo (see Figure 4.5).

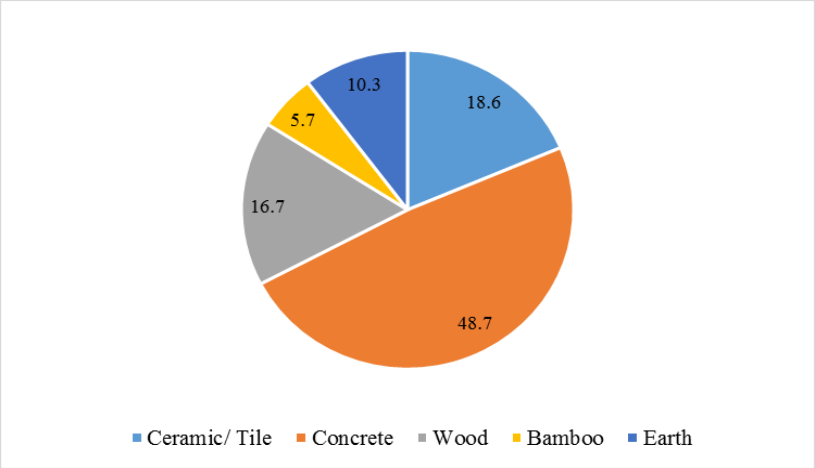


Figure 4.5 Pie chart representing the distribution of materials used for building the floor of households (as%, N=263)

The introduction of LPWRC into the area is expected to impact the surrounding villages unevenly: the two villages that share borders with LPWRC will likely be impacted the most. This study might be a baseline for future studies to assess the socio-economic changes in the communities surrounding LPWRC.

The materials used for constructing dwellings can provide an insight into the relative wealth of respondents in each village. Figure 4.6 shows the materials that were used for roofing dwellings in the 5 villages. There were a number of respondents' dwellings in Ban[12] Nong Toke, Ban Tin Pa and Ban Long Lao that had been with less sturdy materials such as zinc and grass, compared to tile/Sipax, whereas there were no respondents in Ban Pa Nor and Ban Xiang Mouarg who said that their dwellings had been built from those material.

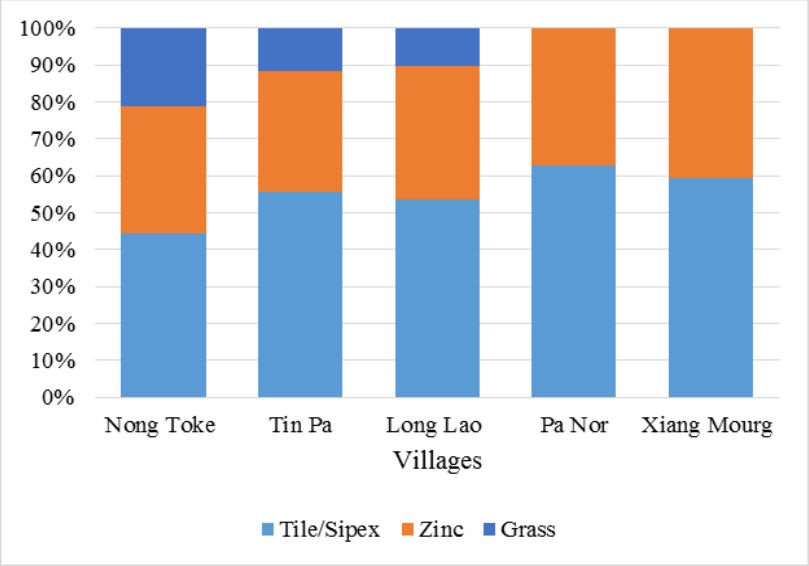


Figure 4.6 Stacked bar showing the distribution of materials used for household roofing in each village (N=263)

Figure 4.7 shows the materials that were used to build households' walls in each village. Brick/concrete and wood are considered to be stronger materials than bamboo for such purposes. The villages in which some respondents said that their dwellings had been built from bamboo were listed on a scale from a higher percentage (of total respondents in each village) to a lower percentage: Ban Tin Pa (32.6%), Ban Nong Toke (24%), Ban Long Lao (15.5%) Ban Pa Nor (3.7%) and Ban Xiang Mouarg (2.2%).

[12] Ban (ບ້ານ) means Village

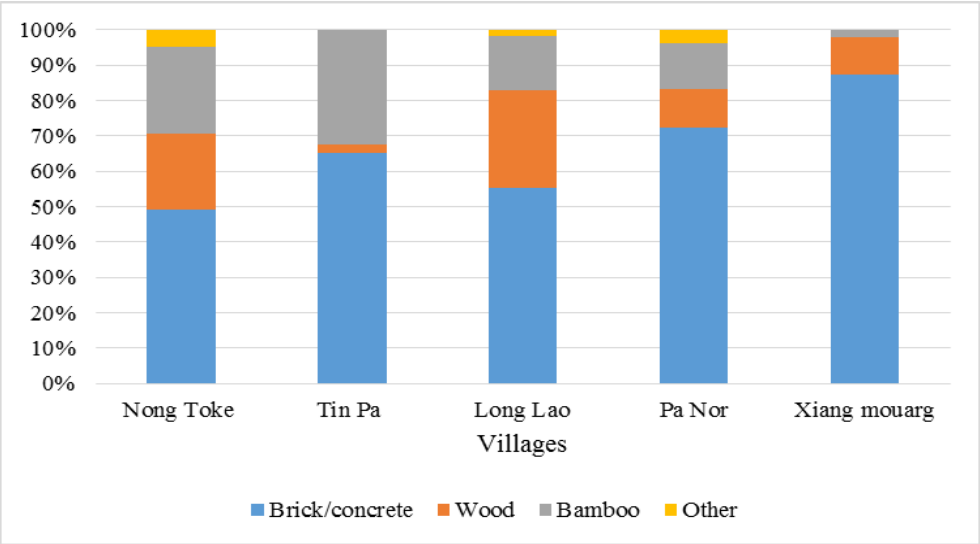


Figure 4.7 Stacked bar showing the distribution of materials used for building households' wall in each village (N=263)

Figure 4.8 shows the materials used for building the floors of households. Compared to ceramic/tile as well as concrete and wood, bamboo and earth are free and readily available materials for building floors. There were 34.4% of total respondents in Ban Nong Toke and 18.6 % of total respondents in Ban Tin Pa who said that the floors of their dwellings had been built with bamboo and earth. There were 10.3% of total respondents in Ban Long Lao and 9.3% of total respondents in Ban Pa Nor who said that the floors of their dwellings had been built with those two materials. However, there were only 4.3% of total respondents living in Ban Xiang Mouarg who said that they had used bamboo for building their floors.

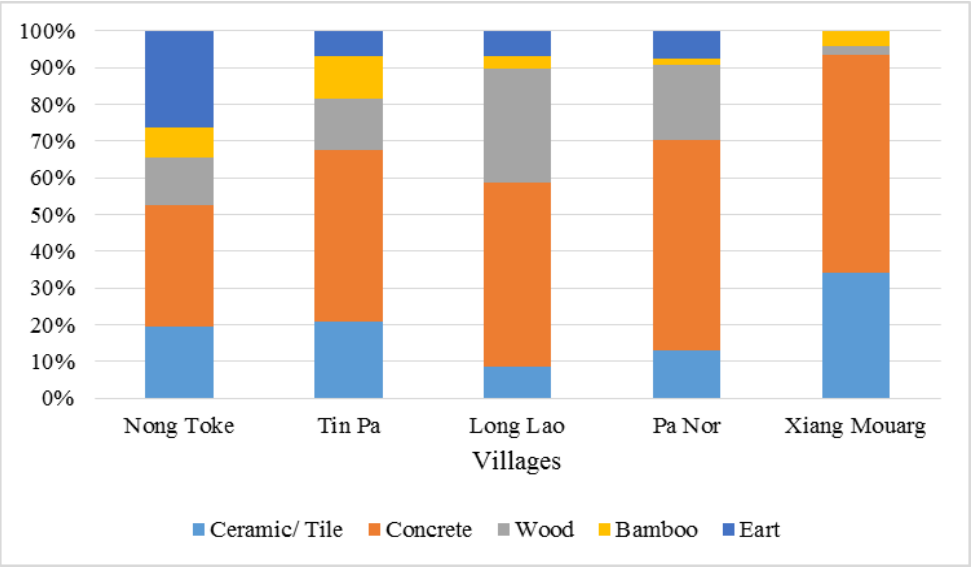


Figure 4.8 Stacked bar showing the distribution of material used for constructing households' floor in each village (N=263)

As seen in Figures 4.6- 4.8 above, there was a larger number of financially better-off respondents living in Ban Xiang Mouarg than in Ban Pa Nor, where there, too, were signs of relative prosperity among residents. On the other hand, in Ban Nong Toke, Ban Tin Pa and Band Long Lao, respondents were less better-off on average, compared to those abovementioned communities.

4.2.2.2.2 Numbers of rooms in households

Figure 4.9 represents the number of rooms in dwellings. Most of the survey respondents (64.3%) said that their dwellings had 3 rooms, although the room number ranged from 1 to 6.

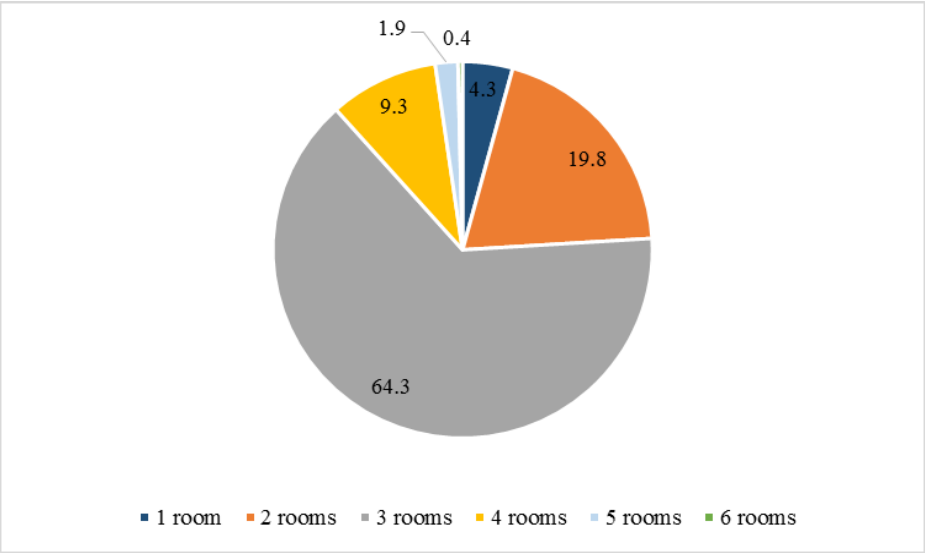


Figure 4.9 Pie chart showing the distribution (as %) of the number of rooms in dwellings (N=258)

Figure 4.10 represents another aspect of the economic status of respondents in the local communities by taking into account the number of rooms in households that residents shared. Pearson's R correlation is used to test the correlation between the number of rooms and the number of people in households. The result shows that the number of rooms is significantly and positively correlated with the number of persons in the sampled households, but the strength is low ($R=0.1388$, $df=256$, $p<.05$). The sizes of households are divided into 3 groups based on their members: 1) smaller households with 1-3 members (25.2%); 2) medium-size households with 4-5 members (34.5%); and 3) larger households with 5-14 members (40.3%).

Of the total number of households, 17.4 % of the smaller households (that is, most) had 3-room dwellings. The members of small households that shared 1- and 2-room dwellings accounted for 5.4% and 0.8% of the total. The highest percentage (22.5%) of the medium-size households had 3 rooms. However, out of the total number of medium-size households, 1- and 2-room dwellings were owned by 1.2% and 8.5% of households. Most of the larger households (24.4%) had 3-room households, whereas, 2.3% and 5.8% accounted for households whose members shared 1- and 2-room dwellings. The fact that 3-room dwellings

were owned by medium- and big-size households indicates that at least 2 members shared the same room.

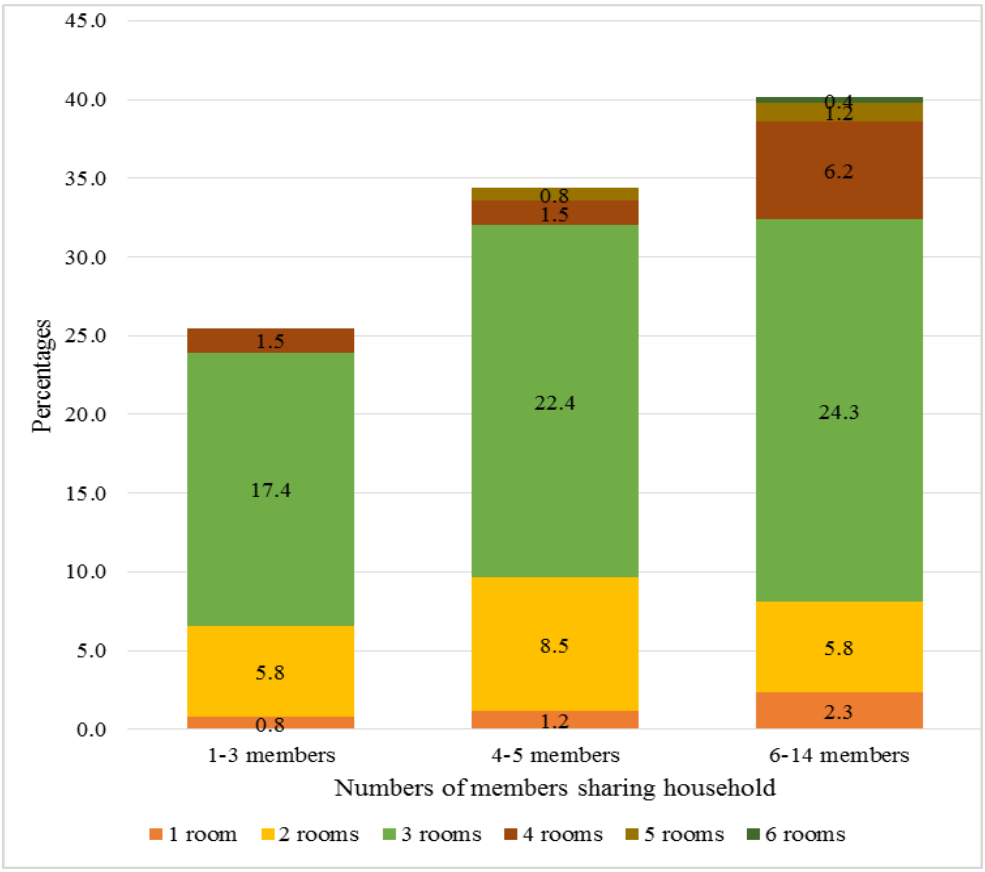


Figure 4.10 Pie chart showing the numbers of rooms in dwellings shared by family members (N=258)

4.2.2.2.3 Type of dwelling with electricity

Most respondents' dwellings (87.2%) were equipped with electrical meters. There were 11.3% who said that their dwellings shared electrical meters with other dwellings. The dwellings of respondents that used car batteries as a source of electricity amounted to 1.2%, whereas 0.4% of respondents said that their dwellings did not have any electical sources at all.

4.2.2.2.4 Assets possessed by households

To assess assets owned by each household, the survey respondents were asked if they possessed these following assets: tractor, car or van, motorbike, bicycle, boat, radio,

television, landline telephone, mobile phone, computer or laptop, air conditioner, fan, and fridge or freezer. For a better overview, the respondents were divided into 5 groups: 1) respondents whose households owned none of the assets mentioned; 2) respondents whose households owned 1-2 assets; 3) respondents whose households owned 3-4 assets; 4) respondents whose households owned 5-6 assets; and 5) respondents whose households owned 7-9 assets.

Most survey respondents said that they owned 5-6 types (46.5%) of those assets. The percentage of respondents whose households owned 1-2, 3-4 and 7-9 types were 12.2%, 28.5%, and 11.4%, respectively. However, respondents whose households did not own any assets mentioned above were 1.9% (Figure 4.11).

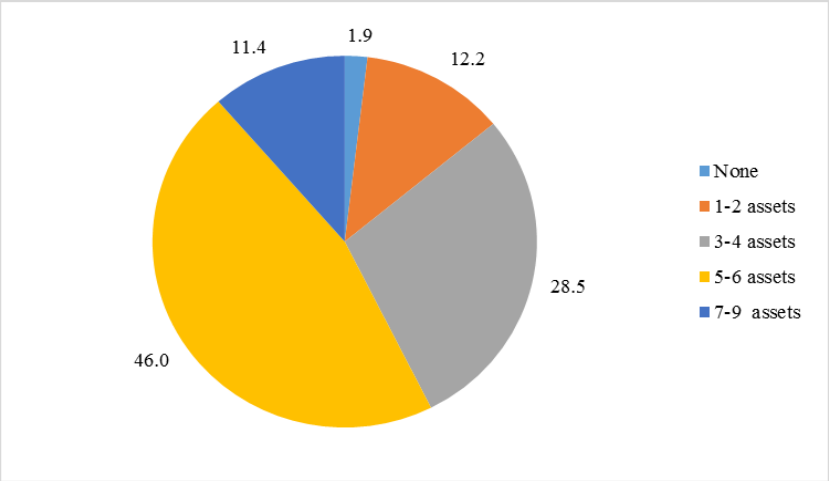


Figure 4.11 Pie chart representing the distribution of the number of assets owned by households (as %, N=263)

Another important factor that can indicate socio-economic status in communities is the types of assets possessed by respondents. All groups owned a refrigerator, fan, mobile phone, landline phone, TV, radio, bicycle and motorbike. On the other hand, tractor, car or van was owned only by 2 groups, which possessed 5-6 and 7-9 assets. However, air conditioners and computer or laptop were owned only by the group possessed 7-9 types of assets (Figure 4.12).

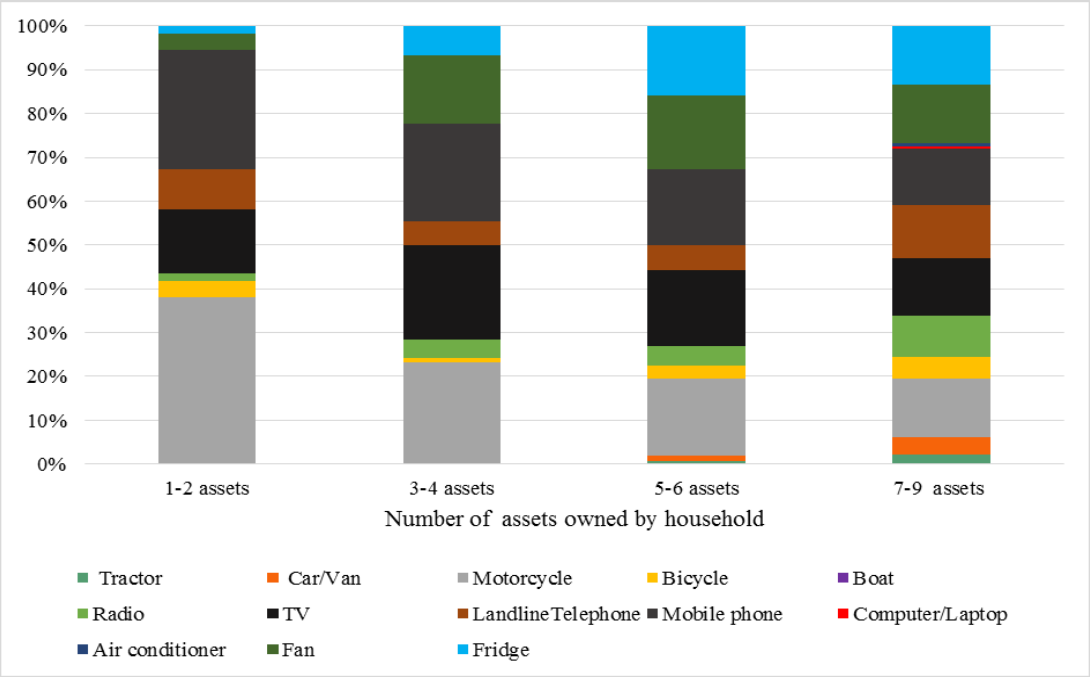


Figure 4.12 Stacked bar chart showing types of assets owned by respondents (N=263)

The wealth of respondents were categorized into villages regarding the assets they possessed (see Figure 4.13). Very high percentages of total respondents living in Ban Xiang Mouarg 91.5%) and Ban Pa Nor (67.3%) possessed 5-6 and 7-9 assets. This supports the conclusion above that in Ban Xiang Mouarg and Ban Panor, there were more respondents that had better economic status than those who living in the 3 villages: Ban Nong Toke, Ban Tin Pa and Pan Long Lao.

