

The Price of Hope – Insights into Rhino Horn Consumption in Health-related Contexts in Vietnam

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It is estimated that the global value of illegal wildlife trafficking is between US\$7-23 billion each year and the majority of wildlife poaching and trade is carried out by highly skilled and specialized transnational criminal syndicates. Wildlife trade finances violent conflicts, contributes to national destabilization, and impedes economic growth in source countries. Consumers purchase and consume wildlife for traditional medicine, culinary delicacy, love charms, fashion, and decoration. Of the four endangered species in high demand (elephants, tigers, pangolins, and rhinoceroses), rhino horn is mainly used as a health tonic and, increasingly, a potential cure for terminal illnesses including cancer in Vietnam, and fetches a more-expensive-than-gold astronomical price of up to \$100,000 per kilogram. Of particular concern to the World Health Organization, governments, medical professionals and people around the world is the possible linkages between wildlife and recent surges in infectious diseases. Thomas Lovejoy, a senior fellow at the United Nations Foundation and professor of environment science at George Mason University, suggests that the vast illegal wildlife trade and humanity's excessive intrusion into nature is to blame for the coronavirus outbreak.

Rhino horn's chemical components include keratin, amino acids, sterols, guanidine derivatives amine (ethanolamine), acidic peptide, sugar, and phosphorus-containing substances. The usage of rhino horn in traditional medicine started in China as early as 2600 BC. The listed effects are latent-heat-clearing, anti-inflammatory, antipyretic, detoxicant, and anticonvulsant activities. In Vietnam, rhino horn has been used as an ingredient in the treatment of high fevers and convulsions, hemorrhaging, detoxification from alcohol or poison, epilepsy, high blood pressure, allergy, measles, stroke, long-term sleeping disorder, and recently, cancer.

Using an interpretive qualitative approach, we explored the process through which Vietnamese consumers form beliefs, shape attitudes, normalize and legitimize their rhino horn usage. We discovered that in health-related contexts, consumers use rhino to cure cancer and treat non-life threatening illnesses, detoxify, and boost wellness. These causal conditions were most often signaled by physiological changes (for example, pain, discomfort, weight loss, fatigue, hangover), however there also were incidents where consumers were in perfect health (or asymptomatic) but wished to improve general wellness and protection from potential diseases. Consumers typically started using rhino horn either at the onset of the changing health condition or in the middle or end of Western medical treatments when the treatment was either of little effect or had become ineffective.

We also found that consumers bought rhino horn not only for themselves but loved ones as well. Family bonds and responsibilities are quintessential in Asian culture and fulfilling one's spousal, filial, or familial duty is imperative to Vietnamese consumers. This sense of indebtedness and responsibility prompted consumers to purchase rhino horn for loved ones and in doing so, some consumers found solace knowing that they had spared nothing for their family members. This comforting thought soothed consumers' anguish and suppressed anticipatory remorse and guilt (in the case of family members of dying cancer patients) even though they knew the survival

prospect was low. On their part, patients sometimes took rhino horn as a gesture of appreciation and gratitude to their family members and givers.

Motivated by directional goals and crippled by information asymmetry, consumers not only readily accept anecdotal information about rhino horn's effects and unequivocally trust sellers but also deny and dismiss scientific evidence to the contrary. This self-serving bias is one of the central tenets of motivated reasoning, that goals can direct motivated reasoning to produce systemically biased beliefs. In recruiting evidence to justify their purchase, consumers enlist old myths, rhino horn's price and scarcity, its physical attributes, and even influence from the rich and powerful as proof of public wisdom. Tropes such as "people" and "everyone" were frequently used to validate and normalize purchases. We also found that besides treatment motivations, consumers also purchase and gift rhino horn to show empathy and compassion, and to possibly win favor, particularly in business contexts. The higher-than-gold price of rhino horn, its illegal status, and scarcity signify the relationship between the giver and the recipient, whether the act of gifting is altruistic or not.

Regarding intervention programs, we found that public awareness campaigns highlighting the near extinction status of rhinos might have limited success because it's unlikely that consumers will stop using rhino horn out of concerns for its extinction if they still believe that it might cure cancer or other terminal illnesses. We recommend that along with campaigns appealing to consumers' concern for the plight of rhinos, messages effectively debunking rhino horn's mythical medicinal properties should be considered, using well-known health experts or actual consumers who have used rhino horns and did not achieve the intended goals.

Our study shows that consumers use rhino horn's scarcity and price as proof of its medicinal properties. One possible, albeit provocative, way to impair this association is perhaps to make rhino horn more available to lower its price. This is a risky proposal, but instead of incinerating all confiscated rhino horns, the Vietnamese government might want to consider selling certified rhino horn at an extremely low price through a national registry that limits the amount available for purchase per each registrant. By selling confiscated rhino horns to the public at a very low price, the government would not only make them less scarce but also puncture rhino horn's magical bubble, making it less desirable. Poachers and traders might become less motivated to smuggle rhino horn into Vietnam, sellers of illegally traded rhino horn would not be able to sustainably compete with the extremely low price and abundant supply offered by the government, whose stockpile of confiscated rhino horns probably far outweighs what is available on the black market. We also recommend that the Vietnamese government consider legislating and implementing harsher punitive measures for rhino horn traders and consumers as well as health practitioners or healers who recommend it.

Last but not least, we suggest that early education not only stress the importance of biodiversity and the near extinction status of many species, but also reject hearsay about the medicinal properties of pangolin scales, bear bile, tiger bones, and rhino horn. We suggest that wildlife education be included in primary, secondary and high school curricular in Vietnam in order to achieve this goal.