

# Bear Bile Farming:

## A Debate over Traditional Medicine and Its Role in Conservation

by

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### Part I – Introduction

#### *What Is Bear Bile Farming?*

Bear bile farming is a practice where bile, a digestive fluid found in the gallbladder, is extracted from live captive bears (Feng *et al.*, 2009). Bear bile is typically used in traditional Chinese medicine to treat a variety of ailments as well as for entertainment and other health-related uses. The coveted active ingredient found in bear bile is ursodeoxycholic acid (UDCA), a compound shown to have health benefits for the liver and bile ducts in humans when consumed (Ishizaki *et al.*, 2005). Bears are typically kept in the same cage on the farms for their entire life and are subjected to painful extraction procedures and malnutrition aimed at increasing bile output and reducing farm operation costs. These poor living conditions and unsanitary bile extraction procedures result in lasting infections and poor breeding outcomes, causing farmers to illegally poach bears from the wild to continuously supply their farms (Loeffler *et al.*, 2009). The species most at risk of being poached for bear bile farming are the Asiatic black bear (*Ursus thibetanus*) and the sun bear (*Helarctos malayanus*), both of which are listed as vulnerable by the International Union for Conservation of Nature (IUCN) (IUCN Red List, 2021).

#### *Where Is Bear Bile Farming Practiced?*

While centered in Asia, the bear bile farming industry has quickly become a global problem. Bear bile farming and usage in traditional medicine originated in China, but quickly spread to other countries such as Japan, Korea, and Vietnam (Livingston *et al.*, 2018). Although countries such as South Korea and Vietnam have since banned the practice of bear bile farming, China still allows the tradition. The bear bile farming industry has expanded to include a global reach with consumers as far away as Australia and the United States in addition to the main consumer base in China. This global demand is partially driven by black-market trading in hotspots such as the Golden Triangle, which is known for illegal activities including gambling, prostitution, and the selling of illegal drugs (Livingston *et al.*, 2018).

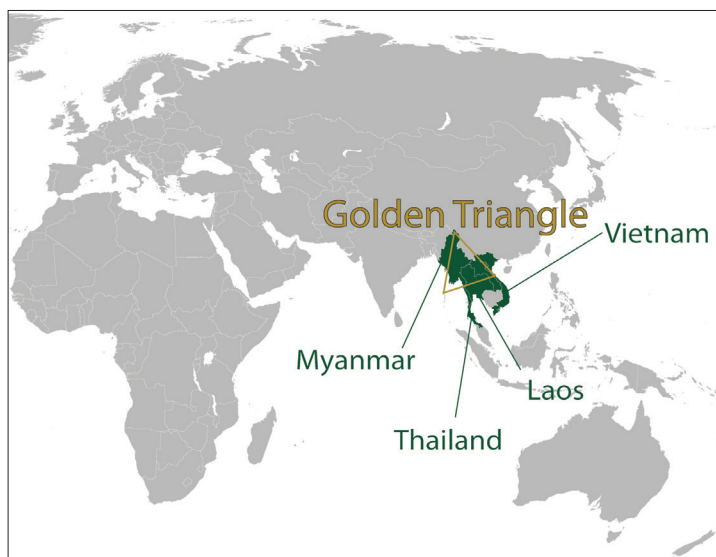


Figure 1. The Golden Triangle is an area of high black-market activity located where Thailand, Laos, and Myanmar meet.

### *The Role of Conservation Medicine*

Conservation medicine is an interdisciplinary field that analyzes the relationships between human, animal, and environmental health. It involves the collaboration of many professionals including scientists, anthropologists, veterinarians, policymakers, and more to come together to understand how the health of the planet is interdependent. The goal of collaboration is to create solutions involving the health of entire ecosystems to solve conservation medicine issues (Aguirre *et al.*, 2002). Resolving the controversy of bear bile farming will require a multifaceted approach involving policy changes, alterations to health care systems, increased education, and an understanding of bear bile's function within society and culture to find solutions benefiting the health of humans, animals, and ecosystems as a whole.