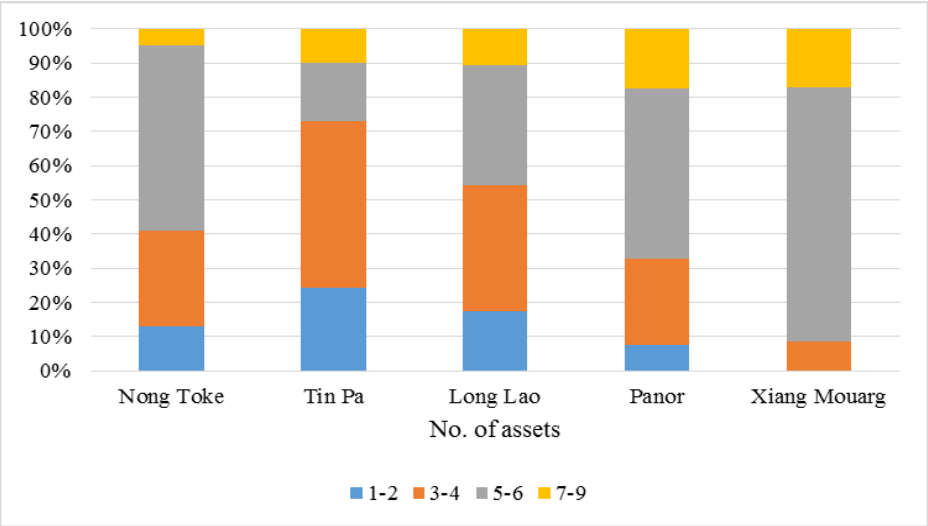


Figure 4.13 Stacked bar showing the distribution of the number of assets possessed by each village (N=263)

4.2.2.3 Access to safe drinking water, energy resources and sanitation

In Southeast Asia, the rural poor must invariably draw on natural resources for their livelihood (Ananta *et. al* 2013). Local people will have more access to safe drinking water, electricity and sanitation when there is a decline in poverty in the area (Ananta *et. al* 2013).

4.2.2.3.1 Household's main source of water for drinking and cooking

Figure 4.14 shows that the majority of the sampled households depend largely on water from natural resources such as river/stream/dam, mountain source water, well/borehole (unprotected) and well/borehole (protected), whereas only a small number of sample households consumes piped water.

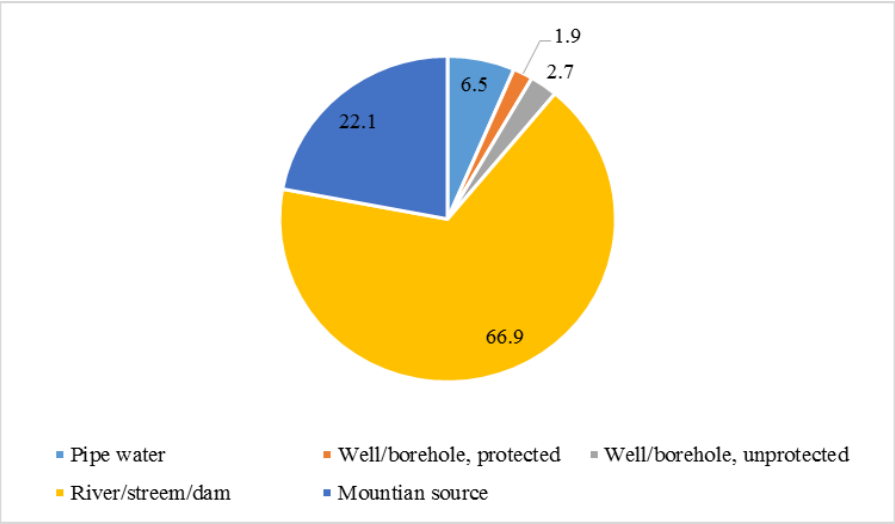


Figure 4.14 Pie chart showing main water resource of dwellings (N=263)

4.2.2.3.2 Households' main source of energy for cooking

Respondents were asked to identify the main source of energy for cooking. A large number of respondents (96.2%) indicated that their households depended on wood. Significantly smaller percentages of respondents indicated that their households used electricity (3.0%) and coal (0.8%) as the main source of energy for cooking.

4.2.2.3.3 Toilet facility mainly used by household

To assess the level of basic sanitation that the communities in the area can afford or to which they have access, the respondents were asked to indicate the types of toilet facility they had in their households. Most participants (77.5%) said that their households had a traditional squat toilet. However, a significant number (22.1%) of participants said that their households did not have any toilet facility. Meanwhile, only a very small number (0.4%) indicated that their households possessed a modern flush toilet.

4.2.3 Conclusion

The socio-demographic results in this section show that the mean age of the survey respondents was 45.7 years. Most respondents were the heads of households, or their husbands or wives. The average households proximate to LWRC was considered to be large households which had 5.1 members and there were at least two generations sharing the same household. Moreover, most respondents came from Khmu ethnicity.

The socio-economic results from the survey indicate that most families (80.2%) could afford to have completed schooling at the intermediate educational level. Most respondents could also afford tile or Sipax to construct the roofs of their dwellings (54.8%), brick or concrete to build their walls (64.6%) and floors (48.7%). However, most dwellings (64.3%) had only 3 rooms with at least 2 members from medium- and big-size households sharing the same room.

Most respondents' dwellings had access to electricity and were equipped with electrical meters (87.2% of the total); however, the main source of energy for cooking in most respondents' dwellings (96.2%) was wood. This affirms the claim expressed by some villagers in private interviews that electrical power was comparatively expensive and as a result many of them used it mostly for lighting, and even then only after dusk.

Most respondents (46.0%) possessed 5-6 assets and while many of them (28.5%) owned 3-4 assets.

More respondents in Ban Xiang Mouarg were financially better off than in Ban Pa Nor, where there were also relatively more prosperous respondents, compared to those living in Ban Nong Toke, Ban Tin Pa and Band Long Lao.

Nearly 90% of respondents said that their households depended largely on water from natural water resources such as nearby river and mountain springs. Most respondents said their households (77.5%) were equipped with outhouses or had access to traditional squat toilets.

4.3 Attitudes and beliefs towards bears, bear bile use and wildlife sanctuaries among locals

The second part of the questionnaire was employed to identify prevalent attitudes and beliefs towards bears, bear bile use and wildlife sanctuaries in the surveyed communities.

4.3.1 Public attitudes towards bears

Three questions of the structured questionnaire were dedicated to identify local people's attitudes toward bears. The survey respondents were first asked whether they had ever seen bears at all. Most respondents (82.5%) said that they had seen bears. Many of the respondents who said they had seen bears mentioned that they had seen them only at the Tat Kuang Si Bear Rescue center. A smaller number of respondents (16.7%) said they had never seen bears at all, whereas a very small number (0.8%) said they did not know.

Respondents were later asked to express their feelings about wild bears. Overall, more than 70% of total respondents had positive attitudes towards bears (Figure 4.15). However, there were some respondents who indicated that they either moderately or strongly disliked them (7.6%). There were some respondents (4.9%) who said they neither liked nor disliked bears. There were a number of respondents (15.6%) who indicated that they did not know.

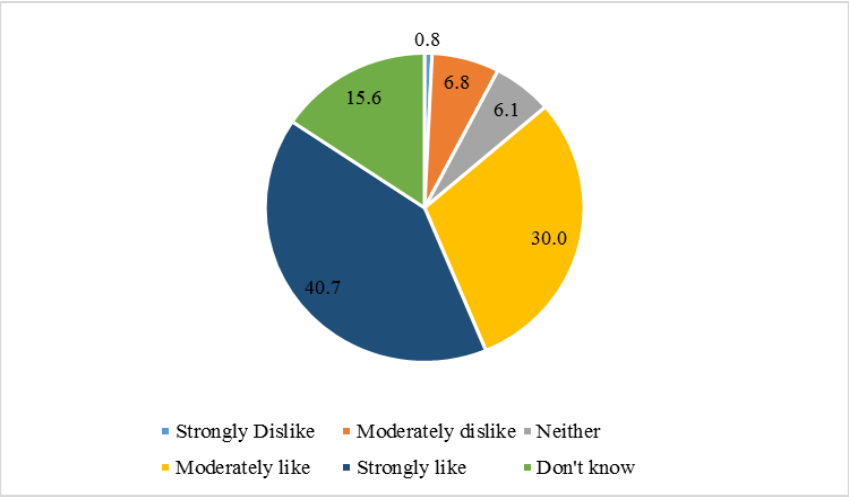


Figure 4.15 Pie chart representing the respondents' feelings towards wild bears (as %, N=263)

Another question was used to determine whether respondents agreed with the statement "I like it that there are bears in the wild in Lao PDR". More than 73% of respondents expressed positive attitudes towards this question. However, there a smaller numbers of respondents (6.1%) who said they moderately disagreed that they liked that there were bears in the wild but there were no respondents who mentioned that they strongly disagreed with the statement. There were respondents (15.2%) who indicated that they did not know the answer (see Figure 4.16).

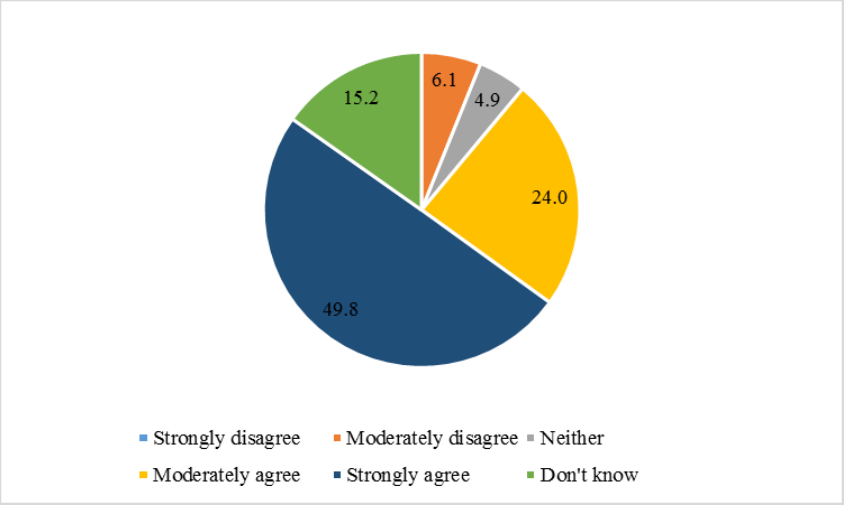


Figure 4.16 Pie chart representing the feelings of the survey respondents towards the statement "I like it that there are bears in the wild in Lao PDR" (as %, N=263)

4.3.2 Public value towards environmental conservation and the existing bear sanctuary

In an attempt to assess the communities' attitudes towards environmental conservation, the survey respondents were asked their opinions about the Lao forestry service, conservation workers and the Tat Kuang Si Bear Rescue Center (the existing bear sanctuary). Very high percentages of the respondents said they highly valued environmental conservation: 93.2% of all respondents said they highly valued the Lao forestry service; 92.8% of all respondents said they highly valued conservation workers; and 88.6% of all respondents said they highly valued the Tat Kuang Si Bear Rescue Center (Figure 4.17). However, there was a small number of respondents who said they did not value environmental conservation efforts at all: 0.8% of all respondents said they did not valued the Lao forestry service and conservation workers, while 0.4% of all respondents said they did not value the Tat Kuang Si Bear Rescue Center.

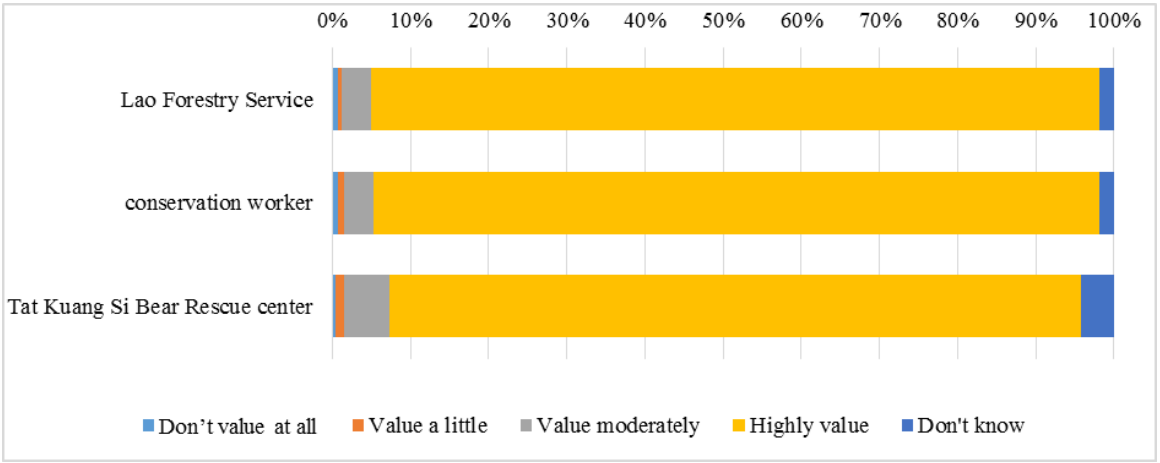


Figure 4.17 Stacked bar showing respondents' attitudes towards environmental conservation (N=263)

4.3.3 Public values towards traditional and western healers

Bear bile has been consumed widely in Asia as an ingredient for traditional medicine to cure a variety of diseases (Feng *et. al* 2009). People continue to buy and use bear bile products in part because they believe in its efficacy as a potent medicine to treat various maladies (Feng *et. al* 2009). Because people's knowledge about the actual efficacy of such traditional medicines remain rudimentary, several questions were asked so as to determine which forms of healing respondents primarily trusted.

Figure 4.18 shows that large numbers of respondents value all three types of healers: Traditional healers, modern western medical healers and religious leaders/monks acting as healers. The highest percentage of all respondents trusted western medical experts: 83.3% of all respondents said they highly valued western medical experts and 9.1 % of them said they moderately valued western medical experts. This was followed by religious leaders/monks and then traditional healers. That a high percentage of respondents said that they valued western medical experts indicates that these respondents trusted western medical treatments. On the other hand, that a high percentage of respondents said that they valued traditional medicine indicates that many respondents might have a tendency to value the medicinal efficacy of bear bile.

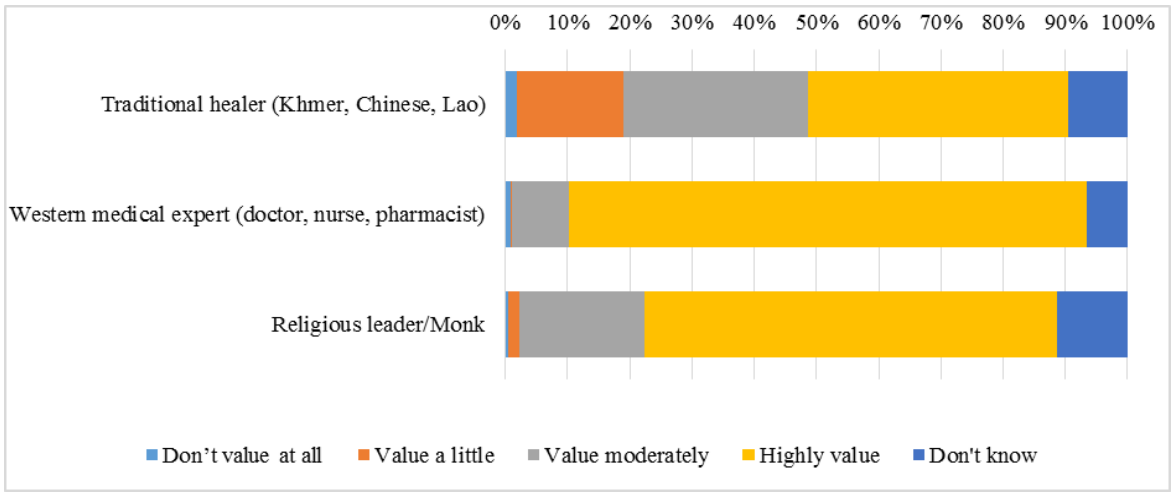


Figure 4.18 Stacked bar showing forms of healers trusted by survey respondents (N=263)

These attitudes towards traditional healers were also assessed by sex of respondent (Figure 4.19). More than half of all male respondents said they highly valued traditional healers, whereas, only a third (33.6%) of female respondents said they did so, although the large majority of both sexes indicated that they valued traditional healers to some degree.

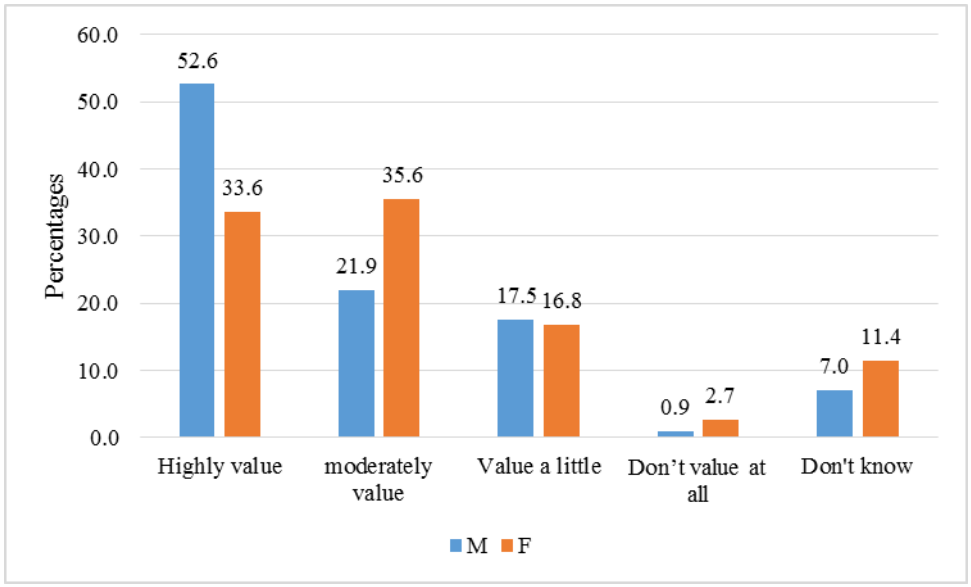


Figure 4.19 Bar graph showing the percentage of the attitudes towards traditional healers of each gender (N=263)

4.3.4 Locals' understanding of bears and bear conservation

Five questions were used to ask the survey respondents regarding their level of knowledge about bears and bear conservation efforts. The respondents were first asked about their views concerning whether there were more or fewer bears than in the past in Lao PDR. Even though most of the survey participants (55.3%) responded that they did not know, there was a high percentage (30.9%) who believed that the number of bears in Lao PDR was increasing. There was a small percentage of participants (13.7%) who believed that it was not true that the number of bears was increasing.

Respondents were later asked whether hunting bears in Lao PDR was legal. There was a high percentage of respondents (84.7%) who knew that hunting bears in Lao PDR was illegal. However, some respondents (4.8%) said they believed that hunting bears in Lao PDR was legal and 6.9% did not know (Figure 4.20).

Two follow-up questions were asked to learn whether participants had knowledge about bear farms; 1) Is it possible to extract bear bile without killing bears? and 2) Most bears in farms were born in captivity? Most respondents (46.7%) said they did not believe that bear bile could be extracted without killing bears. However, only 29.4% of the survey participants knew that it is possible to extract bear bile without killing bears, whereas 24.4 % of all respondents said they did not know. Respondents were then asked if they thought that most bears at farms were born in captivity. A large number of respondents (71.8%) believed it was true that most bears at such farms were born in captivity, whereas only a small number of them (4.2%) believed it was false.

The survey participants were asked whether it was legal in Lao PDR to consume bear products. Most participants (63.4%) responded that consuming bear bile in Lao PDR was illegal, whereas 9.5% of participants responded that it was legal

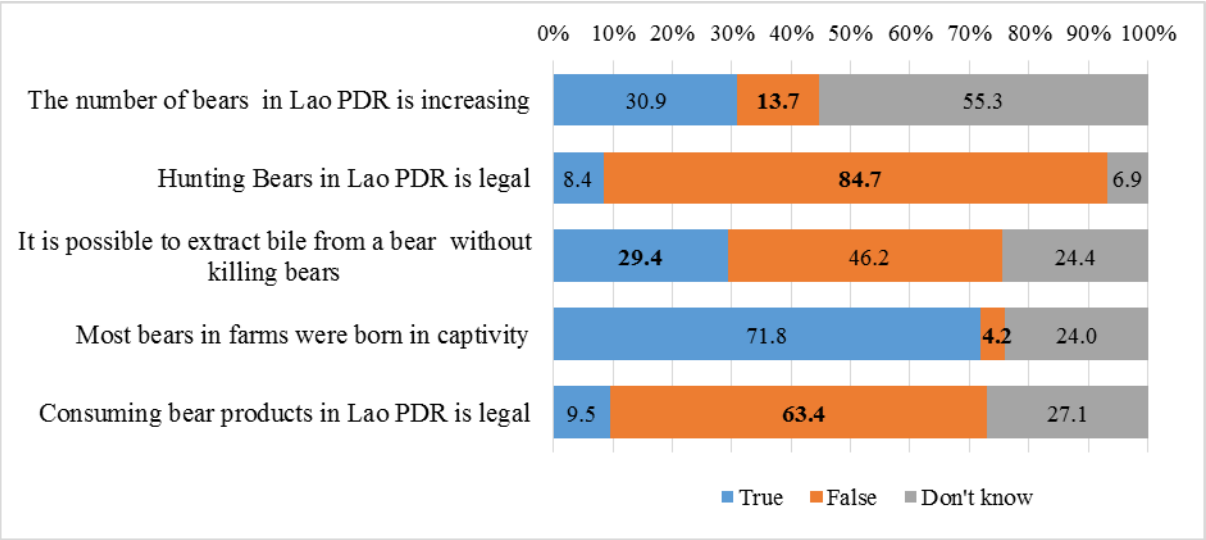


Figure 4.20 Stacked bar showing respondents' understanding about bears and bear conservation (N=262) (Correct answers are indicated in bold)

4.3.5 Sources of influence for personal views

Certain individuals, especially authority figures, may have an enhanced ability to influence commonly held views within communities, especially tightly knit ones. Social influence plays an important role in reinforcing existing opinions, beliefs and behaviors in such communities, as well as in fostering new ways of thinking (Moussaid *et al.* 2013). The survey participants were asked whose opinions they valued most within their communities regarding the use of bear bile, namely: 1) people who have used bear bile for medicinal and other purposes in the past; and/or 2) people who may continue using bear bile for medicinal purposes in the future. Respondents were also asked about their opinions whether most other people believed they should use bear bile. As seen in Figure 4.21, when asked the first question, "Most people

whose opinion you value have used bear bile for medicine and other purposes in the past", most respondents answered "True" or "Don't know".

When asked the second statement, "People may continue using bear bile for medicinal purposes in the future," most participants (57.3%) responded that they did not know, but a much higher percentage of total respondents (34.0%) agreed with that statement than those (8.8%) who disagreed with it.

Finally, most participants (50.0%) said that they did not know, when asked the statement that "Most people believe you should use bear bile". However, there was a higher percentage of respondents who agreed (32.4%) with the statement than those who did not agree (17.6%).

A considerably higher percentage of respondents agreed than disagreed with the above three statements, indicating that there was a prevalent social influence that reinforced commonly held views pertaining to the benefit of using bear bile as an effective form of medicine.

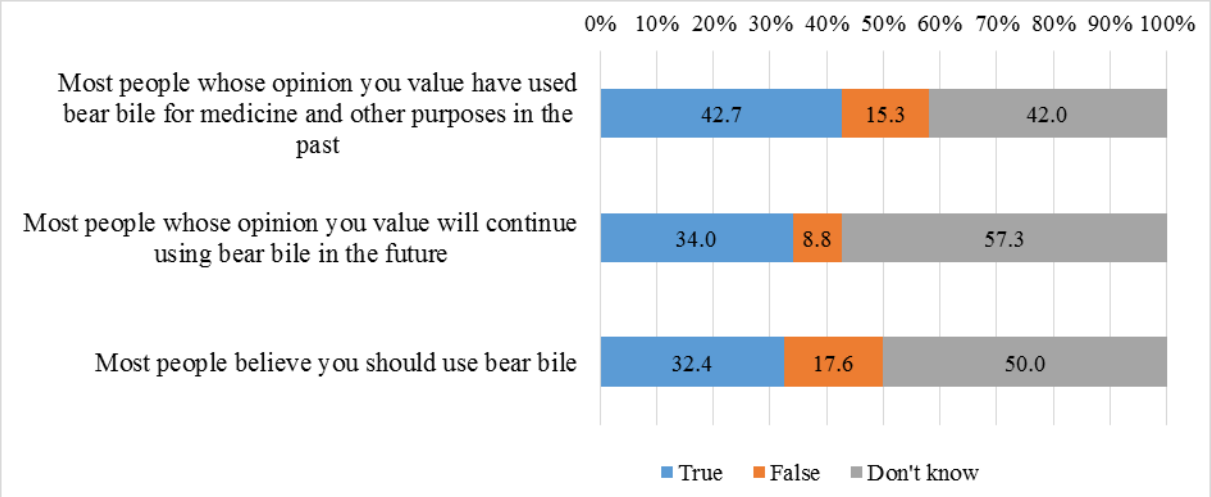


Figure 4.21 Stacked bar chart showing whose opinions respondents valued most in their communities (N=262)

Respondents were later asked their opinion about what percentage of their closest relatives and friends they thought might use bear bile or bear bile products for medicinal or other purposes. Slightly more than 1/3 of respondents thought that only around 0-20% of such

people might use bear bile and bear bile products (Figure 4.22). Meanwhile, 17.5% of respondents thought that 21-40% of their closest relatives and friends might use bear bile and bear bile products. However, there were high percentages of respondents who thought that many of their closest relatives and friends might use bear bile and bear bile products: close to 1/4 thought that 41-60% of their friends and relatives might use bear bile, while a 1/5 thought that most (61-80%) of their friends and relatives might do so. The large percentage of respondents who believed that many of their closest relatives and friends might use bear bile and bear bile products suggests that there was widespread social consensus that reinforced commonly held views regarding the benefits of using bear bile.

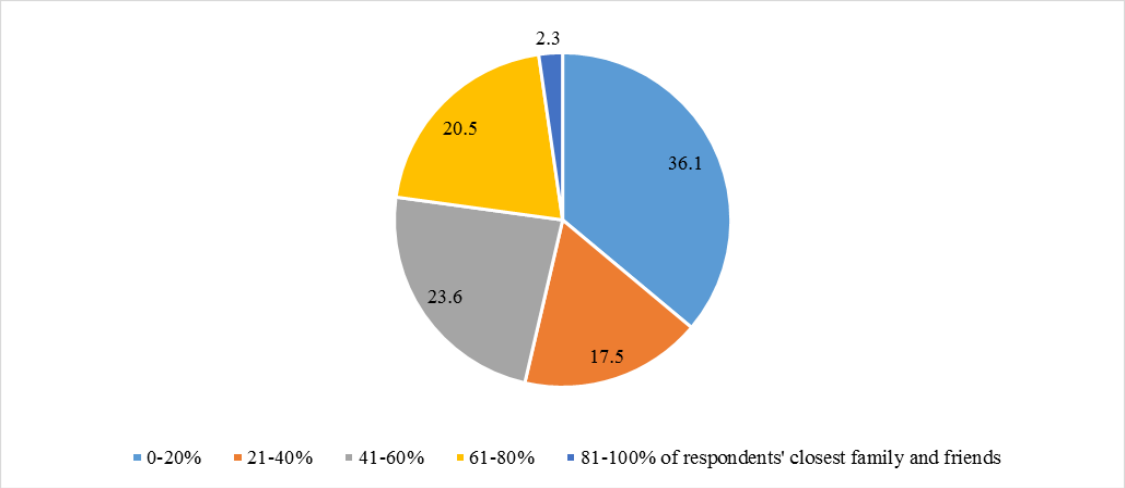


Figure 4.22 Pie chart representing percentage that the respondents thought their closet family and friends use bear bile or products for medicine or other purposes (as %, N=263)

4.3.6 Local views on bear bile

Seven questions were used to assess the survey participants' views on bear bile from both farmed bears and wild bears.

Participants were first asked three statements associated with general views on bear bile use (Figure 4.23). Most participants (65.0%) said they believed that bear bile had medicinal value.

There was only a small number of participants (6.9%) who did not believe that bear bile had medicinal value.

Respondents were also asked regarding their belief about the medicinal potency of bear bile from wild bears as opposed to farmed bears. When asked whether they thought that bear bile obtained from wild bears had higher medicinal value than bile obtained from farmed bears, more than 60% of respondents said it was true.

When it came to a statement regarding the easy availability of bear bile, more than two-thirds of all respondents (77.1%) disagreed that it was easy to find a place to buy bear bile.

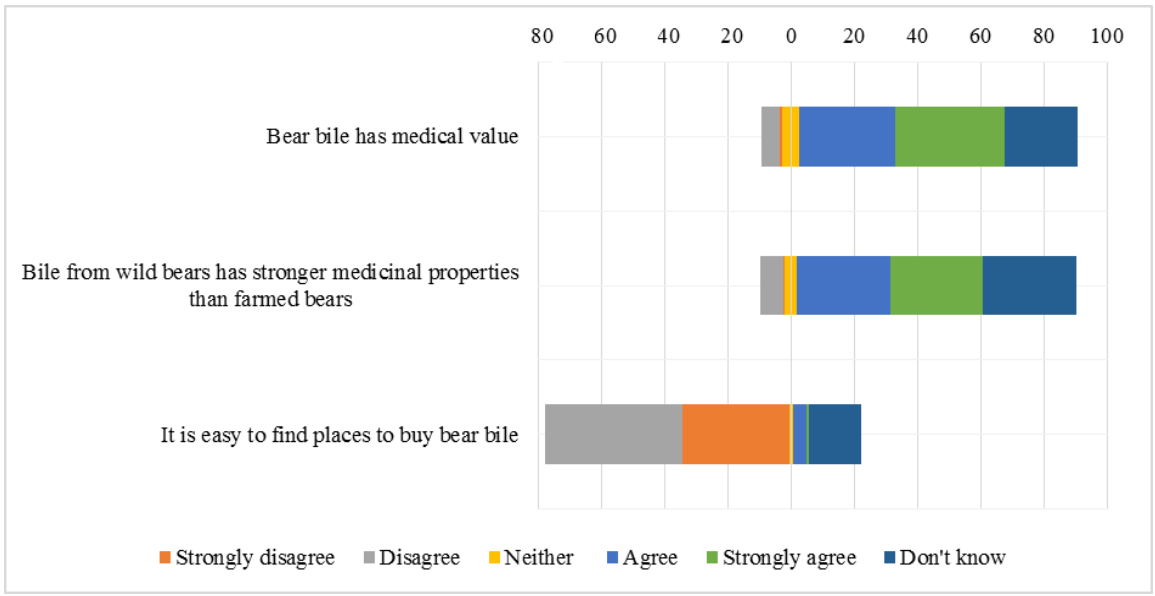


Figure 4.23 Stacked bar chart representing the distribution of locals' views towards general statements associated with bear bile (as %, N=263)

Respondents were later asked to respond to further statements to assess their attitudes in further detail towards bear bile use. There was a large percentage (67.3%) who thought that there were good alternative medicines to bear bile and bear gall bladder.

In China and Vietnam, prevalent attitudes in both of which neighboring countries have exercised an influence on common beliefs in Lao PDR. It is widely assumed that consuming the parts of rare and powerful wild animals like bears, or else products made from those parts like bear bile, leads to potent curative and invigorating effects (EVN 2010). However, the percentage of survey respondents who agreed (28.9%) was largely similar to the percentage of respondents who disagreed (33.9%) that consuming bear bile was an important part of their own culture.

When asked whether using bear bile would lower the number of bears in the wild, a very high percentage (79.1%) of all respondents agreed with the statement, indicating that many respondents were aware that the continued consumption of bear bile could result in a decline in the existing population of wild bears.

Respondents were later asked whether they thought it was acceptable to consume bear bile obtained from bears that were bred at farms. Many respondents (43.7%) agreed that consuming bear bile from animals kept at farms was acceptable (see Figure4.24).

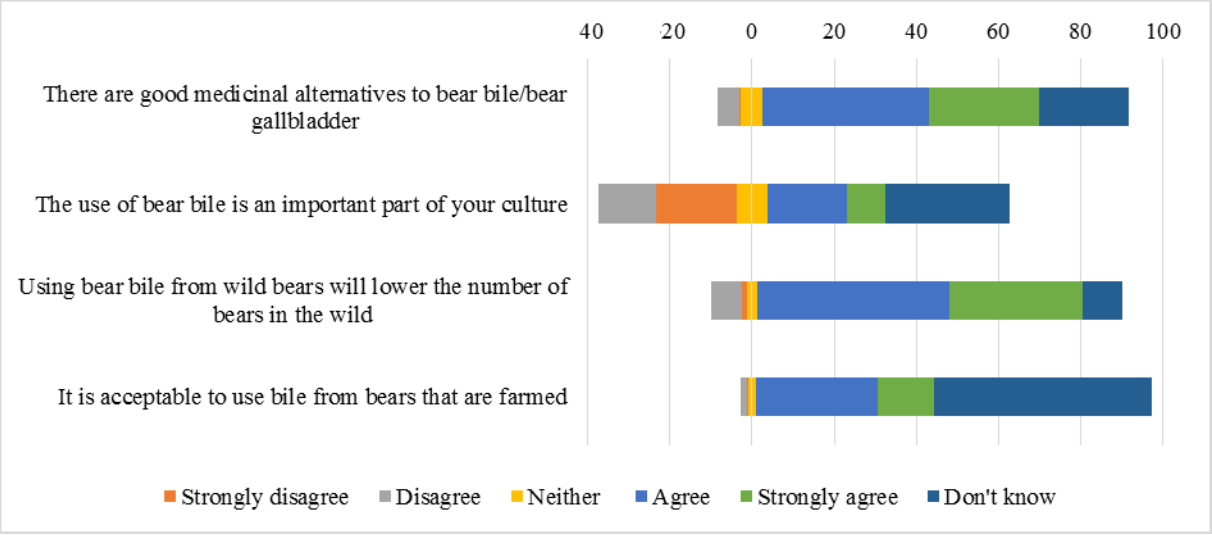


Figure 4.24 Stacked bar chart representing the distribution of local views on bear bile use (as %, N=263)

4.3.6.1 *Views on bear bile in terms of genders*

Another important aspect of a survey is to determine whether the different sexes have measurably different attitudes towards bear bile use. The six degrees of attitudes were categorized into 4 answers: “disagree”; “neither”; “agree”; “don’t know.” “Strongly disagree” and “disagree” were placed into one category of answer (“disagree”) while “strongly agree” and “agree” were likewise grouped as two possible degrees of a single answer (“agree”).

When asked statements associated with common views on bear bile use (see Figure 4.25), both male and female respondents answered similarly. Most male and female responds agreed that bear bile had medicinal value and bear bile from wild bears had higher medicinal value than that obtained from bears bred in farms. Most male and female respondents disagreed that it was easy to find places to buy bear bile.

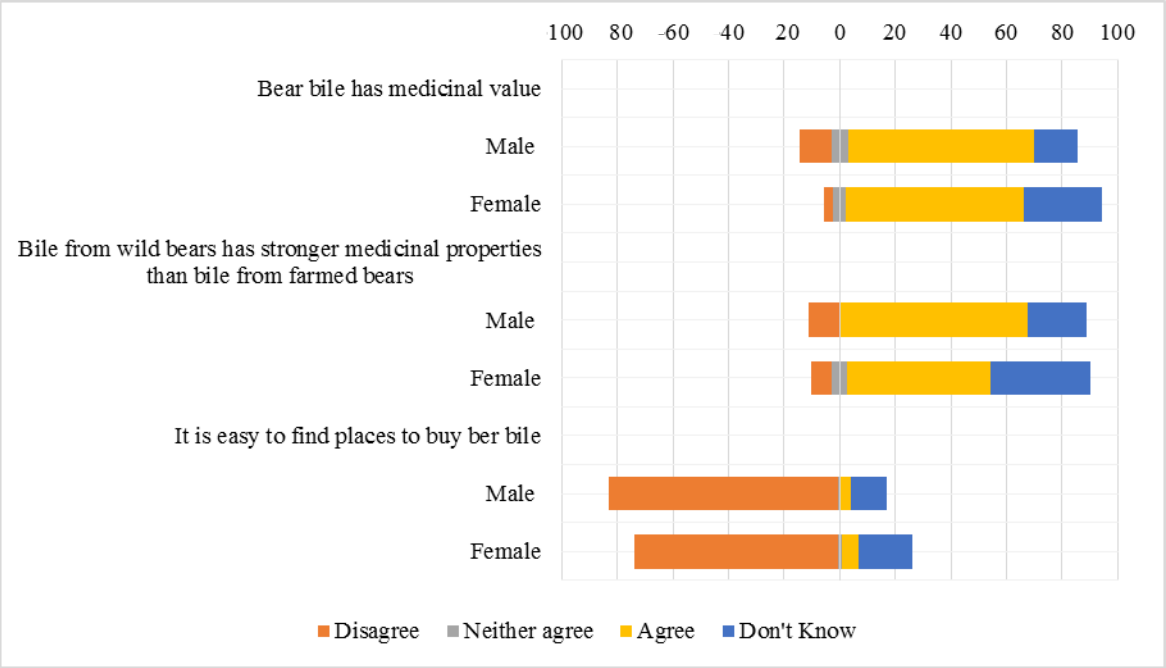


Figure 4.25 Stacked bar showing the attitudes towards statements associated with common views on bear bile use regarding different sexes (as %, N=263)

When asked further statements regarding bear bile use, most respondents of both sexes gave the same kinds of answers. Most male and female respondents agreed that there were good

medicinal alternatives to bear bile/bear gallbladder; that consuming bile from wild bears would lower the numbers of bears in Lao PDR; and that bile acquired from bears bred in farms was acceptable. Furthermore, there were similar percentages of male and female respondents who either agreed or disagreed that consuming bear bile was an important part of their culture (Figure 4.26).

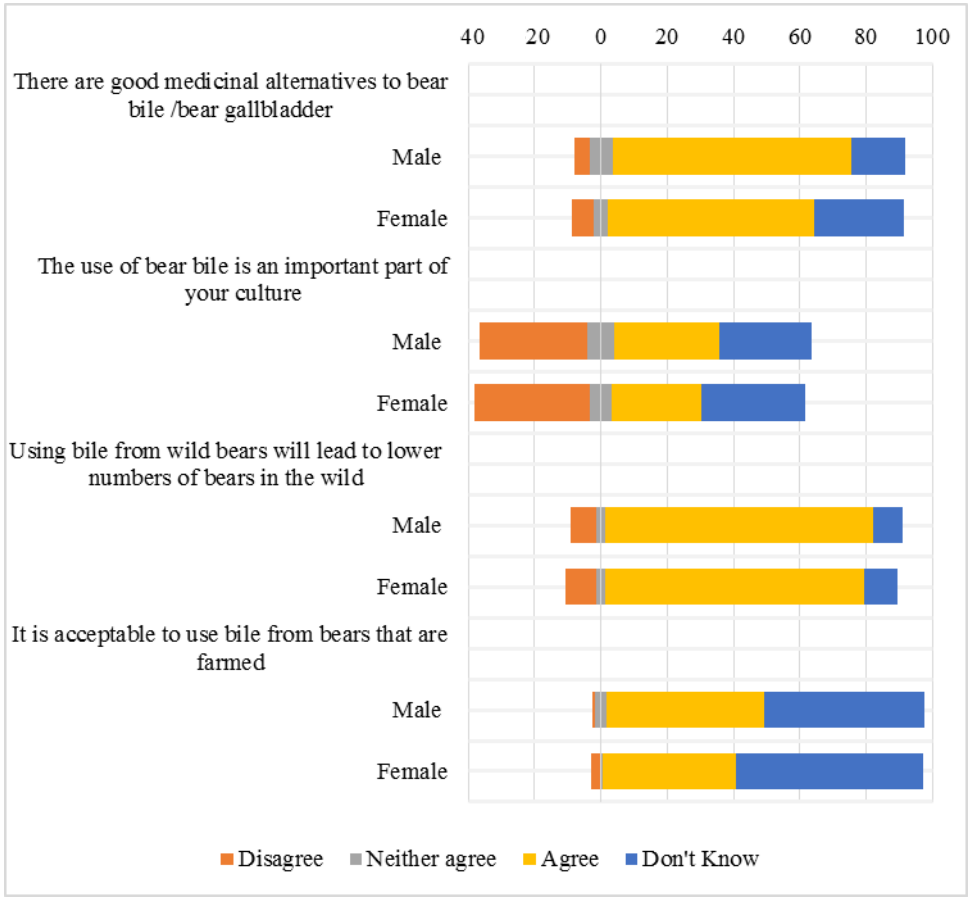


Figure 4.26 Stacked bar showing respondents attitudes towards bear bile statements use regarding two sexes (as %, N=263)

4.3.6.2 Views on bear bile in terms of age ranges

Ages are other factors that might affect the attitudes of locals towards bear bile use. Figure 4.27 shows the percentages of respondents with different ages who gave answers when they were asked three statements associated common views on bear bile use. Most respondents in all age groups gave similar answers regarding the first two statements: most respondents in all

age ranges agreed that bear bile had medicinal value and that bile from wild bears had higher medicinal value than bile from farmed bears, while they disagreed with the third statement that it was easy to find places to buy bear bile (see Figure 4.27).