#### *Question*

1. What are some ways the health of bears, humans, and the environment could conflict to create a conservation medicine issue? Brainstorm and briefly research human-wildlife conflicts frequently associated with bears in Asia.

## Part II – Human Dimensions of the Bear Bile Industry

### *Historical Roots in Traditional Chinese Medicine*

Traditional Chinese medicine is a holistic approach to treating physical and mental illnesses, stemming heavily from influences by traditional Chinese philosophies such as Confucianism, Buddhism, and Taoism (Yang *et al.*, 2009). The practice focuses on life energy (qi) imbalances in the body and seeks to regain equilibrium in the body's energy through a combination of acupuncture, herbal medicine, and physical treatments such as massage. One such medicinal compound, bear bile obtained from the gallbladder of a bear, has been considered a prized ingredient in traditional Chinese medicine for centuries, and is described in the earliest official pharmacopeia as far back as 659 AD (Dutton *et al.*, 2011). Its active compound UDCA is utilized by practitioners of traditional Chinese medicine to treat ailments such as inflammation, swelling, and pain relief in humans (Feng *et al.*, 2009; Kikuchi, 2012; Livingstone *et al.*, 2018; Loeffler *et al.*, 2009).

Acquiring bear bile for medicinal use originally required the hunting of wild bear species such as Asiatic black bears and sun bears throughout the forests of Asia, but with populations dwindling due to overharvesting, countries began establishing bear farms as an alternative source of bile to allow wild bear populations to rebound. In the 1980s, China became the first country to establish commercial bear bile farms, with many countries such as Japan and Vietnam following suit (Feng *et al.*, 2009). By 1990, the price of 1 kilo of bear gall bladder skyrocketed from approximately 200 USD in the 1970s to costing between 3,000 and 5,000 USD (Feng *et al.*, 2009). However, as the unsanitary and unethical conditions in which bears were kept on the farms became apparent, countries such as South Korea declared bear farming illegal in 1992. Vietnam soon became a signatory to the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1994, prohibiting cross-border trade of bears (Crudge *et al.*, 2020). Additionally, in 2005, regulations were introduced to limit the number of wild-sourced bears entering the bear bile farms in Vietnam as the establishment of bear bile farms did not reduce wild bear poaching given that wild bear bile is believed to be more potent than captive bear bile (Crudge *et al.*, 2020). Despite the numerous attempts to halt the practice of bear bile farming, the legality of farming fluctuates depending on the country, leading bear bile farms to sell their product on black markets often without consequences from the law (Crudge *et al.*, 2020; Livingstone *et al.*, 2018).

### *Current Role in Society and Culture*

Historically, bear bile has been a rare and expensive product reserved for the affluent or seriously ill (Dutton *et al.*, 2011). This association with exclusivity and privilege persists today as many new buyers are attracted to the use of bear bile as a status symbol of increasing socioeconomic standing. Beverages such as wine and tea are infused with bear bile to show off wealth when entertaining guests. More commonly used products such as shampoo or toothpaste may also include bear bile as an ingredient, attracting those who want status symbols in their everyday life (Asia, 2015; Figure 2).

In recent years, traditional Chinese medicine pharmacies have also begun marketing bear bile for alternative health uses such as curing hangovers and application to the skin for acne treatment without adequate evidence of success, leading to further commercialization of bear bile products (Asia, 2015). Additional alleged medicinal uses of bear bile range from treating sore throats, hemorrhoids, and fever to curing epilepsy and improving eyesight (Isaacs, 2013). While bear bile does have some validity as a medicinal compound due to the presence of UDCA, which functions to break down lipids, it is not effective for the majority of ailments traditional medicine attempts to use it for



Figure 1. Bear bile is used in a variety of products such as wine, tea, cleanser, toothpaste, and tea.

Credit: Courtesy of Animals Asia Foundation, used with permission.

(Isaacs, 2013). Studies have also shown that UDCA can be made synthetically in a lab or by using the bile of cows and pigs (Livingston *et al.*, 2018).