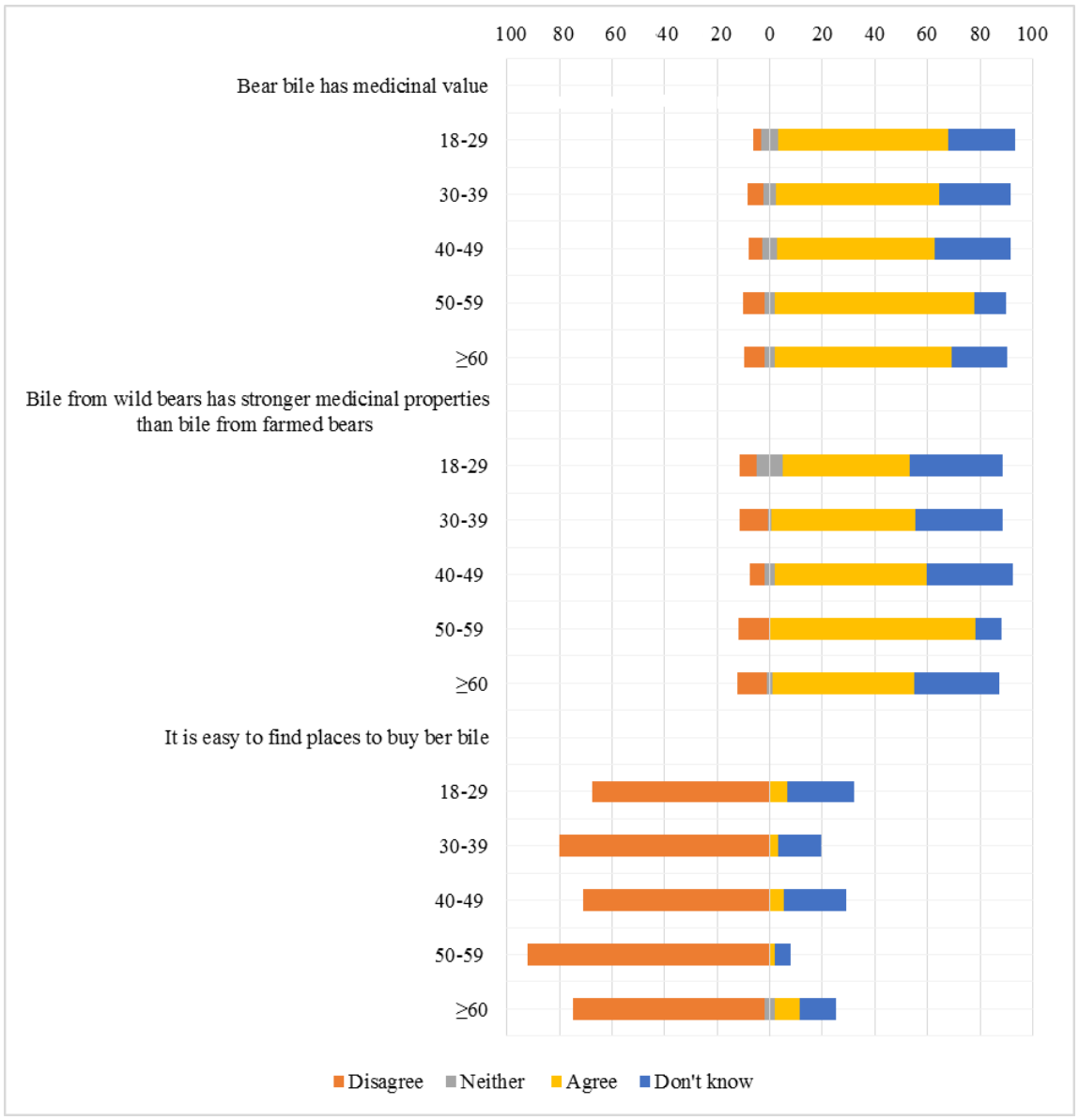


Figure 4.27 Stacked bars showing the answers of respondents with different ages when asked with the first three statements associated bear bile use (as %, N=254)

When asked further statements, the answers given by respondents in all age ranges were along the same patterns as well. Most respondents in every age group agreed that there were good medicinal alternatives to bear bile/bear gallbladder; that consuming bear bile would lower the

number of bear in Lao PDR; and that bile acquired from bears bred in farms was acceptable. Some of the respondents in every age range agreed that consuming bear bile was an important part of their culture, albeit some of them did not think so. However, there are some interesting finds that can be seen from Figure 4.28. There were higher percentages of respondents in their 50s and 60s than those in other age categories who agreed that the use of bear bile was an important part of their culture and it was acceptable to use bile from farmed bears.

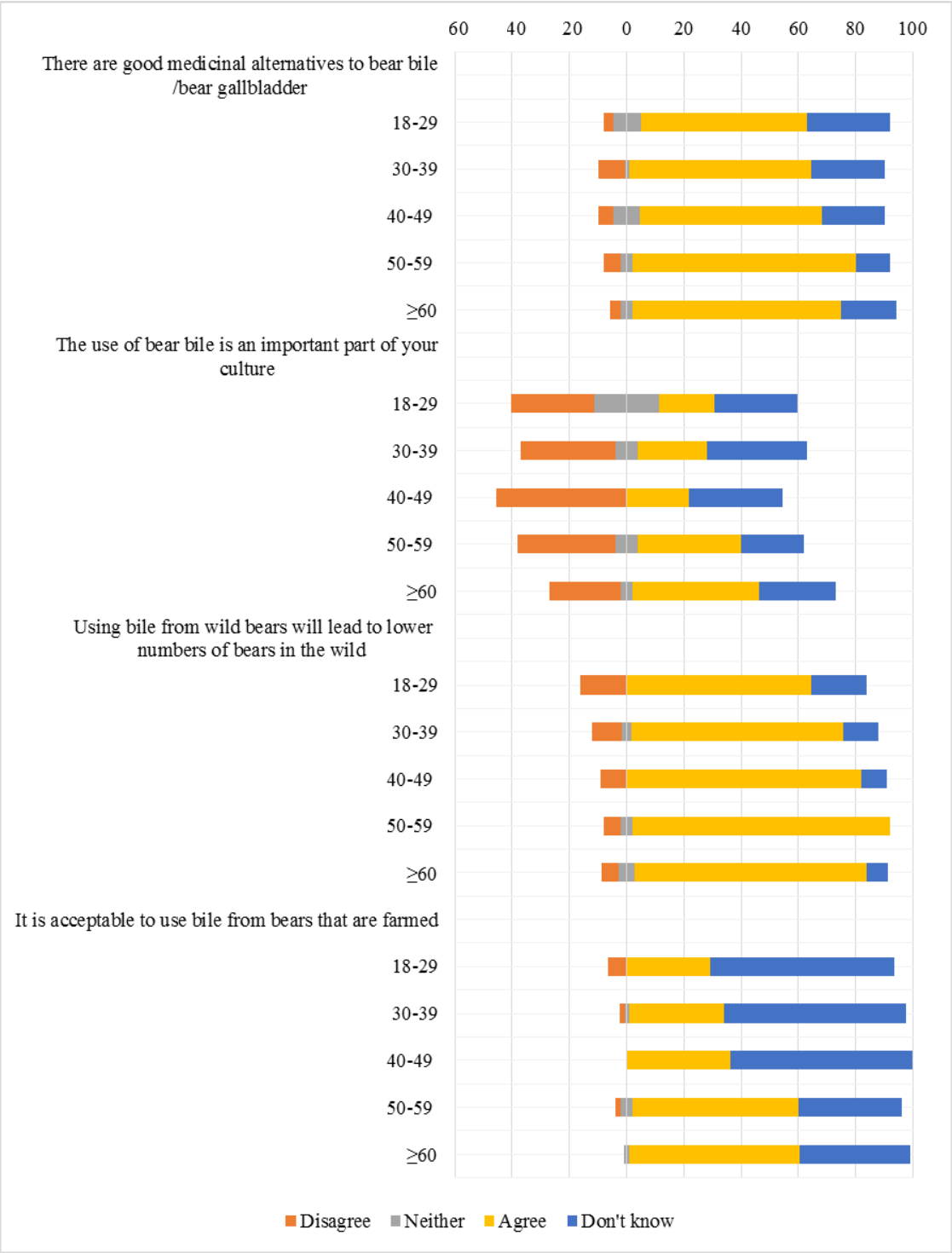


Figure 4.28 Stacked bar showing the answers given by respondents regarding each rang of age when asked with further statement concerning bear bile use (as%, N=254)

4.3.6.3 Views on bear bile regarding socio-economic profiles

Figures 4.29 and 4.30 show respondents' views on bear bile use regarding their socio-economic profiles. Respondents have been categorized into 4 groups based on the number of assets they possessed (the group that owned no assets has been omitted because it makes up only 1.9% of total respondents). Every group of respondents showed a similar pattern of views on bear bile use regardless of their relative material status.

When they were asked three statements associated with common views on bear bile use (Figure 4.29), most respondents in all groups agreed that bear bile had medicinal value and that bile from wild bears had higher medicinal value than bile from farmed bears. They also disagreed that it was easy to find places to buy bear bile. However, whilst fewer than 7% of total respondents in each group disagreed that bear bile had medicinal value, 20% of respondents who owned 7-9 assets who disagreed with the statement.

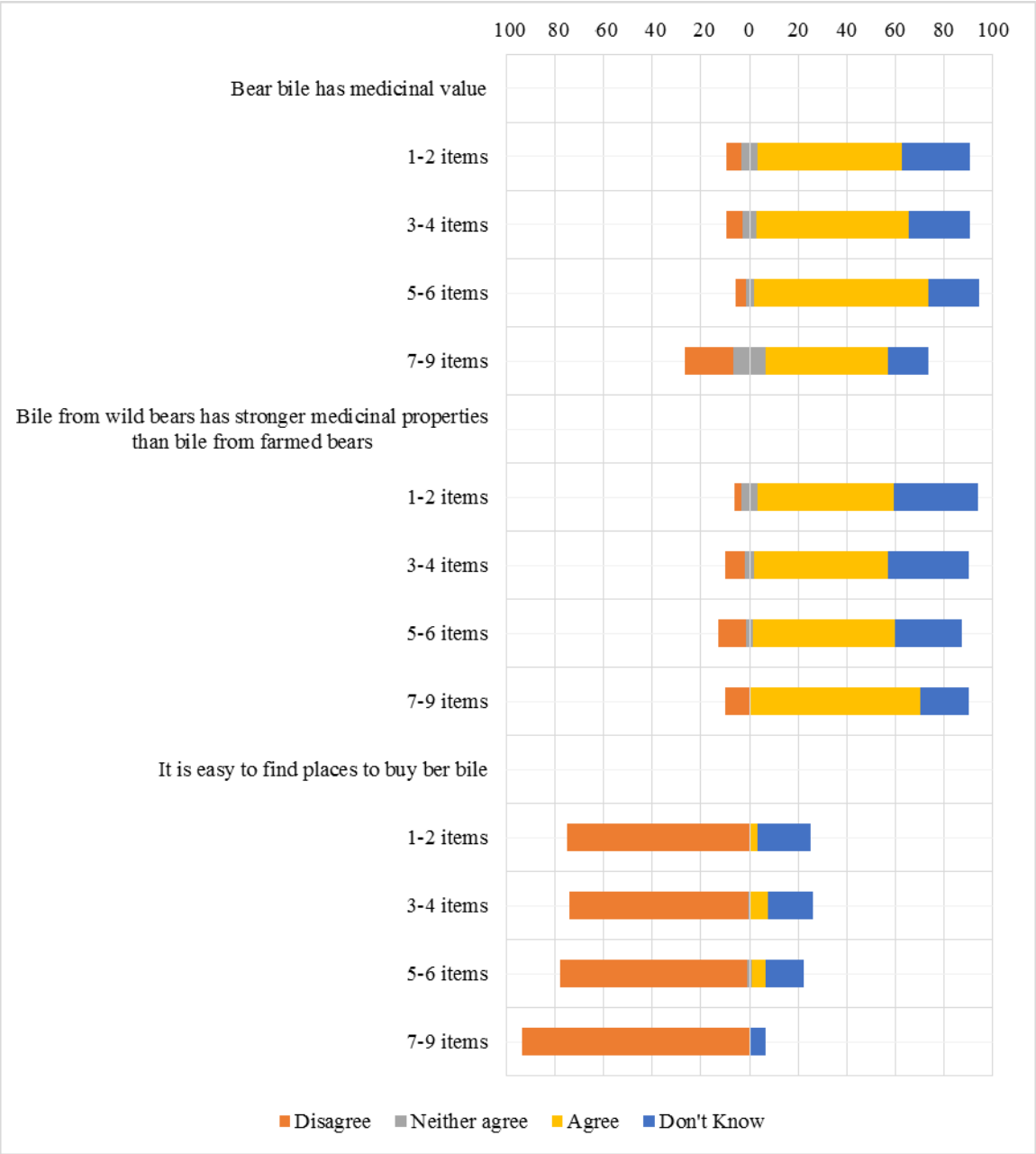


Figure 4.29 Stacked bar chart showing respondents attitudes towards bear bile statements use regarding numbers of items that were owned by respondents (as %, N=263)

By the same token, when asked whether they agreed with further statements associated with bear bile use, most respondents in every group agreed that there were good medicinal alternatives to bear bile/bear gallbladder; that consuming bear bile would lower the number of bears in Lao PDR; and that acquiring bile from bears bred in farms was acceptable. Some of the respondents in every asset range agreed that consuming bear bile was an important part of their culture, although some did not think so.

However, when compared with respondents that owned 7-9 items, there were only 46.9 % of total respondents in the group that owned 1-2 items who agreed that there were good medicinal alternatives to bear bile. There were as many as 83.3% of total respondents who owned 7-9 assets that did agree. Moreover, there were 18.8% of total respondents in the group that owned 1-2 items who disagreed that there were good alternatives to bear bile, whereas fewer than 7% of total respondents in other groups did not agree (Figure 4.30).

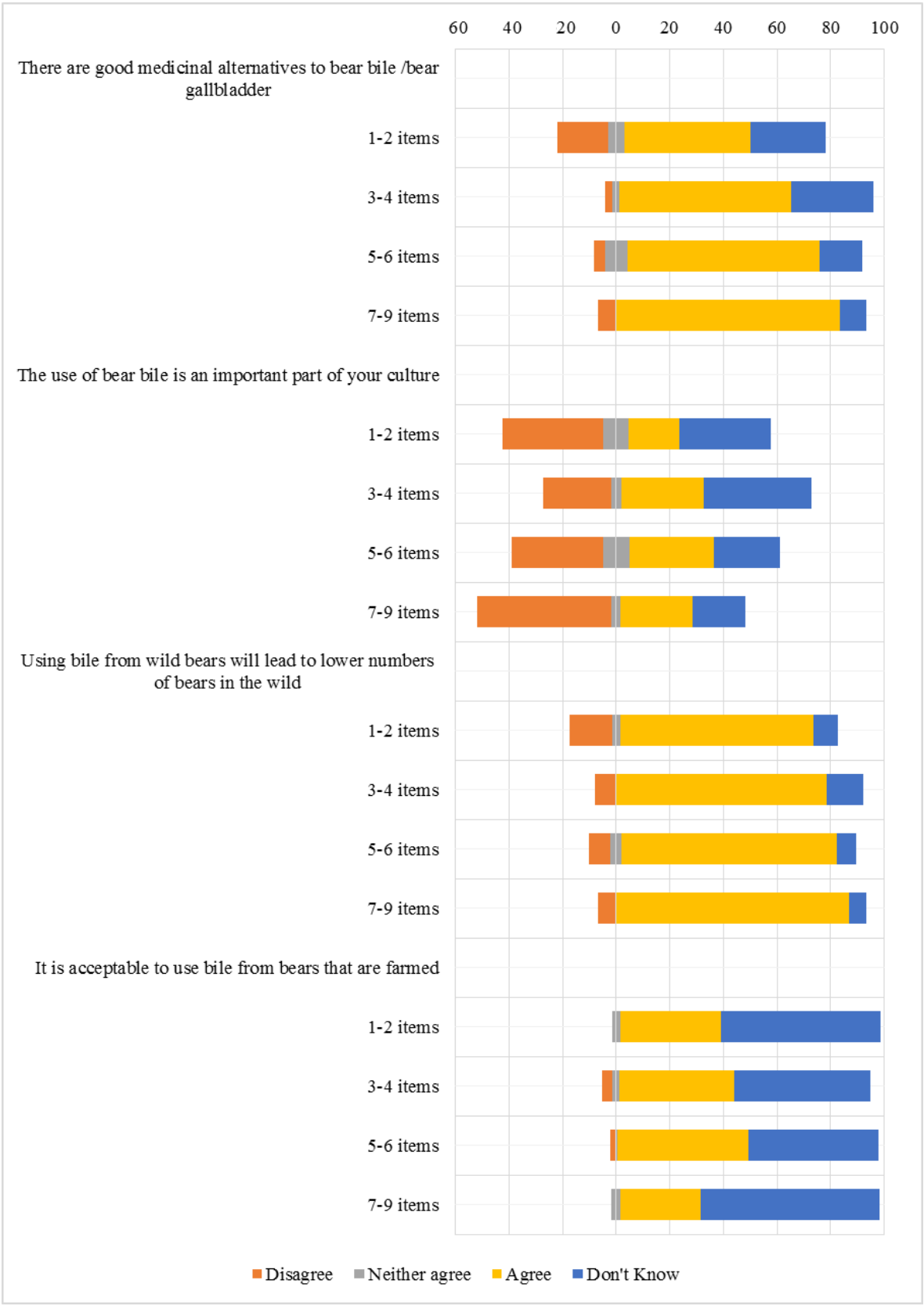


Figure 4.30 Stacked bar chart showing respondents attitudes towards bear bile statements use regarding numbers of items that were owned by respondents (as %, N=263)

4.3.7Local views on the efficiency of western and traditional medicine

The survey respondents were asked which form of medicine they thought was the most effective so as to access local views on the perceived efficiency of western and traditional medicine. More than half of all respondents (56.3%) replied that a combination of western and traditional medicine was the most effective (Figure 4.31), followed by western medicine only, then traditional medicine.

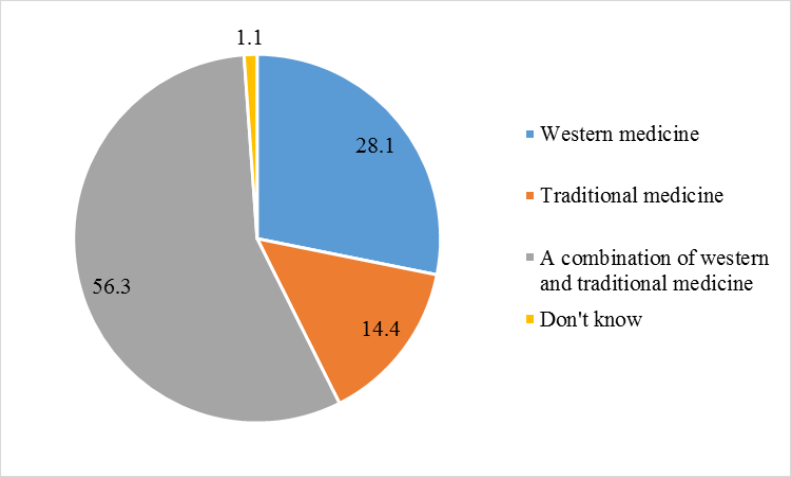


Figure 4.31 Pie chart representing respondents' views on the efficacy of western and traditional medicine (as %, N=263)

4.3.8 The use of bear bile for specific ailments

In order to learn that what types of medicine are used and whether there were any specific ailments for which they resorted to bear bile as a cure, respondents were asked about ailments they had had in the past 12 months and what types of medicine they used as palliatives for those ailment.

Figure 4.32 shows the percentages of respondents who said they had suffered from one or more of the following ailments for which bear bile might be used as a cure in the past 12

months: sores, hemorrhoids, sprains, bruising, muscle ailments, liver diseases and other diseases (Feng 2009 and EVN 2010).

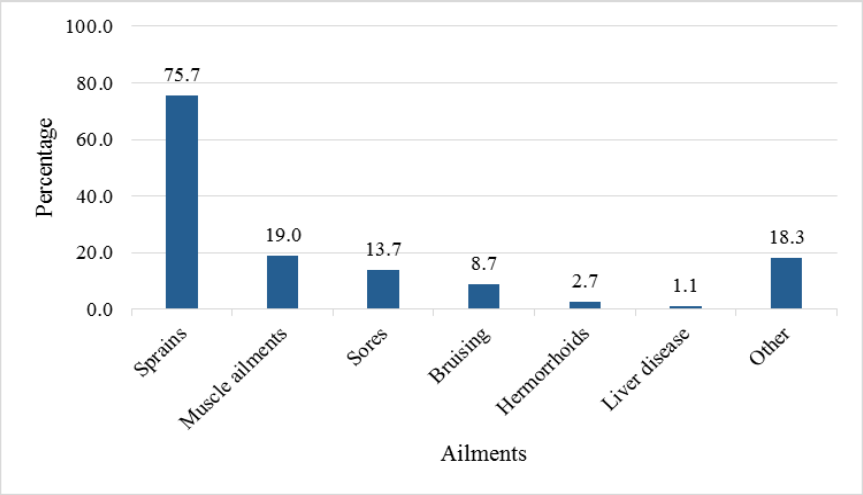


Figure 4.32 Bar chart showing ailments respondents had had in the past 12 months (N=263)

However, most respondents used western medicine (83.7%) and herbal medicine (45.2%) to treat the abovementioned ailments, whereas only 0.8%, or 2 people, used synthetic bear bile to treat heart disease, intestinal disease and hemorrhoids (Figure 4.33). Another 0.8%, or 2 people, used farmed bear bile to treat sprains, stomach ulcer, bruising and liver disease.

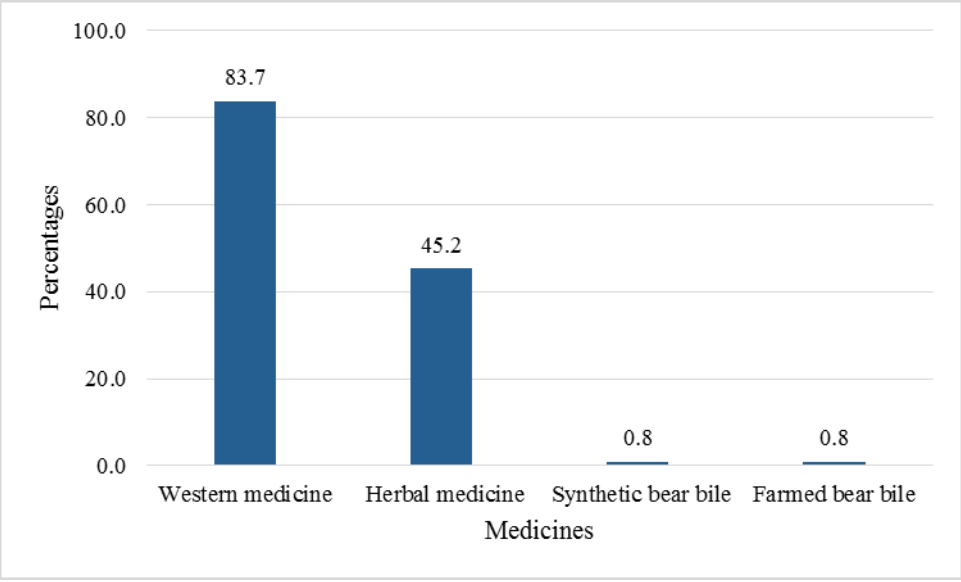


Figure 4.33 Bar chart showing the forms of medicine used to cure ailments by respondents (N=263)

4.3.9 Conclusion

The results shows that a high percentage of respondents (> 70%) had positive attitudes towards bears. More than 80% of all respondents had positive attitudes towards environmental conservation and the existing bear sanctuary.

More than 80% of all respondents said they valued traditional healers, western medical experts and religious leaders, and more than half of male respondents said they highly valued traditional healers. The high percentage of respondents who valued traditional medicine indicates that many respondents might have a tendency to value the medicinal efficacy of bear bile.

Most respondents said they knew that hunting bears and consuming bear products in Lao PDR is illegal. However, many respondents (30.9%) thought that the number of bears in Lao PDR was increasing, despite widely available evidence to the contrary. This means that most respondents were familiar with Lao wildlife conservation laws but they lacked the knowledge about the present situations of wild bear populations in Lao PDR.

The results also show that a high percentage of respondents did not understand about bear farming: 71% said they believed that most bears kept at farms were born in captivity and 46.2% said they thought it was not possible to extract bile from a bear without killing it.

A significant number of respondents said that they valued the opinions of people who used bear bile in the past and would do so in the future. They also thought that most people agreed that they should use bear bile and that many of their closest relatives and friends might do so. This indicates a prevalent social consensus of commonly held views pertaining to the benefits of using bear bile as an effective form of medicine.

Most respondents had positive views towards the use of bear bile. They thought that bear bile had medicinal value; that bile obtained from wild bears had stronger medicinal properties than that obtained from farmed bears; and that it was acceptable to consume bile from farmed bears. However, most (77.1%) agreed than it was difficult to find places where they could buy bear bile and most (67.3%) also agreed that there were good medicinal alternatives to bear bile and bear gall bladder. Most respondents (33.9%) disagreed that the use of bear bile is an important part of their culture. An interesting result is that a high percentage of respondents (79.1%) acknowledged that using bear bile could lower the number of bears in the wild.

Male and female respondents had similar patterns of views towards bear bile use, which indicates that a difference in sex did not markedly affect the views expressed in this study.

Respondents in all age ranges, too, had similar patterns of views towards bear bile use. However, comparatively higher percentages of respondents in their 50s and 60s than those in other age categories thought that consuming bear bile was an important part of their culture and it was acceptable to use bile from bears bred in farms.

By the same token, most respondents in different groups of socio-economic profiles tended to have similar views towards bear bile use. However, a comparatively higher percentage (more than twice) of total respondents who owned 7-9 assets than those in other groups disagreed that bear bile had medicinal value. On the contrary, a comparatively higher percentage (more than twice) of total respondents who owned 1-2 assets than other groups disagreed that there were good alternative medicines to bear bile. Also in this group was the lowest percentage of respondents who agreed with the statement regarding good alternative medicines to bear bile.

More than a half of respondents (56.3%) thought that a combination of western and traditional medicines was the most effective treatment for ailments. This information corresponds to the forms of medicine that respondents had used to treat ailments that they had suffered from in the past 12 months: 83.3% of all respondents had used western medicine and 45.2% had used herbal curatives to treat their ailments.

4.4 Insights from community representatives

This section presents further information about communities' attitudes toward bears, bear bile use and wildlife conservation. In order to learn some insights that could not be acquired from the structured survey, village heads from the five villages as representatives of the individual communities were interviewed at length as village heads are chosen by villagers[13]. They were all male.

4.4.1 Attitudes towards bears and bears in the wild

When asked how they felt about wild bears and efforts to house rescued bears nearby at a newly constructed sanctuary, some of the village heads contended that bears were dangerous and thus had to be kept safely away from people:

> "Bears eat people, so the sanctuary should have all safety systems in place to protect people (LPWRC)."

> "Bears are dangerous. They can attack people and animals."

> "I have never seen wild bears here, only at Tat Kuang Si (the existing bear sanctuary). I am afraid of bears. They attack people. I have heard it said that before, maybe a hundred years ago, there were many bears and many attacks on people. However, for the past 40-50 years, I have never heard about a case that a bear attacked people."

[13] Information provided by the village heads

However, all of the interviewees also had positive attitudes towards wild bears. They thought that bears were important for the environment and there were only a small number of bears in Lao PDR.

> "Bears are good for the environment. They are important part of it. In the past, there was a lot of wildlife, but now there are very few bears."

> "One bear was found near here last year. I was delighted that there were still some wild animals [like that] in the forest."

> "I like bears because it is hard to see them. Only if you go to see bears at Tat Kuang Si or the zoo in Vientiane (the capital of Lao PDR)."

4.4.2 Attitudes towards bear bile use

When the representatives were asked what they thought about the medicinal property of bear bile, they gave answers that can be divided into 3 categories.

Category 1 is when the representative did not know about the medicinal property of bear bile.

> "I have never seen any villagers using bear bile. I heard somebody say it had medicinal potential but I do not know how good it is and I do not know whether it has real medicinal value or not."

Category 2 when the representatives did not believe that bear bile had medicinal property.

> "Personally, I do not think that bear bile is good for curing diseases. You have to go and see a doctor to check for diseases."

> "Bear bile is not good for us because, firstly, it is very expensive and, secondly, it is very hard to find and, thirdly, we do not know whether what they are selling is real bear bile. We do not buy bear bile. It is better to go and see a doctor."

Category 3 is when the representatives believed that bear bile had high medicinal value.

> "Bears are valuable animals. They have [parts that are] potent medicines."

> "People who have more money want to get bear bile. It is the best medicine among all others, including western medicine. People who do not have money will have to choose normal medicine. Some diseases can be cured only by bear bile."

> "Bears are protected animals. They are also valuable animals for people to cure many diseases."

> "Pure bear bile or bear bile that is not mixed with anything has more medicinal value than western cures. It also depends on what types of diseases people have. Bear bile can be more effective in curing thalassemia than western medicine."

> "Bear bile is good for medicine but I do not know whether it is better than western medicine because I have never used it to cure diseases. However, one of my friends brought it to me to give it a try and I felt good; I felt that my body was lighter."

The representatives were later asked whether they knew about bear farms. Some did not, however, some stated they knew about bear farms but had never seen them in person, i.e. they only had heard about them.

> "I have heard about bear farms, but I have never seen one."

> "There is no bear farm in Luang Prabang. People import bear bile from other provinces and countries. My parents used to buy bear bile from Chinese people."

The representatives who had known about bear farms were later asked what they thought about them. Some representatives supported the idea of bear farms.

> "If we have bear farms, we can extract bear bile for medicine."

However, some of them did not agree with the practice of bear farming.

> "Bears should be conserved because there are too few of them left."

4.4.3 Attitudes towards Tat Kuang Si Bear Rescue center, the existing bear sanctuary

The representatives were asked to explain what they thought about the Tat Kunag Si Bear Rescue Center. All village representatives showed positive attitudes towards the sanctuary as they could get benefits from it.

> "The villagers can get benefit form Tat Kaung Si. Sometimes tourists drop by our village and companies (tourist companies) pay some money to the villagers."

> "It [Tat Kuang Si Bear Sanctuary] is open for tourists. The locals can do other things than farming such as selling goods. They can earn money to boost their financial situations."

> "People have jobs there. Some money that is acquired from the sanctuary can be used to developed villages and households."

> "We sell some produce as bear food to Tat Kuang Si. Sometimes the staff there come here to buy bananas for bears."

However, the representatives also supported the existing bear sanctuary for another reason, which was that they agreed with efforts to conserve bears.

> "I agree with [people at] Tat Kuang Si because they take care of bears rescued form traffickers… Sometimes wild animals such as bears and tigers are seized from smugglers at the boundary between Laos and Vietnam."

To learn whether there were negative attitudes towards the existing bear sanctuary among the representatives, they were also asked if there were any negative impacts from the bear sanctuary to other local people. All of them said that there was no harm resulting from the bear sanctuary.

> "There are no negative effects from Tat Kaung Si. I think there are only good people coming here."

"The Tat Kuang Si bear sanctuary has been here for a long time, and I have never seen any negative impacts. It has only increased income for the locals."

"The Tat Kuang Si bear sanctuary has good safety systems. There is no disadvantage. I do not worry about it."

4.4.4 Attitudes towards LPWRC organizations working on conservation of bears and other species

In order to learn of the representatives' attitudes towards LPWRC, firstly they were asked whether they thought the new bear sanctuary which would be constructed close to their homes would bring benefits to people in the villages. There were many reasons the representatives gave to show why they supported LPWRC.

First, they were expecting to get benefits from the increased presence of domestic and foreign tourists.

"Many tourists will come to visit the sanctuary. Money from tourists can be used for developing local villages."

"Benefits that the locals might get are that they can get some incomes from selling vegetables for bear food. Tourists also will come here and buy some produce from the locals."

"The roads will be improved. The locals can sell their produce or they can build accommodations for rent. I am glad and hope everything will improve."

"There will be many tourists, some of them foreigners. The locals will get some money from tourism."

"I am happy that the government decided to build the new bear sanctuary here. People will have more jobs and they can improve their financial situation. People here are poor. We want to help them get out of poverty."

The second reason that the representatives gave for endorsing the new sanctuary was that locals would be able to get bear bile from there in future.

> "The advantages the villagers may get from the bear sanctuary are firstly that they can ask to buy bear bile from the sanctuary."

> "I'm happy that in the future this can be a sanctuary that will produce many bears and lots of bile. The government may have a policy to distribute bear bile to cure diseases. It might happen in future."

However, a final reason that the representatives gave was that the sanctuary would help preserve the animals, even if locals might not personally benefit from the bears there (such as by obtaining bile from them).

> "Even though the locals cannot get benefits or get bear bile from the bear sanctuary, it is still a good effort because it will help conserve bears."

> "Bears and tigers should be protected as there are not many of them left in the wild."

> "It is good if there are conservation efforts to save wildlife and bears. Firstly, there are no [wild] bears in Luang Prabang. Secondly, children can go to see bears. They have never seen wildlife. They have only heard of them."

Next, the representatives were asked what negative impacts the new bear sanctuary might generate for locals. Some of them raised concerns. Of particular concern were fears that bears, which are regarded as dangerous animals, might be able to escape from their confines and harm locals or their livestock.

> "Bears might accidentally sneak out and attack people. I have rice paddies on the boundary with the new bear sanctuary so I am concerned."

> "Children or people who are not aware of the danger might sneak into the sanctuary and be attacked by the bears there."

Another concern expressed by the interviewees related to the risk of diseases that might be spread by bears brought from other areas.

> "Some bears brought from other places might bring some contagious diseases to these areas. Even though there has been no such case happening in our area, the sanctuary will be run for many years and diseases that are brought by the bears might be spread to people."

Lastly, one of the interviewees expressed concerns that bad smells might emanate from the enclosures of bears kept in the vicinity.

> "I would like to know and ask the organization that is building the new bear sanctuary how many bears will be kept in the sanctuary as they can produce a heavy smell which will impact the environment."

The representatives were then asked what they thought about organizations working on the conservation of bears and other species. Positive attitudes were expressed by the representatives, all of whom agreed that wildlife in the country needs to be conserved.

> "If there are organizations who conserve wild animals that have almost gone extinct, I agree with them. Nowadays, there are not even deer or wild pigs in the forest here."

However, a lack of communication and interaction between LPWRC and nearby communities could be observed from some of the views expressed by the village heads. The lack of communication and interaction can negatively impact the attitudes of villagers towards LPWRC.

> "It is good to have conservationists working here but I would like them to come and inform the locals in detail about the animals they are going to conserve; how they keep the animals and what advantages or disadvantages there will be for villagers. For example, if bear conservationists inform me about these details, I as a village chief can inform my people about the advantages and disadvantages of the new sanctuary. Otherwise, we should warn our kids not to go near the place."

4.4.5 Conclusion

The results of the interviews show that even though the village representatives expressed a certain degree of apprehension about bears because of their predatory nature, they had

generally positive attitudes towards bears. They expressed the view that bears were good for the environment but there were not many of them left in the wild in Lao PDR.

Some village representatives said they believed that bear bile had medicinal properties; however, some did not believe so. The other representatives did not know about the exact nature of the alleged medicinal property of bear bile.

There were village representatives who knew about bear farms only by having heard about them, while some did not seem to know about bear farms even from hearsay. Some supported the view that the Lao government should allow people to run bear farms for extracting bear bile for medicine. Others, however, did not support the view that bear farms should be allowed to operate, citing the small number of bears left in the wild.

All village representatives interviewed expressed positive attitudes towards the existing bear sanctuary. They said villagers could get benefits from increased tourism, more employment opportunities and selling produce for bear food. Moreover, village representatives thought that the existing bear sanctuary served an important purpose by looking after rescued animals. None of the village heads expressed any negative attitudes towards the sanctuary.

The village heads also had positive attitudes towards LPWRC. They said they expected it to be beneficial to local people. LPWRC was expected to draw a number of domestic and foreign tourists, which could be a new source of income for local people. Villagers could sell some of their produce for bear food. However, some village representatives also expressed hope that in the future the government might allow people to obtain bear bile for medicine from the sanctuary, which indicated that they remained uncertain of the modus operandi of the sanctuary which would prohibit any such exploitative practices aimed at resident animals. The

representatives said they supported the mission of LPWRC because the sanctuary would help preserve bears.

However, the village heads expressed certain reservations about the new bear sanctuary. The village representatives voiced concerns that some bears might escape from their confines and harm locals or their livestock. They also said that bears moved from other areas could bring diseases with them. Furthermore, they worried about smells that might emanate from enclosures. A perceived lack of communication between LPWRC and nearby communities also resulted in negative attitudes among the village representatives.

Regarding organizations that work in the field of wildlife conservation, the village representatives expressed support, saying that because some wild animals had almost gone extinct, they should be conserved.

4.5 Public relations outreach projects and bear management policies

This section presents the policies of FTB has and is planning to employ in order to boost public relations with communities around LPWRC, the new bear sanctuary. A semi-structured interview was conducted with the nonprofit's CEO.

When asked whether FTB had policies that would help ensure that LPWRC enjoyed increased cooperation from local people to help conserve bears, the group's representative said FTB would have free guided tours in LPWRC for local people in order to help them better understand conservation issues pertaining to bears and to foster increased appreciation for the animals.

> "A lack of awareness is one of the biggest issues here [in Lao PDR] at the present. The bear sanctuary is a very important place to build awareness and connection between people and the animals. [Local people] will not just see animals in the forest that they are afraid of or might hunt for their body parts. We want to bring people to the bear sanctuary, show them the bears, tell them their stories, tell them about their personalities and how smart they are. It can be a practical way of trying to boost affection for the bears and support for bear conservation [in local communities]."

The representative also emphasized the prevailing differences in commonly held views between people in the west and Asia as regards wildlife and wildlife conservation. This is why, he said, FTB deems it important to have such outreach policies in place so as to encourage increased cooperation from the locals.

> "You have to recognize the culture differences between the west and Asia. There is a very utilitarian mindset here [whereby locals] treat wildlife as sources of food or medicine, whereas people in western nations [have generally] moved further away from living in close proximity to wildlife and have as a result become more affectionate towards wildlife. [People in the West] see something on TV [about wild animals], they read something in books. They see wildlife in a controlled way. They do not see any direct negative impact on their way of life. But here we know bears go into farms so they can create human-bear conflicts. We would like to see a growth in affection towards bears but you have to be aware that is not necessarily the ultimate goal. It's enough if local people just understand that these bears are predators in the wild where they have lived for many generations and that if people continue to hunt them they won't be around much longer. So that may be a more effective way of talking to people and encouraging them to help conserve bears.

The FTB representative was later asked if he thought there might arise any conflicts between local people and bears at the bear sanctuary. The representative said FTB did not expect any conflicts to arise because LPWRC had policies to create jobs for locals and engage in other income-generation projects such as by buying produce from locals for bear food.

> "This sanctuary is quite big and it is going to be a big source of employment. There are going to be a lot of jobs for people. Apart from people working for us, we are going to try to help the local communities to grow some of the food we feed to the bears because we buy a lot of food from local people every month. At the moment they are growing onions up there, so we'll try to get

> them to grow bananas, cucumbers, different vegetables, which will means a steady source of income for people."

However, the representative added that the Tat Kuang Si Bear Rescue Center did once become a source of conflict with local people over complaints that water from the rescue center drained into water sources, contaminating them. In response, gutters were installed to collect water that drained from the sanctuary and the waste water was treated before being released into natural water resources. He said similar gutters would be built in LPRC to prevent the water from the new sanctuary being drained into the sources of local communities and polluting them

When asked if there were concerns that villagers' livestock might wander into the new sanctuary, the representative said that LPWRC had plans to build large solid and electric fences that would keep bears in and villagers' livestock out.

The representative was also asked about advisable policies for preventing diseases that might be brought into the area by bears rescued from other areas. He said that LPWRC had plans to build quarantines to house all newly brought bears.

Conclusion

The organization's representative stressed that FTB would have a policy of giving free guided tours in LPWRC for local people in order to increase awareness about bears and bear conservation issues. This effort could help foster locals' appreciation for bears and potentially boost their willingness to collaborate with the organization to conserve the animals. However, FTB's representative also recognized the nature of existing cultural norms that could make it difficult to achieve significant results in the short and medium term. However, it was important that local people understood better that if the animals continued to be hunted or

farmed for their bile, they might well go extinct. This could encourage them to support bear conservation efforts regardless of their feelings about the animals themselves.