With the negative implications of bear bile consumption coming to the forefront, public campaigns have tried to discourage the use of bear bile in favor of synthetic alternatives across countries where it is sold, each with varying levels of success (Livingston *et al.*, 2018). Billboard advertising, community center presentations, and celebrity ambassadors encourage citizens to forgo the use of bear bile. Additional effort is put into presentations at colleges and traditional medicine universities intended to educate younger generations of students about the controversy involved with bear bile farming and the effective synthetic and herbal alternatives available. Organizations such as Animals Asia work with student groups in China and Vietnam to create public message campaigns through social media, photo exhibitions, and street displays, so that younger individuals are then able to educate their friends and families about bear bile farming (Public Awareness, n.d.). With the increased use of social media and the internet, coverage of bear bile farming has reached a wide audience and helped pressure governments to make changes to bear bile farming. South Korea completed a sterilization program in 2017 to help phase out farms and Vietnam promised to shut down all farms by 2022. Despite these great strides, bear farming is still legal in China, the country from which the majority of production and demand originates. As of 2018, it is estimated that roughly 70 farms exist in China, with approximately 10,000 bears held captive.

### Questions

2. Taking into consideration the cultural and historical significance of bear bile, why did China legalize bear farming? Do you think this was an effective measure?
3. How might you incorporate the cultural significance of traditional medicine with synthetically produced UDCA? Conduct additional outside research to further understand the philosophical connection to traditional Chinese medicine.

### Use and Gender

The use of bear bile is strongly rooted in traditional values and culture, which play a significant role in who consumes it and why. A study examining the social and geographic profiles of individuals who consume bear bile demonstrated that men are 1.8 times more likely to consume bear bile than women. It was suspected that a difference in values and social lifestyles between genders influenced bear bile consumption (Vu, 2010). Men are known to consume bear bile to cure a specific health problem, to improve general health, and for entertainment. Women, on the other hand, only consume bear bile to cure specific health problems. What accounts for these discrepancies in use?

Women, in general, do not use bear bile to improve their general health as their views toward wildlife products differ from men. Men are more inclined to believe wildlife products such as bear bile improve one's overall strength, stamina, and sexual performance. Bear bile marketing strategies capitalize on these beliefs by advertising products as sexual performance boosters and strength enhancers to target men who are more inclined to purchase the products (Vu, 2010). Men are also more inclined to use bear bile for entertainment and business purposes. Bear bile wine is often used as a status symbol to demonstrate wealth and success to potential business partners and friends (Vu, 2010). Women, who are more focused on family and the home, are less likely to socialize over alcohol than men.

### Question

4. Why is using bear bile to cure a specific health problem a common reason for bear bile consumption in both men and women? Conduct additional outside research to further understand the differences between gender in terms of bear bile consumption.

## Animal Welfare

In recent years, the welfare of bears involved in bear bile farming has been subject to scrutiny as the process of extracting bile causes great pain and harm to the bears. Bear bile extraction includes a new method called the free-dripping fistula technique in which farmers place a catheter through a hole in the abdomen that connects directly to the gall bladder, allowing the bile to drip into a pan or be removed by a syringe (Loeffler *et al.*, 2009). Often, the bears experience high rates of infection and disease as they do not receive appropriate medical care from qualified veterinarians. The bile many of these bears produce is contaminated with pus, feces, urine, and blood, which poses a health hazard to those who choose to consume it (Animals Asia, 2020). Psychological effects manifesting through stereotypical behavior such as pacing, rocking, and headbanging result from the confinement of the bears to small cages where they are given very little room to move (Loeffler *et al.*, 2009). Once the bears are no longer used for bile production at approximately ten years old, they are slaughtered for their fur, paws, and meat to be sold at market. See the following references for additional information on husbandry, extraction techniques, and welfare considerations associated with bear bile farming: Denyer (2018), Hall (2016), Crudge *et al.* (2020), Li (2004), and Kikuchi (2012).



Figure 3. An example of the conditions many bears are forced to endure while living on bear bile farms. Credit: Asian Animal Protection Network, CC BY 3.0. <[https://commons.wikimedia.org/wiki/File:Bile\\_bear.jpg](https://commons.wikimedia.org/wiki/File:Bile_bear.jpg)>

## Perceptions and Attitudes Towards Animal Welfare

While keeping the ethics of bear bile farming in mind, it is important to also understand the origins of animal welfare and how attitudes towards non-human animals may vary across the globe and between individuals. The idea of imposing animal welfare standards began primarily in the West, with the United States passing the Animal Welfare Act in 1966 to help regulate the treatment of animals in laboratories and on exhibition. In recent years, as the idea of animal welfare spread across Asia, younger generations have begun acknowledging the unethical conditions in which animals are kept and treated, and as such, are changing the way they purchase and consume products (Su & Martens, 2017). With increased access to education and information about animal welfare, younger generations are typically more open to supporting animal welfare and have positive attitudes towards animals as opposed to older generations. Older generations often view animals as having a utilitarian purpose, meaning non-human animals are used for practical purposes for the production of either food, medicine, or labor to further benefit and advance society (Davis *et al.*, 2016; Kikuchi, 2012; Sukanan & Anthony, 2019). Views toward animals are rooted in reasoning rather than emotion or ideas of right and wrong (Su & Martens, 2017). Understanding the varying opinions on bear bile consumption is important to keep in mind when trying to advocate for change. Considering the use of bear bile in traditional Chinese medicine is a deeply rooted cultural practice; changes to the industry will not be made overnight and will require significant effort from individuals and governments around the world to enact protection for animals.

## Part III – Economic and Ecological Significance

### *The Economics of Bear Bile*

Throughout the world, China has become a key player in the bear bile industry by leading in both the production and consumption of bear bile. When China legalized bear bile farming in the 1980s, the market became flooded with bear bile products to fulfill consumer demand, and over time, the price began to decrease as the supply increased. As more farms were established, the supply gradually became a surplus, leading to the growth of a large illegal export business from China to other countries to sell excess products (Foley *et al.*, 2011). Although laws are in place to prohibit international wildlife trade, there are few enforcement mechanisms in place to ensure these laws are followed. The illegal exportation of bear bile from China has become a lucrative business as many surrounding countries in Asia have made the practice of bear bile farming illegal. As China is one of the few suppliers of bear bile, citizens of other countries are willing to pay significantly more to receive bear bile. A typical bear bile farm may split their products between Chinese markets and illegal exportation. The farms that export their bile are encouraged to do so because of the large difference in purchase price.

Over the past decade, there has been a shift among bile consumers away from farmed bile and towards wild bile products, where bile is acquired through the hunting of a wild bear. This shift in consumer practice has hurt Chinese markets as farmed bear bile prices have dropped significantly. Between 2010 and 2015, the price of bear bile went from 10 USD per .03 fluid ounces to 2 USD per .03 fluid ounces (Dutton *et al.*, 2012). This change is driven by a new consumer belief that farmed bear bile is not as potent or effective at curing ailments as wild bile. Additionally, consumers are becoming more aware of the poor conditions on bear bile farms and are hence opting for the wild version (Dutton *et al.*, 2012).

While awareness of the mistreatment of bears on farms is positive, this preference for wild bear bile has major consequences for bears currently living in farms. As farmed bile prices continue to drop, farms are unable to generate enough of a profit to keep the bears. Farms may further deprive the bears of key nutrients as they cut back on costs by providing less food (Kikuchi, 2012). Alternatively, farms may shut down entirely and dispose of their bears by having them slaughtered and sold for parts, such as paws and teeth, to make up for lost income.

Wild bears also face consequences as increased prices of wild bile create larger incentives for poaching. The entire gallbladder of a poached bear is worth more than 3,000 USD in Asia (Feng *et al.*, 2009). Additionally, as bear populations dwindle throughout Asia, poaching for gallbladders and bile has begun to expand into North America where black bears have now become a target (Animals Asia, 2020).

### *Questions*

5. Why is China a key player in the economics of bear bile?
6. Brainstorm additional consequences of falling prices for farmed bear bile and the closing of more farms.