The FTB representative said he did not anticipate any conflicts between local people and the new sanctuary because LPWRC would have policies in place to generate extra incomes for communities by providing jobs to local people and purchasing villagers' produce. This way villagers in the area could personally benefit from the existence of the sanctuary and its work, which would make it more likely to gain their support.

The FTB representative cited the case of only one previous conflict between the Tat Kuang Si Bear Rescue Center and local communities surrounding it. The conflict was generated by water from the rescue center that seeped into local water sources and contaminated them. However, the rescue center solved the problem by installing gutters and collecting effluents for treatment before being re-releases into natural water sources. FTB would equip the new sanctuary with similar gutters to prevent a similar issue from arising in the area.

The FTB's representative said that LPWRC also had plans to install solid and electric fences around the length of the entire property in order to confine bears securely within the sanctuary and to keep stray livestock out of the premises. Quarantines would be built to house new bears brought from elsewhere.

5 Discussion

5.1 Introduction

This chapter aims to discuss the research findings that were presented in the previous chapter.

5.2 What is the socio-demographic and economic profile of the study area?

With an increase in the illegal harvesting of wildlife that has been threatening the numbers of endangered species such as bears, collaboration from local communities is needed in order to achieve successfully sustainable wildlife conservation. As a result, attitudes towards wildlife conservation in local communities need to be assessed. An important aspect of such assessment involves investigating the socio-demographic and economic compositions of the study areas because these factors may have a measurable bearing on local attitudes towards bears and bar conservation (Arjunan *et al.* 2005).

5.2.1 What is the socio-demographic profile of the study area?

There was a notable degree of gender imbalance among research respondents. There were 114 male respondents and 149 female respondents out of the total 263 survey respondents. The average age of the men interviewed was 48.5 years (SD=13.8) and that of the women was 43.6 years (SD=12.1).

According to a recent survey, in Lao PDR the average number of members in households has decreased slightly (LSB 2015). On average, in 2005 households in the country had 5.8

members while in 2015 they had 5.3 members (LSB 2015). The results of this study correspond with this survey by attesting to the finding that the number of inhabitants in average households has been dropping because they show that respondents' households had 5.1 members on average, which was lower than the number recorded in 2015 in the aforementioned survey. However, the average number of members per household was still higher than the number (4.9 members per household) found in urban areas in 2015 in the same survey (LSB 2015).

In this current survey, most respondents were heads of households (46.8%) or husbands or wives of household heads (46.8%). Normally heads of households are the prime makers of decisions and the prime providers of provisions; therefore, their views may be taken to be more influential within households and hence can be reflective of prevalent attitudes within them. In general, the head of a Lao household is a male family member (LSB 2015). The research has also shown that in the studied communities 87% of the respondents who said that they were heads of household were male and only 13% of such respondents were female. This indicates the prevalence of a predominantly patriarchal society in the surveyed villages.

Most respondents were from the Khmu ethnic minority (73.8%). The rest were either ethnically Lao or Hmong. Regardless of their ethnic origins, most respondents expressed beliefs in traditional forms of animism and Buddhism, in relation to traditional healing techniques that ascribe curative properties to animal parts such as bear bile. This, too, has been in line with other recent research done in Lao PDR (David 2016), which states that rural villagers in the country commonly subscribe to animism and Buddhism, which place a high value on the potency of wild bear bile as a curative.

5.2.2 What is the socio-economic profile of the study area?

Even though attendance at primary and lower secondary school levels is compulsory for children in Lao PDR (LSB 2015), 8.1% of recently surveyed households had inhabitants that were functionally illiterate. A better-off family can afford to send children and young people to higher educational institutions beyond a basic level at their own expense[14]. In this current survey there were 80.2% of total surveyed households whose members could afford the intermediate level of education. An advanced educational level, however, was not prevalent in the communities. There were only 6.6% of total survey respondents whose household had the ability to provide an advanced educational level for its members.

Financially better-off families were also more likely to be able to afford better-quality materials with which to construct sturdier, more durable and safer houses for their households. Tile/Sipax and zinc were the most common materials used for roofing respondents' dwellings in the 5 surveyed villages. Brick and concrete were the most common materials used for building the walls, whereas concrete was the most common material used for flooring.

[14] Information provided by village heads and villagers

Among the five villages, Ban Xiang Mouarg was located closet to urban areas. Respondents there were better off financially, in general, and their houses were thus built with the most robust materials. All (100%) of respondents' dwellings located in Ban Xiang Mouarg had been built with tile/Sipax and zinc for roofing, while 87.2% of them had brick/concrete walls and 59.6% had used concrete for flooring. On the other hand, a higher number of respondents' households in Ban Nong Toke, Ban Tin Pa and Ban Pa Nor had been built with less robust materials that were available to residents for free. For example, grass had been used for roofing, bamboo had been used for building the walls, and bamboo and earth had been used for flooring.

Dwellings with suitable numbers of rooms provide increased privacy and comfort to their occupants. Two-room dwellings are seen as the minimum basic requirement for households in the kinds of villages surveyed, including a relatively spacious bedroom (LSB 2015). There were only 4.3% of total respondents who said their households had only 1 room. Most respondents' dwellings (64.3%) had three rooms.

Assets possessed by households can also indicate respondents' relative wealth. Most survey respondents said that they owned 5-6 types (46.5%) of those assets. Very high percentages of total respondents living in Ban Xiang Mouarg 91.5%) and Ban Pa Nor (67.3%) possessed 5-6 and 7-9 assets. This supports the conclusion above that in Ban Xiang Mouarg and Ban Panor, there were more respondents that had a better economic status than those who living in the 3 other villages: Ban Nong Toke, Ban Tin Pa and Pan Long Lao.

Motorbikes were common vehicles that were used by all groups of respondents, whereas cars and vans were only used by a small number of respondents owning 5-6 and 7-9 items of

assets. All classes of respondent were well connected by mobile phones in term of communication. However, computers and laptops were rarely possessed by respondents.

In Southeast Asia, the rural poor are engaged in various forms of subsistence living and have to depend on natural resources for their livelihood (Ananta *et. al* 2013). Even relatively small improvements in their financial situation can mean a big difference by providing improved access to safe drinking water, better sanitation and more consistent sources of electricity (Ananta *et. al* 2013).

In the surveyed villages most respondents' dwellings (87.2%) had access to electrical grids. However, in terms of access to safe drinking water, the existing infrastructure for a reliable water supply appeared to be limited. Only 6.5% of total respondents used piped water, whereas most of them (91.7%) drank water from unprotected natural sources such as rivers/streams/dams, mountain sources and unprotected wells/boreholes.

Compared to the national level where a 65% of households had access to some form of sanitation facility (LSB 2015), the proportion of the survey participants' households was relatively higher: most participants (77.9%) said that their households had access to a toilet facility.

According to The Lao Statistics Bureau's' criteria (LSB 2015), the five villages can be classifies as "rural."

5.3 What are the locals' attitudes towards bears and environmental conservation?

In order for bear conservation to be effective, conservationists need to have a clear image of locals' attitudes towards bears and their perceptions of the animals.

In surveyed communities villagers generally saw bears as dangerous predators that could harm them and their livestock; however, most people appear not to have had any direct conflict with wild bears. They had only seen bears within enclosures at the Tat Kuang Si Bear Sanctuary. Such indirect experience with bears in such controlled settings could be a cause of more positive attitudes among locals towards bears. A high percentage of respondents (>70%) expressed favorable views towards bears. The villages' representatives, who were independently interviewed during the survey, expressed views that the presence of bears in the wild was beneficial.

Positive attitudes towards environmental conservation was also manifest within the surveyed communities. More than 80% of all respondents had positive attitudes towards Lao Forestry services, conservation workers and the Tat Kuang Si Bear Rescue Center. This indicates that villagers had experienced no negative impacts from conservation efforts and that they also understood the need for such efforts to continue. One of the village representatives stated: "If there are organizations who conserve wild animals that have almost gone extinct, I agree with them."

Therefore, building on such positive attitudes among locals towards bears and environmental conservation is of vital importance. Conservation efforts should go hand in hand with educational, community outreach and awareness-raising initiatives in order to boost local people's appreciation of endangered wild animals and foster better understanding of conservation and the need for it. Such initiatives could include free guided tours for locals at the new bear sanctuary and educational workshops in the villages pertaining to bears and conservation as per the plan suggested by FTB.

Similarly, collaborative learning initiatives can both enhance community engagement in conservation efforts and improve the efficiency of these efforts (Daniels and Walker 1996; Wals 2009). Therefore, members of communities should be enlisted for regular and systematic information-sharing, dialogue and discussion. Local people tend to be intimately familiar with their environment and are thus in a position to provide valuable advice and information to conservationists that may prove key in identifying and addressing policy challenges. By seeking to treat them as equal partners in conservation efforts, FTB can also foster increased goodwill and improved participation from local communities.

5.4 What is locals' understanding of bears and bear conservation?

The villagers in surveyed communities appeared to be familiar with Lao wildlife conservation laws. More than 60% of respondents knew that hunting bears and consuming their parts were illegal. One of the village heads observed, during an interview conducted as part of the research: "the Lao government always has announcements about what animals are protected and illegal to hunt."

However, many villagers tended to lack sufficient knowledge about the present situation of wild bears in Lao PDR, whose number has been decreasing. This could partly be explained by the fact that they are aware of ongoing conservation efforts to protect bears and might deem such efforts more successful than they actually are in terms of their success rate in boosting the number of wild bears. As one of the village heads has put it explicitly: "There is bear conservation and there are bear sanctuaries now so I believe that the number of bears is increasing."

However, the nature of bear farming practices was inadequately understood by members of the communities. Most respondents (46.2%) believed that it was impossible to obtain bear bile without killing bears, which indicates that they were unfamiliar with the actual practice of bile farming. One of the village heads wondered: "How can we get bear bile without cutting a bear's stomach open?" One reason for such misunderstandings could be that in Lao PDR bear farming practices are relatively new and no such farms operate in the near vicinity of the surveyed villages. Bear farming became a growth industry in Lao PDR only after Vietnam banned bile farming in 2006 (MacGregor 2010; Actman 2016).

The highest percentage of respondents (71.8%) also believed that most bears kept at farms were born in captivity. This is in contrast to the findings of recent studies that show that many bears raised at farms had been illegally taken from the wild or had been imported from outside the country (Hance 2015; Actman 2016). Therefore, it is important that villagers receive correct and up-to-date information about the dramatically declining number of bears in the wild as well as bear farming practices, in addition to how such practices not only harm the wellbeing of captive animals but also pose a clear and present danger to extant wild bear populations in Lao PDR.

5.5 What are public views on bear bile use?

By far the most members of communities surveyed expressed the belief that bear bile had medicinal value. Moreover, there was also widespread consensus in said communities that reinforced commonly held views regarding the benefits of using bear bile.

More than 60% of total respondents agreed that bile obtained from wild bears had stronger medicinal properties than that obtained from farmed bears. These findings correspond to those in some previous research that found consumers often favored products harvested from wild

animals over those produced by farms, which too continues to pose a threat to wild animals (Livingstone and Shepherd 2014 and Shairp *et al.* 2016).

However, a very high percentage of respondents (77.1%) agreed that it was difficult to find places where they could buy bear bile. One reason for this could be that wildlife laws in Lao PDR forbid possessing, hunting and capturing wild bears and that locals are familiar with these laws. Many respondents agreed that "It is not possible to get bear bile because hunting bears is illegal."

Encouragingly, fewer than a third of respondents (28.9%) agreed that the use of bear bile was an important part of their culture. This indicates that widespread cultural norms pertaining to the importance of bear bile use may be on the decline. The result of this study is in line with a previous study done by Davis (2016), which suggests that unlike in China where bear bile use has long been seen as an integral part of traditional medicine as documented by old medicinal texts (Feng 2009), the increase in bear bile production in South East Asia has been caused by sudden high demand rather than by local culture.

Just as encouragingly, two-thirds of respondents (67.3%) also agreed that there were good medicinal alternatives to bear bile and bear gall bladder. Coupled with the results of the study that shows that only 1.8% of total respondents used synthetic bear bile and farmed bear bile, it is a positive sign that most people in local communities do not place an inordinately high value on the alleged medicinal properties of bear bile. If alternative medicinal treatments become more available and affordable in the area, including more remote villages[15], beliefs in the efficacy of bear bile will likely lessen in intensity further still, which will aid conservation efforts.

[15] Currently, many experienced doctors are located in Vientiane, the national capital of Lao PDR (Vongvichith 2013).

Interestingly, many members of the surveyed communities realized that continuing to consume bear bile could further threaten the number of bears in the wild as a high percentage of respondents (79.1%) acknowledged this. Although many survey respondents did not understand bear farming practices, they did accept that consuming bear bile acquired from animals kept at farms was harmful for the bears, which they believed had to be killed for their bile.

Respondents with different genders, ages and socio-economic profiles showed a similar pattern of the views over bear bile use in this study. However, there are some points that proved to be slightly different regarding age and socio-economic variables.

In terms of age differences, there were higher percentages of respondents in the older groups (people in their 50s and 60s) than those in younger age categories who agreed that the use of bear bile was an important part of their culture and that it was acceptable to use bile obtained from farmed bears.

As regards the socio-economic perspective, the highest percentage of respondents who disagreed that bear bile had medicinal value belonged to the relatively wealthiest group: the highest percentage also agreed there were good alternative medicines to bear bile. On the other hand, it was in the poorest group that the highest percentage disagreed that there were good alternative medicines to bear bile and it was in this same group that the lowest percentage of all groups agreed with the statement. This indicates that respondents with lower socio-economic profiles tended to value bear bile than those who were financially better off.

These findings contrast with certain claims expressed by some of the village heads in one-on-one interviews. “Bear bile has medicinal value but it is expensive. It is consumed only by people who have more money,” one village head explained. Another village head noted that

"People who have more money want to get bear bile. It is the best medicine among all others, including western medicine. People who do not have money will have to choose normal medicine."

Such statements notwithstanding, the findings in this household survey indicate that financial improvements in the status of poorer villagers could positively influence their views on bear bile use.

5.6 What are public attitudes towards traditional and western medicine?

Bear bile has been consumed widely in Southeast Asia as an ingredient in traditional medicine to treat a variety of ailments and diseases (Feng *et. al* 2009). That is because animistic beliefs in the potency of animal parts continue to persist and people continue to ascribe almost magical healing properties to those body parts, which include bear bile (Feng *et. al* 2009).

Although western medicine has come to be widely prized by locals, such old beliefs tend to die hard. This is especially true of rural areas in Lao PDR where western medicinal practices have not yet fully penetrated (Halpern 1961). A high percentage of respondents in this current survey said that they valued traditional medicine, which indicates that many respondents might still be inclined to view bear bile as a potent curative. However, only 1.6% of respondents said they had used synthetic bear bile and farmed bear bile, whereas most respondents had resorted to western medicine and herbal alternatives.

5.7 Do incentives provided by LPWRC impact attitudes?

Normally, local people's attitudes towards wildlife conservation are dependent on their livelihoods. For example, households mostly rely on natural sources for their livelihood tend to have less concern for conservation issues, especially if they do not feel that they directly benefit from them (De Boer and Baquete 1998). On the other hand, local people come to have more positive attitudes towards wildlife conservation if and when they can perceive positive socio-economic benefits generated by conservation efforts such as ecotourism (Sekhar 2003).

This study also confirms that local communities entertained more positive attitudes towards bear conservation because they expected socio-economic benefits from the newly built sanctuary, based on the positive experience of villages located next to the existing Tat Kuang Si Bear Rescue Center. The communities surrounding LPWRC are all located in rural areas and most of their residents are farmers. These local people expected that LPWRC would provide them with new and improved sources of income. Firstly, they hoped to gain employment at LPWRC. Secondly, they hoped that the presence of domestic and foreign tourists arriving at the sanctuary would benefit their communities. Thirdly, they hoped to sell their produce as bear food. In addition, they also expressed hope that the new sanctuary would lead to better infrastructure in the area.

Expectation of such socio-economic improvements can lead to more positive attitudes towards LPWRC because FTB is indeed planning to create income-generation initiatives for neighboring villages.

5.8 Does their relationship with LPWRC impact the communities' attitudes?

A lack of adequate communication and interaction between LPWRC and nearby communities could be observed from some of the views expressed by village heads. This lack of communication and interaction can negatively impact the attitudes of villagers towards LPWRC.

For instance, some villagers expressed hope that they might now be able to obtain a steady supply of bear bile from the new sanctuary. They also expressed fears that animals kept at LPWRC could bring new diseases to the area.

However, FTB has anticipated such misunderstandings. During the period of this study plans were underway to build quarantines for keeping bears brought from other areas in order to ensure that the animals were not bringing any diseases that could harm people and livestock. LPWRC also had plans to construct solid fences as well as electric fences that would keep bears in and villagers' livestock out.

However, without proper communication from LPWRC, some villagers were not aware of these plans and undertakings. Therefore, to achieve a better relationship with surrounding communities, LPWRC will need to communicate better and interact more with them.

6 Conclusion

Positive attitudes towards bears appear prevalent in the selected communities. Villagers are widely familiar with the laws of Lao PDR regarding wildlife conservation; however, they lack sufficient knowledge about the actual situation of bears in the country. As a result, conservation efforts must entail co-educational initiatives so as to gain further support from the local communities.

Local people in the villages located close to LPWRC have relatively good relations with environmental conservation, including forestry officials and staffers at the existing bear sanctuary. As a result, they do not have unfavorable attitudes about the new bear sanctuary.

Further incentives, especially those that can enhance livelihoods, provided by LWPRC can create even more favorable attitudes towards conservation efforts. Because of their relatively isolated location in underdeveloped rural areas, the communities are expected to benefit from the development of new infrastructure in the area as well as from the creation of new jobs and incomes involving increased tourism and an ability to sell more produce locally.

Such improvements will, however, also necessitate better outreach and closer collaboration between the sanctuary and neighboring communities. Improved communication with surrounding communities and regular interactions initiated by LPWRC will be needed in order to raise awareness of environmental issues and continue engaging local communities in collaborative conservation efforts.

Such outreach could also change local attitudes for the better. At present many locals continue to place a high value on the alleged medicinal value of bear bile. That said, most local people do not consider the use of bear bile as an intrinsic part of their culture and agree that there are

good available alternatives to bear bile and bear gall bladder. Differences in gender, age and socio-economic profiles tended to produce similar patterns in the views of locals as regards bear bile use. However, people who were financially better off tended to value bear bile less than those who were worse-off financially. Therefore, financial improvements could positively influence the views on bear bile use of poorer villagers.

Moreover, most people in the surveyed communities value western medicine and herbal remedies; therefore, they are less reliant on traditional medicine that employs bear bile. This indicates that bear bile consumption in these communities is not a dominant issue.

References

Actman, A., 2016. Inside the disturbing world of bear bile farming. National Geographic. Accessed 21 April 2017. URL: http://news.nationalgeographic.com/2016/05/160505-asiatic-bear-bile-trade-laos/

Anata, A., Bauer, A., and Thant, M. 2013. *The Environments of the Poor in Southeast Asia, East Asia and the Pacific*. Pasir Panjang: ISEAS.

Arjunan, M. Holmes, C. Puyravaud, J., and Davidar, P. 2006. Do developmental initiatives influence local attitudes toward conservation? A case study from the Kalakad-Mundanthurai Tiger Reserve, India. *Elsevier* 79(2): 188-197.

Bennett, N.J.M and Dearden, P. 2014. Why local people do not support conservation: Community perceptions of marine protected area livelihood impacts, governance and management in Thailand. *Marine Policy*44: 107-116.

Browne-Nuñez, C., and Sandra A. J. 2008. Attitudes Toward Wildlife and Conservation Across Africa: A Review of Survey Research. *Human Dimensions of Wildlife* 13 (1): 47–70.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). 2016a. Application of Article XII in the Lao People's Democratic Republic. Sixty-seventh meeting of the Standing Committee Johannesburg (South Africa).

Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES). 2016b. Prohibiting, preventing and countering corruption facilitating activities

conducted in violation of the Convention. Seventeenth meeting of the Conference of the Parties, Johannesburg (South Africa).

Challender, D., Nguyen Van, T., Shepherd, C., Krishnasamy, K., Wang, A., Lee, B., Panjang, E., Fletcher, L., Heng, S., Seah Han Ming, J., Olsson, A., Nguyen The Truong, A., Nguyen Van, Q. & Chung, Y. 2014. *Manis javanica*. The IUCN Red List of Threatened Species 2014: e.T12763A45222303.http://dx.doi.org/10.2305/IUCN.UK.2014-2.RLTS.T12763A45222303.en.

Damania, R., and Bulte, E. H. 2007. The economics of wildlife farming and endangered species conservation. *Ecological Economics* 62 (3-4): 461-472.

Daniels, S. E., Walker, G.B. 1996. Collaborative learning: improving public deliberation in ecosystem-based management. *Elsevier* 16:71-102.