### *The Ecological Role of Bears*

Asiatic black bears live in moist forests along steep mountains where vegetation is abundant, but unfortunately their extensive habitat range has resulted in them being the bear species most impacted by bear bile farming. As omnivores, their diet typically consists of fruits, insects, roots, small vertebrates, and scavenged carcasses often previously killed by large predators such as the Siberian tiger (*Panthera tigris tigris*). Asiatic black bears are considered a keystone species, meaning they play a vital role in their environment and ecosystem. As a keystone species, bears have important roles in their ecosystem including seed dispersal, control of forest pests, engineering new tree cavities, and helping to drive the nutrient cycle (Reid *et al.*, 2009). Without bear populations, forests suffer as termite numbers begin to grow unchecked and result in increased tree damage and death. Additionally, many plant species are unable to scatter their seeds as effectively if they can no longer rely on the bears' coats to carry seeds throughout the forest. If seeds are constricted to a smaller area, competition increases for space, sunlight, and resources, while plant diversity simultaneously decreases throughout the forest. As bear populations decline, the health of China's forests and the other species that dwell within them remain at risk.

## *Environmental Economics*

In 2018, wildlife tourism contributed 120.1 billion USD to the global gross domestic product (GDP), which was 5.2 times more than the revenue of the wildlife black market trade according to the World Travel and Tourism Council (WTTC). The largest market for wildlife tourism is in the Asian Pacific region and was worth 53.3 billion USD in direct GDP. The industry also provided approximately 4.5 million jobs to local citizens (WTTC, 2019). Asiatic black bears and Malaysian sun bears are economically significant for bear watching tours and visits to rehabilitation centers and sanctuaries. Countries throughout Asia are at risk of losing a keystone species that could have untold consequences on their ecosystems and therefore their wildlife tourism income (Steinmetz *et al.*, 2013). Providing these statistics to countries may help suggest that protecting wildlife for the wildlife tourism industry may be more financially rewarding in the long run rather than allowing them to be killed or used in wildlife trading.

“Our message to tourism businesses, employees, and visitors across the globe is that wildlife is worth far more alive than dead. Wildlife tourism is a rich segment of the industry, showing how our precious species can legitimately enrich tourism businesses without being harmed.” —Gloria Guevara CEO of WTTC

### *Questions*

7. If Asiatic black bears were removed from the ecosystem, what are some additional consequences that might occur? Conduct additional outside research to learn more about Asiatic black bears to determine their role in the ecosystem and what organisms would be impacted if they were removed.
8. Have you ever experienced wildlife tourism? If so, what was your experience like?
9. When discussing the economics of bear bile, to whom should the argument of the value of wildlife tourism vs. the value of bear bile be made to in order to effectively market the message to those most receptive? Consider individuals involved and their corresponding viewpoints towards bear bile.

## Part IV – Identifying Key Stakeholders

The topic of bear bile farming brings about great controversy between those supporting the practice and those condemning it, leading to an international debate between the stakeholders involved. Stakeholders are defined as individuals or organizations with a vested interest and opinion about a particular issue and how the situation is approached. Stakeholders vary in the power they possess to enact change and the degree to which they are directly impacted by the issue. Overall, stakeholders with an interest in the bear bile farming controversy can be divided into three distinct groups for further classification and analysis: international, national, and local.

### *International*

Under Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a treaty designed to protect endangered organisms, international and commercial trade of bear parts and products, including those of Asiatic black bears and sun bears, is prohibited (Wilcox, 2016). Despite the ban, illegal trade continues throughout the world in black markets as there is a lack of consistent law enforcement. Demand for bear bile products comes primarily from China, Japan, Malaysia, Taiwan, and South Korea, but individual governments, such as the country of Vietnam, have begun to combat the practice of bear bile farming by enacting country-wide bans prohibiting the extraction of bear bile (Loeffler *et al.*, 2009). Other countries such as China continue to allow the practice of bear bile farming as it has strong cultural roots and connections. Governments play crucial roles as stakeholders as they can enact policy changes regarding the legalization of bear bile farming by taking into account the economic, social, and cultural factors influencing the practice.