Davis, E. O., O'Connor, D., Crudge, B., Carignan, A., Glickman, J.A., Glikman, J.A., Browne-Nunez, C. and Hunt, M. 2016. Understanding public perceptions and motivations around bear part use: A study in northern Laos of attitudes of Chinese tourists and Lao PDR nationals. *Biological Conservation* (203): 282-289.

De Boer, W. F. and Baquete, S.B. 1998. Natural resource use, crop damage and attitudes of rural people invicinity of Maputo Clephant Reserve, Mozambique. *Environmental Conservation* 25 (3):208-218.

Education for Nature-Vietnam (ENV). 2010. An Analysis of Attitudes and Bear Bile Use in Vietnam. Hanoi: Education for Nature-Vietnam (ENV).

Eleftherious-Smith, L. 2017. 27 endangered slow lorises have been rescued from traffickers and they look pretty happy about it. Independent, January 23.

Ewert, A and Galloway, G. 2004. Expressed environmental attitudes and actual behavior: Exploring the concept of environmentally desirable responses. Paper presented at the International Outdoor Education Research Conference, La Trobe University, Bendigo, Victoria.

Feng, Y., Siu, K., Wang, N., Ng, K., Tsao, S., Nagamatsu, T., and Tong, Y., 2009. Bear bile: dilemma of traditional medicinal use and animal protection. *Journal of Ethnomedicine* 5:2.

Foley, K.E., Stengel, C. J., and Shepherd, C.R. 2011. *Pills, Powders, Vials and Flakes: The bear Bile Trade in Asia*. Petaling Jaya: TRAFFIC Southeast Asia.

Free the Bears (FTB). 2016. Bears' Print. Perth: Free the Bears Fund Inc.

Fredriksson, G., Steinmetz, R., Wong, S. & Garshelis, D.L. (IUCN SSC Bear Specialist Group). 2008. *Helarctos malayanus*. The IUCN Red List of Threatened Species 2008: e.T9760A13014055. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T9760A13014055.en.

Garshelis, D. & Steinmetz, R. 2016. *Ursus thibetanus*. The IUCN Red List of Threatened Species 2016: e.T22824A45034242. http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22824A45034242.en.

Glasman, L. R. and Albarracín, D. 2006. Forming attitudes that predict future behavior: a meta-analysis of the attitude-behavior relation. *Psychol Bull* 132 (5):778-822.

Govan, H., Inglis, A., Pretty, J.,Harrison,M.,Wightman, A., 1998. *Best practice in community participation for national parks*. Edinburgh: Scottish Natural Heritage.

Greatorex, Z. F., Olson, S.H., Singhalath, S., Silithammavong, S., Khammavong, K., Fine, A. E., Weisman, W. Douangngeun, B., Theppangna, W., Keatts, L., Gilbert, M. Karesh, W. B., Hansel, T., Zimicki, S., O'Rourke, K., Joly1, D. O., and Mazet, J.A.K. 2016. Wildlife Trade and Human Health in Lao PDR: An Assessment of the Zoonotic Disease Risk in Markets. *PloS One* 11(3). e0150666. https://doi.org/10.1371/journal.pone.0150666.

Halpern, J. 1961. *Laotian Health Problems*. Laos Project Paper No. 20. University of Massachusetts. Massachusetts. United States.

Hance, J., 2015. *Is the end of 'house of horror' bear bile factories in sight?* The Guardian. April 9.

Interpol. 2014. *Assessment on Illegal Bear Trade.* Lyon: International Criminal Police Organization (ICPO) – INTERPOL.

Johnson, A., Vongkamheng, C., Saithongam, T. 2009 The diversity, status and conservation of small carnivores in a montane tropical forest in northern Laos. *Oryx* 43(4): 626:633.

Karanth, K. K., Randall A. K., Song S. Q., and Norman L. C. 2008. Examining Conservation Attitudes, Perspectives, and Challenges in India. *Biological Conservation* 141 (9): 2357–67.

Kioko, J. and Kiring, J. W. 2010. Youth's knowledge, attitudes and practices in wildlife and environmental conservation in Maasailand, Kenya, Southern African. *Journal of Environmental Education* 27:91-101.

Lao People's Democratic Republic (Lao PDR). 2004. *National biodiversity strategy to 2020 and action plan to 2010*. Vientiane: Government Printing Office.

Lao People's Democratic Republic (Lao PDR). 2007. *Wildlife and Aquatic Law*. Vientiane: Government Printing Office.

Lao Statistics Bureau (LSB), Ministry of Planning and Investment. 2015. *Results of population and housing census 2015*. Vientiane: Government Printing Office.

Lee, Joonmoo. 1996. "Poachers , Tigers , and Bears ... Oh My--Asia's Illegal Wildlife Trade Asia's Illegal Wildlife Trade." *Northwestern Journal of International Law & Business* 16(3): 497–515.

Livingstone, E., and Shepherd, R., 2016. Bear farms in Lao PDR expand illegally and fail to conserve wild bears. *Oryx* 50(1): 177-184.

MacGregor, F. 2010. *Inside a bear bile farm in Laos*. The Telegraph (London), August 19.

Mills, J. and Servheen, C., 1994. The Asian trade in bears and bear parts: impacts and conservation recommendations. *Bears: Their Biology and Management* 9:161-167.

Ministry of Natural Resources and the Environment (MoNRE). 2016a. *Fifth national report to the United Nations Convention on Biological Diversity*. Department of Forest Resources Management-Ministry of Natural Resources and the Environment and Technical Support: IUCN - Vientiane, Lao PDR. Vientiane Lao PDR.

Ministry of Natural Resources and the Environment (MoNRE). 2016b. *National biodiversity strategy and action plan for Lao PDR 2016-2025*. Department of Forest Resource Management. Vientiane Lao PDR.

Moussaïd M., Kämmer J.E., Analytis P.P., Neth H. 2013. Social Influence and the Collective Dynamics of Opinion Formation. *PLOS ONE* 8(11): e78433. https://doi.org/10.1371/journal.pone.0078433.

Mutisya, S. M., Kipgetich, K. E., Rono, K. J. 2013. Positive attitude towards environmental Conservation: the role of primary education in Kenya. *Asian Journal of Management Sciences & Education* 2: 203-215.

Nekaris, K.A.I., Shekelle, M, Wirdateti, Rode, E.J. & Nijman, V. 2013. *Nycticebus javanicus*. The IUCN Red List of Threatened Species 2013: e.T39761A17971158. http://dx.doi.org/10.2305/IUCN.UK.2013-2.RLTS.T39761A17971158.en.

Newing, H. 2011. *Conducting Research in Conservation*. Oxfordshire: Routledge.

Oswell, A.H., 2010. *The big cat trade in Myanmar and Thailand*. Slangor: TRAFFIC Southeast Asia.

Oldekop, J. A., Holmes, G., Harris, W. E. and Evans, K.L. 2015. A global assessment of the social and conservation outcomes of protected areas. *Conservation Biology* 30 (1): 133-141.

Paquette, S.R., Lapointe, F. 2007. The use of shell morphometrics for the management of the endangered Malagasy radiated tortoise (Geochelone radiata). *Biological Conservation* 134(1):31-39.

Pinheiro, L., Rodrigues, J. F. M., Borges-Nojosa, D. M. 2016. Formal education, previous interaction and perception influence the attitudes of people toward the conservation of snakes in a large urban center of northeastern Brazil. *J Ethnobiol Ethnomed.*. 12:25, doi: 10.1186/s13002-016-0096-9.

Robichaud, W. G., Sinclair, A. R. E., Odarkor-Lanquaye, N. and KlinkenBerg, B. 2009. Stable Forest Cover under Increasing Populations of Swidden Cultivators in Central Laos: the Roles of Intrinsic Culture and Extrinsic Wildlife Trade. *Ecology and Society* 14(1):33. [online] URL: http://www.ecologyandsociety.org/vol14/iss1/art33/

Rosen, G. E., Smith, K. F. 2010. Summarizing the Evidence on the International Trade in Illegal Wildlife. *EcoHealth* 7: 24-32.

Scotson, L. 2010. The distribution and status of Asiatic black bear *Ursus thibetanus* and Malayan sun bear *Helarctos malayanus* in Nam Et Phou Louey National Protected Area, Lao PDR. Unpublished report to International Association for Bear Research and Management.

Sekhar, N. U. 2003. Local people's attitudes towards conservation and wildlife tourism around Sariska Tiger Reserve, India. *Elsevier (*69) 4: 339-347.

Shairp, R., Verissimo, D., Fraser, I., Challender, D., MacMillan, D., 2016. Understanding Urban Demand for Wild Meat in Vietnam: Implications for Conservation Actions. *PLOS ONE* 11(1): e0134787. https://doi.org/10.1371/journal.pone.0134787.

Singh, S., 2008. Contesting moralities: the politics of wildlife trade in Laos. *Journal of Political Ecology* 15:1-20.

Thapa, Kamal. 2016. Park – People Interaction and Public Perceptions towards Parsa Wildlife Reserve , Nepal. *Northwestern Journal of International Law & Business* 14 (1): 41–52.

The Provincial Agriculture and Forestry Office of Luang Prabang and Free the Bears (PAFOLP and FTB). 2016. Luang Prabang Wildlife Rescue Centre. Publicity leaflet.

Tordoff A. W., Bezuijen M. R., Duckworth J. W., Fellowes J. R., Koenig K., Royo A. G. 2012. *Ecosystem Profile Indo-Burma Biodiversity Hotspot 2011 Update*. Critical Ecosystem Partnership Fund.

Traffic. 2014. *New study raises alarm over bear bile farming in Lao PDR*. Accessed May 25. URL: http://www.traffic.org/home/2014/10/29/new-study-raises-alarm-over-bear-bile-farming-in-lao-pdr.html

Vongvichith, E. 2013. *Case study: Laos-Ministry of Health*. Fujitsu. URL: http://www.fujitsu.com/cn/en/Images/CS_Laos_MOH_en.pdf

Wals, A. E.J., 2009. *Social learning towards a sustainable world*. Wageninggen: Academic Publishers.

Warchol, G. L. 2004. The Transnational Illegal Wildlife Trade. *Criminal Justice Studies* 17 (1): 57–73.

Wildlife Friends Foundation Thailand (WFFT). 2016. *Laos intends to shut down tiger farms and bear bile farms*. Accessed May 20. URL: https://www.wfft.org/wildlife-trade/laos-intends-shut-tiger-farms-bear-bile-farms/

INTERVIEWER TO FILL IN:
Questionnaire Number: _____Date:_____ Interviewer name:_____
_____
Village:_____Commune_____District_____Province_____

Household Survey

Hello, my name is _____. I am part of a team that is conducting research to learn about public attitudes towards bears, bear bile use and bear conservation efforts in Luang Prabang, Lao PDR. The research team is from Central European University, Hungary.

We would like to ask you for the following demographic information to help us make general conclusions. Your responses will remain completely secret, confidential and will be anonymized.

We would like to emphasize that this research project is not affiliated with or supported by any government agency and serves a purely academic purpose. You are participating in it voluntarily and your participation in it is highly appreciated. You will receive a phone card as a token of our appreciation for your assistance with this research. Should you have any questions or concerns, feel free to contact Darunee Sukanan at daruneesukanan@yahoo.com.

Only choose adult ≥ 18 years old

I. Socio-demographic characteristics of local communities

1. Gender
1.1. Male
1.2. Female

2. Ethnicity
1.1 Lao
1.2 Khamu
1.3 Hmong
1.4 Other

3. What is your age? _____ years

4. What is your relationship to head of household?
4.1. Head of Household
4.2. Husband/wife
4.3. Son/daughter
4.4. Son in-law/daughter in-law
4.5. Parent/Parent in-law
4.6. Grandchild
4.7. Others

5. Number of people in each age class living in the household?
5.1. 0-14 years:_____
5.2. 15-64 years:_____
4.3. 65+ years:_____

6. What is the highest level of education completed by someone in the household? *Please tick one box*
6.1. None
6.2. Literacy certificate
6.3. Part of Primary school

6.4. Primary school
6.5. Secondary school
6.6. High school
6.7. Bachelors
6.8. Graduate Degree (Masters, Law, PhD)

II. Socio-economic conditions of local communities

7. What type of building materials are used for the dwelling unit?

7.1. **Roof:**

7.1.1. Tile/Sipax
7.1.2. Zinc
7.1.3. Wood
7.1.4. Bamboo
7.1.5. Grass
7.1.6. Other

7.2. **Wall:**

7.2.1. Brick/concrete ½
7.2.2. Wood ½
7.2.3. Bamboo ½
7.2.4. Other ½

7.3. **Floor:**

7.3.1. Ceramic/Tile ½
7.3.2. Concrete ½
7.3.3. Wood ½
7.3.4. Bamboo ½
7.3.5. Earth ½
7.3.6. Other ½

8. Number of rooms in the household:_____

9. Is the dwelling unit electrified?

9.1. Yes, own meter
9.2. Yes, shared meter
9.3. Yes, generator
9.4. Yes, car battery
9.5. Yes, solar
9.6. Yes, other
9.7. No

10. What is the household's main source of water for drinking and cooking? (check the source of water)

10.1. Pipe water
10.2. Well/borehole, protected
10.3. Well/borehole, unprotected
10.4. River/stream/dam

10.5. Mountain source
10.6. Rain water
10.7. Bottled water
10.8. Other

11. What type of toilet facility is mainly used by this household?

11.1. Modern toilet
11.2. Normal toilet
11.3. None

12. What is the household's <u>main</u> source of energy for cooking?

12.1. Electricity
12.2. Paraffin/fuel
12.3. Wood
12.4. Coal
12.5. Charcoal
12.6. Sawdust
12.7. Gas
12.8. Other

13. How many items does this household own in working order?

13.1. Tractor
13.2. Car/Van
13.3. Motorbike
13.4. Bicycle
13.5. Boats
13.6. Radio
13.7. Television
13.8. Landline Telephone
13.9. Mobile Telephone
13.10. Computer/Laptop
13.11. Air Conditioner
13.12. Fan
13.13. Fridge/Freezer

III. Attitudes and beliefs towards Bears, bear bile use and wildlife sanctuaries among locals

14. Have you ever seen bears?

Yes No Don't know

15. How do you describe your feelings about wild bears? *Please circle one response*

Strongly Dislike	Moderately Dislike	Neither	Moderately Like	Strongly Like	Don't Know

16. I like that there are bears in the wild in Laos. *Please circle one response*

Strongly Disagree	Moderately Disagree	Neither	Moderately Agree	Strongly Agree	Don't Know

17. Please indicate how much you <u>value the work</u> of the people listed below. <*Please read the options, "Don't value at all" to "Highly Value" or "Don't know"> Please circle <u>one</u> box in each row*

Use printed table and a stone. Ask respondent to place stone in their choice for each question on the printed table. Remove stone between questions.

A. Traditional healer (Khmer, Chinese, Lao, etc.)	Don't value at all	Value a little	Value moderately	Highly value	Don't know
B. Western medical expert (e.g. doctor, nurse, pharmacist)	Don't value at all	Value a little	Value moderately	Highly value	Don't know
C. Religious leader/Monk (e.g. Christian leader, Muslim leader, Monk)	Don't value at all	Value a little	Value moderately	Highly value	Don't know
D. Lao Forestry Service (e.g. government or protected area staff)	Don't value at all	Value a little	Value moderately	Highly value	Don't know
E. Conservation worker	Don't value at all	Value a little	Value moderately	Highly value	Don't know
F. Tat Kuang Si Bear Rescue center	Don't value at all	Value a little	Value moderately	Highly value	Don't know

18. For *each* of the following statements, please indicate whether you think they are true or false.

A. The number of bears in Laos is increasing	True	False	Don't Know
B. Hunting bears in Laos is legal	True	False	Don't Know
C. It is possible to extract bile from a bear without killing the animal	True	False	Don't Know
D. Most bears in farms were born in captivity	True	False	Don't Know
E. Consuming bear products in Laos is legal	True	False	Don't Know
F. Most people whose opinion you value...have used bear bile for medicine and other purposes in the past	True	False	Don't Know
G. Most people whose opinion you value...will continue using bear bile in the future	True	False	Don't Know
H. Most people believe... you should use bear bile	True	False	Don't Know

19. Thinking of your closest family and friends, what percentage (between 0-100%) of them do you think use bear bile or products for medicine or other purposes?

Please circle <u>one</u> below – if you don't know, please guess.

0-20% **21-40%** **41-60%** **61-80%** **81-100%**

20. We are interested in learning <u>your</u> views on bear bile.

*In this section **'wild bears'** are bears that live in the wild; **'farmed bears'** are bears that are kept in cages on a "bear bile farm" for bile extraction. Please indicate if you agree or disagree with the following statements. (Circle one response per row. Use printed table and a stone. Ask respondent to place stone in their choice for each question on the printed table. Remove stone between questions.)*

A. Bear bile has medicinal value	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
B. Bile from wild bears has stronger medicinal properties than bile from farmed bears	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
C. It is easy to find places to buy bear bile	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
D. There are good medicinal alternatives to bear bile/bear gallbladder	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
E. The use of bear bile is an important part of your culture	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
F. Using bile from wild bears will lead to a lower number of bears in the wild	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know
G. It is acceptable to use bile from bears that are farmed	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't know

21. Which of the following do you think is the most effective?: (*Tick one box)*

Western medicine
Traditional medicine
A combination of western and traditional medicine
Don't know

22. Were you or someone in your family ill with any of the following ailments in the past 12 months? (Please circle all that apply)

23. For each ailment that, what treatments did you use? *(Please circle all treatments used for each ailment experienced in past 12 months. Then ask respondent if they used any of the other approaches.)*

Sores	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Hemorrhoids	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Sprains	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Bruising	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Muscle ailments	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Epilepsy	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Liver disease	Yes	No	herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Other	Specify		herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:
Other	Specify		herbal medicine	western medicine	synthetic bear bile	farmed bear bile	wild bear bile	Other:

THANK YOU FOR YOUR PARTICIPATION.

ສຳຫຼັບຜູ້ສຳພາດ:

ແບບສອບຖາມເລກທີ: ..... ວັນທີ ..... ຊື່ຜູ້ສຳພາດ: .....

ບ້ານ ..... ກຸ່ມ ..... ເມືອງ ..... ແຂວງ.....

ແບບຟອມສຳພາດຄົວເຮືອນ

ສະບາຍດີ, ຂ້າພະເຈົ້າຊື່: ..... ຂ້າພະເຈົ້າເປັນໜຶ່ງໃນທີມງານທີ່ຈັດການສຳຫຼວດເພື່ອເປັນການຮຽນຮູ້ກ່ຽວກັບທັດສະນະຄະຕິຂອງສັງຄົມຕໍ່ກັບໝີ, ການໃຊ້ປີໝີ ແລະ ການອະນຸລັກໝີ ຢູ່ແຂວງຫຼວງພະບາງ, ສປປ ລາວ. ທີມງານນັກສຳຫຼວດ ມາຈາກມະຫາວິທະຍາໄລ ເອຣົບ ກາງ (Central European University) ປະເທດ ຮົ່ງກາຣີ.

ພວກຂ້າພະເຈົ້າມີຄວາມປະສົງຂໍສອບຖາມຂໍ້ມູນຈາກທ່ານເພື່ອມາຊ່ວຍໃນການເຮັດບົດສະຫຼຸບ. ທຸກໆຄຳຕອບຂອງທ່ານຈະຖືກເກັບຮັກສາເປັນຄວາມລັບ ແລະ ຊື່ຂອງທ່ານຈະຖືກປົກປິດ.

ພວກຂ້າພະເຈົ້າຂໍຮັບປະກັນວ່າ ການລົງສຳຫຼວດຄັ້ງນີ້ບໍ່ແມ່ນມາຈາກບໍລິສັດ ຫຼື ໄດ້ຮັບການສະໜັບສະໜູນຈາກໜ່ວຍງານຂອງລັດທະບານ, ເປັນການສຳຫຼວດທາງດ້ານວິຊາການຢ່າງແທ້ຈິງ. ຖ້າຫາກວ່າທ່ານເຂົ້າມາມີສ່ວນຮ່ວມດ້ວຍຄວາມສະໝັກໃຈ ແລະ ການເຂົ້າມາມີຮ່ວມຂອງທ່ານຈະຖືເປັນກຽດຢ່າງສູງ. ທ່ານຈະໄດ້ຮັບບັດໂທລະສັບເປັນຄ່າຕອບແທນໃນການຊ່ວຍເຫຼືອການສຳຫຼວດດັ່ງກ່າວ. ຖ້າຫາກວ່າທ່ານມີຄຳຖາມ ຫຼື ຂໍ້ສົງໃສອື່ນໆ ກະລຸນາຕິດຕໍ່ຫາ **ນາງ ດາລຸນີ ສຸກກະນັນ** ໄດ້ທີ່ daruneesukanan@yahoo.com.

ເລືອກສະເພາະຜູ້ໃຫ່ຍທີ່ມີອາຍຸ 18 ປີ ຂຶ້ນໄປ.

I. ລັກສະນະທາງສັງຄົມຂອງປະຊາຊົນຢູ່ທ້ອງຖິ່ນ

1. ເພດ
   - 1.1 ຊາຍ ☐
   - 1.2 ຍິງ ☐
2. ຊົນເຜົ່າ
   - 2.1. ລາວລຸ່ມ ☐
   - 2.2. ຂະມຸ ☐
   - 2.3. ມົ້ງ ☐
   - 2.4. ອື່ນໆ ☐
3. ອາຍຸຂອງທ່ານໄດ້ຈັກປີ ? ..... ປີ
4. ທ່ານມີຄວາມສຳພັນແບບໃດຕໍ່ກັບຄົວເຮືອນ/ຄອບຄົວ?
   - 4.1 ເປັນຫົວໜ້າຄອບຄົວ ☐
   - 4.2 ພີ່ວ / ເມຍ ☐
   - 4.3 ລູກຊາຍ / ລູກສາວ ☐
   - 4.4 ລູກເຂີຍ / ລູກໃພ້ ☐
   - 4.5 ພໍ່ແມ່ / ພໍ່ແມ່ລ້ຽງ ☐
   - 4.6 ຫຼານ ☐
   - 4.7 ອື່ນໆ ☐
5. ຈຳນວນຄົນແຕ່ລະອາຍຸ ທີ່ດຳລົງຊີວິດໃນຄອບຄົວ ?
   - 4.1. 0 - 14 ປີ : .....ຄົນ

4.2. 15 - 64 ປີ : .....ຄົນ

4.3. 65+ ....ປີ : .....ຄົນ

6. ຜູ້ທີ່ສຳເລັດການສຶກສາທີ່ສູງສຸດໃນຄອບຄົວແມ່ນຊັ້ນໃດ? ກະລຸນາໝາຍເອົາໜຶ່ງຫ້ອງ

6.1. ☐ ບໍ່ມີ

6.2. ☐ ໃບຢັ້ງຢືນການຮູ້ໜັງສື

6.3. ☐ ໃບຢັ້ງຢືນການສຶກສາຂັ້ນບຳລຸງຊັ້ນປະຖົມ

6.4. ☐ ໃບຢັ້ງຢືນຈົບຊັ້ນປະຖົມ

6.5 ☐ ໃບຢັ້ງຢືນຈົບຊັ້ນມັດທະຍົມຕອນຕົ້ນ

6.6. ☐ ໃບຢັ້ງຢືນຈົບຊັ້ນມັດທະຍົມປາຍ

6.7. ☐ ໃບປະກາສະນີຍະບັດລະດັບປະລິນຍາຕີ

6.8. ☐ ຈົບການສຶກສາລະດັບປະລິນຍາ (ປະລິນຍາໂທ, ກົດໝາຍ, ປະລິນຍາເອກ)

II. ສະຖານະດ້ານເສດຖະກິດຂອງປະຊາຊົນຢູ່ທ້ອງຖິ່ນ

7. ວັດສະດຸກໍ່ສ້າງທີ່ໃຊ້ໃນການປຸກສ້າງທີ່ພັກອາໃສແມ່ນຫຍັງ?

7.1. **ຫຼັງຄາ:**

7.1.1. ກະເບື້ອງ / ຊີແຜ່ນ ☐

7.1.2. ສັງກະສີ ☐

7.1.3. ໄມ້ ☐

7.1.4. ໄມ້ໄຜ່ ☐

7.1.5. ມຸງຫຍ້າ ☐

7.1.6. ອື່ນໆ ☐

7.2. **ຝາ:**

7.2.1. ດິນຈີ່/ດິນບ່ອນ ☐

7.2.2. ໄມ້ ☐

7.2.3. ໄມ້ໄຜ່ ☐

7.2.4. ອື່ນໆ ☐

7.3. **ພື້ນ:**

7.3.1. ກະໂລ້ ☐

7.3.2. ພື້ນຊີມັງ ☐

7.3.3 .ໄມ້ ☐

7.3.4. ໄມ້ໄຜ່ ☐

7.3.5. ພື້ນດິນ ☐

7.3.6. ອື່ນໆ ☐

8. ຈຳນວນຫ້ອງໃນຄົວເຮືອນ: ..... ຫ້ອງ

9. ມີການເຊື່ອມຕໍ່ໄຟຟ້າແບບໃດໃນຄົວເຮືອນ?

9.1. ແມ່ນແລ້ວມີ, ມີກ໊ຽເຕ້ເປັນຂອງຕົນເອງ

9.2. ແມ່ນແລ້ວມີ, ໃຊ້ກ໊ຽເຕ້ຮ່ວມກັບຜູ້ອື່ນ

9.3. ແມ່ນແລ້ວມີ, ໃຊ້ເຄື່ອງຈັກປັ່ນໄຟຟ້າ

9.4. ແມ່ນແລ້ວມີ, ໃຊ້ໝໍ້ໄຟລິດ

9.5. ແມ່ນແລ້ວມີ, ໃຊ້ໄຟຟ້າພະລັງແສງຕາເວັນ

9.6. ແມ່ນແລ້ວມີ, ໃຊ້ອື່ນໆ

9.7. ບໍ່ມີ

10. ແຫຼ່ງນ້ຳໃຊ້ນ້ຳໃນຄົວເຮືອນເພື່ອໃຊ້ດື່ມ ແລະ ໃຊ້ຄົວກິນ ມາແຕ່ໃສ (ໃຫ້ກວດເບິ່ງທີ່ມາຂອງນ້ຳ)

10.1. ນ້ຳປະປາ

10.2. ນ້ຳສ້າງ/ນ້ຳບາດານ, ມີການປົກປັກຮັກສາ

10.3. ນ້ຳສ້າງ/ນ້ຳບາດານ, ບໍ່ມີການປົກປັກຮັກສາ

10.4. ແມ່ນ້ຳ/ນ້ຳຫ້ວຍ/ນ້ຳເຊື່ອນ

10.5. ແຫຼ່ງນ້ຳຈາກພູ

10.6. ນ້ຳຝົນ

10.7. ນ້ຳຕຸກ

10.8. ອື່ນໆ

11. ຫ້ອງນ້ຳແບບໃດທີ່ໃຊ້ໃນຄົວເຮືອນ ?

11.1. ຫ້ອງນ້ຳທີ່ທັນສະໄໝ

11.2. ຫ້ອງນ້ຳທຳມະດາທົ່ວໄປ

11.3. ບໍ່ມີຫ້ອງນ້ຳ

12. ພະລັງງານຫຼັກທີ່ໃຊ້ເຂົ້າໃນການແຕ່ງກິນຂອງຄົວເຮືອນແມ່ນຫຍັງ ?

12.1. ໄຟຟ້າ

12.2. ນ້ຳມັນເຊື້ອໄຟ

12.3. ໄມ້ຟືນ

12.4. ຖ່ານຫີນ

12.5. ຖ່ານດັງໄຟ

12.6. ຂີ້ເລື່ອຍ

12.7. ໃຊ້ເຕົາແກ໊ດ

12.8. ອື່ນໆ

13. ມີເຄື່ອງຮັບໃຊ້ ແລະ ພາຫະນະຫຍັງແດ່ທີ່ຄົວເຮືອນນີ້ ເປັນເຈົ້າຂອງໃຊ້ເຂົ້າໃນເຮັດວຽກຊີວິດປະຈຳວັນ ?

13.1. ລົດໄຖນາ

13.2. ລົດໃຫ່ຍ/ລົດຕູ້

13.3. ລົດຈັກ

13.4. ລົດຖີບ

13.5. ເຮືອ

13.6. ວິທະຍຸ

13.7. ໂທລະພາບ

13.8. ໂທລະສັບຕັ້ງໂຕະ

13.9. ໂທລະສັບມືຖື

13.10. ຄອມປີເຕີ້/ແລັບທອບ

13.11. ເຄື່ອງແອເຢັນ

13.12. ພັດລົມ

13.13. ຕູ້ເຢັນ/ເຄື່ອງແຊ່ແຂງ

III. ທັດສະນະຄະຕິ,ຄວາມເຊື່ອ ຕໍ່ກັບໝີ, ການໃຊ້ປະໝີ ແລະ ເຂດຮັກສາພັນສັດປ່າ ຂອງປະຊາຊົນຢູ່ທ້ອງຖິ່ນ

14. ທ່ານເຄີຍເຫັນໝີ ບໍ ?

☐ ເຄີຍ ☐ ບໍ່ເຄີຍ ☐ ບໍ່ຮູ້

15. ໃຫ້ທ່ານອະທິບາຍຄວາມຮູ້ສຶກຂອງທ່ານກ່ຽວກັບໝີປ່າໄດ້ບໍ ? (ກະລຸນາໝາຍວົງມົນເອົາໜຶ່ງຄຳຕອບ)

ບໍ່ມັກເອົາແທ້ເອົາວ່າ **ບໍ່ມັກປານໃດ** **ມັກແຕ່ບໍ່ມັກແດ່** **ມັກປານກາງ** **ມັກແທ້ມັກວ່າ** **ບໍ່ຮູ້**

16. ຂ້າພະເຈົ້າຮູ້ສຶກພາກພູມໃຈທີ່ປ່າຢູ່ ສປປ ລາວ ມີໝີຫຼາຍໂຕ. (ກະລຸນາໝາຍວົງມົນເອົາໜຶ່ງຄຳຕອບ)

ບໍ່ເຫັນດີແທ້ໆ **ບໍ່ເຫັນດີປານໃດ** **ເຫັນດີແດ່ບໍ່ເຫັນດີແດ່** **ເຫັນດີປານກາງ** **ຕົກລົງເຫັນດີແທ້ໆ** **ບໍ່ຮູ້**

17. ສະເໜີໃຫ້ທ່ານຊີ້ແຈງຕີລາຄາການເຮັດວຽກຂອງບຸກຄົນທີ່ມີລາຍຊື່ລຸ່ມນີ້. (ກະລຸນາອ່ານເບິ່ງບັນດາທາງເລືອກ ນັບຕັ້ງແຕ່ "**ບໍ່ມີປະໂຫຍດ**" ຈົນເຖິງ "**ມີປະໂຫຍດຫຼາຍ**" ຫຼື "**ບໍ່ຮູ້/ບໍ່ມີຄຳເຫັນ**" ກະລຸນາໝາຍວົງມົນເອົາໜຶ່ງຫ້ອງຂອງຕາຕະລາງ.

ໃຫ້ພິມຕາຕະລາງອອກມາ ແລະ ນຳໃຊ້ກ້ອນຫີນເພື່ອເປັນເຄື່ອງໝາຍ. ຖາມແລ້ວໃຫ້ຜູ້ທີ່ຈະຕອບວາງກ້ອນຫີນໃສ່ຫ້ອງທີ່ເຂົາເຈົ້າເລືອກຕາມຄຳຖາມ ແລະ ຍ້າຍກ້ອນຫີນໄປຕາມແຕ່ລະຄຳຖາມ

A. ຜູ້ໃຫ້ການປົ້ນປົວແບບດັ້ງເດີມ (ແບບ ກຳປູເຈຍ, ຈີນ, ລາວ ອື່ນໆ)	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້
B. ແພດຊ່ຽວຊານທີ່ມາຈາກ ປະເທດຕາເວັນຕົກ (ຕົວຢ່າງ: ດຣ. , ພະຍາບານ, ນັກການຢາ)	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້
C. ຜູ້ນຳທາງສາສະໜາ / ພະສົງ (ຕົວຢ່າງ: ຜູ້ນຳ ສາສະໜາຄຼິດຕຽນ, ຜູ້ນຳສາສະໜາມູສະລິມ, ພະສົງ)	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້
D. ພະນັກງານປ່າໄມ້ຂອງ ສປປ ລາວ (ຕົວຢ່າງ: ພະນັກງານເຂດປ່າສະຫງວນ)	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້
E. ນັກອານຸລັກສັດ	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້
F. ສູນອານຸລັກໝີ ຕາດກວາງຊີ	ບໍ່ມີປະໂຫຍດ ຫຍັງຈັກຢ່າງ	ມີປະໂຫຍດ ໜ້ອຍໜຶ່ງ	ມີປະໂຫຍດ ປານກາງ	ມີປະໂຫຍດ ຫຼາຍ	ບໍ່ຮູ້

18. ເນື້ອໃນຄຳເຫັນດັ່ງຕໍ່ໄປນີ້ໃຫ້ທ່ານຄິດວ່າແມ່ນຄວາມຈິງ ຫຼື ບໍ່ແມ່ນຄວາມຈິງ

A. ຈຳນວນປະຊາກອນຂອງໝີ ຢູ່ ສປປ ລາວ ມີຈຳນວນເພີ່ມຂຶ້ນ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
B. ການລ່າ/ຂ້າໝີຢູ່ ສປປ ລາວ ແມ່ນຖືກກົດໝາຍ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
C. ເຮົາສາມາດສະກັດເອົາບີໝີໂດຍທີ່ບໍ່ຈຳເປັນຕ້ອງຂ້າໝີກໍ່ໄດ້	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
D. ໝີທີ່ລ້ຽງຢູ່ຟາມສ່ວນໃຫ່ຍແມ່ນເກີດໃນຟາມ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
E. ການບໍລິໂພກຜະລິດຕະພັນທີ່ເຮັດດ້ວຍໝີຢູ່ ສປປ ລາວ ແມ່ນຖືກກົດໝາຍ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
F. ຄວາມຄິດຂອງ ຜູ້ຄົນສ່ວນຫຼາຍທ່ານຕີລາຄາ..ທີ່ຜ່ານມາ ສ່ວນຫຼາຍເຄີຍໃຊ້ບີໝີເພື່ອເປັນຢາ ແລະ ເພື່ອຈຸດປະສົງອື່ນໆ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
G. ຄວາມຄິດຂອງຜູ້ຄົນສ່ວນຫຼາຍທ່ານຕີລາຄາ..ເຂົາເຈົ້າຈະຍັງນຳໃຊ້ບີໝີໃນຕໍ່ໜ້າ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້
H. ຄວາມຄິດຂອງຄົນສ່ວນຫຼາຍ..ເຊື່ອໝັ້ນວ່າທ່ານຄວນທີ່ຈະໃຊ້ບີໝີ	ແມ່ນຄວາມຈິງ	ບໍ່ແມ່ນຄວາມຈິງ	ບໍ່ຮູ້

19. ໃຫ້ທ່ານຄິດຫາຄອບຄົວທີ່ໃກ້ຊິດຕິດແທດກັບທ່ານ ຫຼື ໝູ່ເພື່ອນທີ່ສະນິດວ່າມີຈັກເປີເຊັນ (ລະຫວ່າງ 0 - 100%) ທີ່ທ່ານຄິດວ່າເຂົາເຈົ້າໃຊ້ບີໝີ ຫຼື ຜະລິດຕະພັນອື່ນຈາກໝີເພື່ອໃຊ້ເປັນຢາ ຫຼື ໃຊ້ເພື່ອຈຸດປະສົງອື່ນ ?

ກະລຸນາໝາຍວົງມົນໃສ່ໜຶ່ງຄຳຕອບ, ຖ້າທ່ານບໍ່ຮູ້ກະລຸນາເດົາວ່າມີຈັກເປີເຊັນ

0 - 20% **21 - 40%** **41 - 60%** **61 - 80%** **81 - 100%**

20. ພວກຂ້າພະເຈົ້າມີຄວາມສົນໃຈໃນການສຶກສາຮ່ຳຮຽນຄວາມຄິດເຫັນຂອງທ່ານຕໍ່ກັບ ບີໝີ.

ໃນພາກນີ້ ເປັນ "ໝີປ່າ" ທີ່ອາໃສຢູ່ໃນປ່າ; **"ຟາມລ້ຽງໝີ"** ເປັນສະຖານທີ່ໝີຖືກຂັງໄວ້ໃນຄອກ " ຟາມລ້ຽງໝີ ສຳລັບເອົານ້ຳບີ " ສຳຫຼັບການສະກັດເອົານ້ຳບີ. ກະລຸນາໃຫ້ຄຳຄິດເຫັນວ່າທ່ານເຫັນດີ ຫຼື ບໍ່ເຫັນດີ ຕາມເນື້ອໃນຕໍ່ໄປນີ້. *(ໝາຍວົງມົນເອົາໜຶ່ງຄຳຕອບໃນຕາຕະລາງ. ຖາມແລ້ວ ໃຫ້ຜູ້ທີ່ຈະຕອບວາງກ້ອນຫີນ ໃສ່ຫ້ອງທີ່ເຂົາເຈົ້າເລືອກຕາມຄຳຖາມ ແລະ ຍ້າຍກ້ອນຫີນໄປຕາມແຕ່ລະຄຳຖາມ).*

A . ບີໝີມີສັບພະຄຸນທາງການຢາສູງ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
B. ບີໝີປ່າມີສັບປະຄຸນທາງການຢາສູງ ກ່ວາບີໝີທີ່ລ້ຽງຢູ່ຟາມ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
C. ການຊອກຊື້ບີໝີເປັນເລື່ອງທີ່ງ່າຍ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
D. ມີທາງເລືອກຢາທີ່ດີກ່ວາການໃຊ້ບີໝີ/ຖົງບີໝີ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
E. ການນຳໃຊ້ບີໝີມີຄວາມສຳຄັນຈົນກາຍເປັນວັດທະນະ ທຳຂອງທ່ານ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
F. ການນຳໃຊ້ບີໝີປ່າອາດເຮັດໃຫ້ຈຳນວນໝີປ່າຫຼຸດລົງ	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້
G. ບີໝີທີ່ລ້ຽງຢູ່ຟາມສາມາດຍອມຮັບໄດ້.	ບໍ່ເຫັນດີທີ່ສຸດ	ບໍ່ເຫັນດີ	ເຫັນດີແຕ່ບໍ່ເຫັນດີແດ່	ເຫັນດີ	ເຫັນດີທີ່ສຸດ	ບໍ່ຮູ້

21. ການນຳໃຊ້ຢາແບບໃດດັ່ງຕໍ່ໄປນີ້ທີ່ທ່ານຄິດວ່າເປັນການຮັກສາໄດ້ດີທີ່ສຸດ: (ໝາຍເອົາໜຶ່ງຫ້ອງ)

- ☐ ການຮັກສາປິ່ນປົວແບບຕາເວັນຕົກ
- ☐ ການຮັກສາປິ່ນປົວແບບດັ່ງເດີມ
- ☐ ການປິ່ນປົວແບບປະສົມປະສານລະຫວ່າງແບບຕາເວັນຕົກ ແລະ ແບບດັ່ງເດີມ
- ☐ ບໍ່ຮູ້

22. ໃນໄລຍະ 12 ເດືອນທີ່ຜ່ານມາ ຕົວທ່ານແລະສະມາຊິກໃນຄອບຄົວຂອງທ່ານເຄີຍເຈັບໄຂ້ໄດ້ປ່ວຍຕາມພະຍາດດັ່ງລຸ່ມນີ້ຫຼືບໍ່ ?

23. ສຳຫຼັບພະຍາດແຕ່ລະຢ່າງ, ທ່ານໄດ້ມີວິທີການຮັກສາແບບໃດ ? (ໃຫ້ໝາຍເອົາການຮັກສາແຕ່ລະແບບທີ່ມັກໃຊ້ເຂົ້າໃນການປິ່ນປົວຕາມປະສົບການທີ່ໃຊ້ໃນ 12 ເດືອນທີ່ຜ່ານມາ. ໃຫ້ຖາມຕື່ມຖ້າຫາກເຂົາເຈົ້ານຳໃຊ້ວິທີອື່ນ)

ຕຸ່ມເປື່ອຍ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ລິດສີດວງ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ປວດເມື່ອຍຕາມຮ່າງກາຍ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ຟີກຊ້ຳ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ໂລກກ້າມເນື້ອ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ໂລກຊັກບ້າໝູ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ໂລກຕັບ	ບໍ່ເຄີຍ	ເຄີຍ	ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ອື່ນໆ	ໃຫ້ລະບຸ		ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ
ອື່ນໆ	ໃຫ້ລະບຸ		ຢາສະໝຸນໄພ	ຢາມາຈາກປະເທດຕາເວັນຕົກ	ບີໝີສັງເຄາະ	ບີໝີຈາກຟາມ ລ້ຽງ	ບີໝີປ່າ	ອື່ນໆ

ຂໍຂອບໃຈ ການມີສ່ວນຮ່ວມຂອງທ່ານ.