Global non-profits such as the Animals Asia Foundation also remain stakeholders as they continue to advocate for the cessation of bear bile farming by creating educational campaigns and opening sanctuaries in China and Vietnam aimed at rehabilitating bears rescued from the bear bile trade (Animals Asia, 2020). Educational campaigns gather public support to help put pressure on governments to enact policy changes. Animal activist groups and non-profits conducting rehabilitation fight for animal welfare, ensuring all animals are provided the five freedoms: freedom from thirst and hunger; freedom from discomfort; freedom from pain, injury, or disease; freedom to express normal behavior; and freedom from fear or distress.

### *National*

Throughout China, domestic trade and sale of bear bile are both legal as the animal product continues to play a large role in society through the continuation of cultural traditions and expression of social and economic status (Feng *et al.*, 2009). Traditional Chinese medicine has been practiced in China for over 3,000 years and continues to be utilized by many Chinese citizens as part of the country's health care system. In the 1950s, traditional Chinese medicine became more widespread in the teachings of colleges and hospitals during the nation's rebuilding phase, with a significant focus on the importance of Chinese cultural heritage and its role as a science (Hsu, 2009). Despite traditional Chinese medicine's resurgence, government agencies such as the Ministry of Health in China have begun to recognize the impacts the bear bile industry has on wild bear populations and captive bear welfare. Regulations regarding bear bile have now been issued by the Ministry of Health rather than the Ministry of Culture (Hsu, 2009). In 2001, the Chinese Ministry of Health stated they will no longer back any products containing bear bile powder in an attempt to decrease demand (Feng *et al.*, 2009).

### *Local*

Stakeholders impacted by bear bile farming on the local level include a variety of individuals, each with differing views on how the issue should be handled. Individuals owning traditional Chinese medicine outlets or bear bile farms and those employed by either rely on the income bear bile provides to support their families, and are often impacted greatly by the fluctuations in the supply and demand of bear bile (Wilcox, 2016). Due to the importance of bear bile in their cultural heritage and the commercialization of traditional Chinese medicine, consumers of bear bile remain critical stakeholders as they regulate demand for the product and influence the continuation of global markets. In con-



trast, individuals of the tourism industry may be negatively impacted by the continued use of bear bile in traditional Chinese medicine as the increased illegal take of wild bears reduces the amount of wildlife visible for paying wildlife tourism customers. With a lack of bears present, individuals running tourism companies lose money and are not able to support their families.

### *Questions*

10. Create a comprehensive list of the stakeholders involved in the bear bile industry and provide reasons why each stakeholder might support or reject both farmed and wild bear bile. Use information from the case as well as other outside resources.
11. What are some potential conflicts that could occur between stakeholders regarding the status of the bear bile farming industry? How might these conflicts be resolved?

## Part V – Moving Forward

Despite its cultural and social significance, bear bile farming in its current state is not a sustainable practice, and changes must be made to protect the welfare of captive and wild bears as well as humans consuming bear bile. Looking forward, a combination of behavioral and policy changes must be implemented to reduce and eventually eliminate the practice of bear farming and poaching around the world. Taking into consideration the historical and cultural significance, gender influence, ethics and values, and economic and environmental impact of bear bile, propose a comprehensive plan aimed at regulating or eliminating bear bile farming and bile consumption in China. The plan should include the following components.

- Culturally appropriate social marketing campaigns focused on education.
- Legislative solutions regarding animal welfare, farming, and poaching.
- Potential economic incentives for farmers or consumers.
- Ecotourism ventures as alternatives to bear bile farming.

Keeping in mind all of the stakeholders involved in bear bile farming, indicate who will be the target of each component of the plan and specify how each component will be implemented. Consider the potential benefits and consequences of both banning bear bile farming and allowing the continuation of the industry. If the practice continues, what animal welfare regulations would have to be introduced? How would increased regulations impact the farmers? Will the farmers be able to afford to properly care for the bears with increased regulations? What will happen to the bears if farmers are no longer able to afford their farms? If bear bile farming is declared illegal, will black market activity increase? Will bear bile farming be phased out all at once or in stages? How will farmers now earn an income and support their families?

Thoroughly discuss and deliberate all aspects of the bear bile farming industry to create the most appropriate, effective, and feasible plan possible. Incorporation of a multi-discipline analysis will help provide the best solution towards protecting the health and wellbeing of humans, animals, and the environment.

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