Utilization Practices and Conservation Impacts of Endangered Wildlife in Asian Countries

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Abstract. The Asian region is globally renowned for its unparalleled biodiversity, rich ecosystems, and unique cultural heritage. However, the delicate equilibrium between human societies and the diverse flora and fauna faces increasing challenges due to the region's rich biodiversity and escalating utilization of wildlife resources. Hence, this paper aims to document the utilization of endangered wildlife across Asian countries and to report the existing conservation measures and recommendations for sustainable wildlife management over the years. We employed prominent academic databases, specifically SCOPUS, to explore the dynamics of wildlife utilization and its associated implications. From the findings, 9,989 records were successfully identified. However, only 65 articles were included in the review after the screening process. A total of 61 species, comprising 30 mammals, 22 reptiles, one amphibian, and eight birds, all endangered, were identified as subjects of wildlife utilization in 16 Asian countries. China possessed the highest count for wildlife utilization across all categories, including 15 species used for trading purposes. In conclusion, this research underscores the critical need for integrated approaches that balance human needs and conservation imperatives to ensure a sustainable future for Asia's wildlife biodiversity.

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1 Introduction

Wildlife has long served as an essential source of food, medicine, livelihood, and cultural significance for human populations [1]. When managed sustainably, wildlife can function as a replenishable natural resource, ensuring a consistent supply of nourishment and income, particularly in rural regions [2]. However, unsustainable levels of wildlife exploitation have been linked to species extinctions [3, 4], and present a significant global biodiversity threat [5]. This is due to hunting of wildlife for subsistence and trade is a widespread phenomenon, especially across tropical Southeast Asia [6, 7]. Hussain and Khan [8] reported that wildlife has changed its dimension in recent years from subsistence to commercial trade and Southeast Asia is the epicenter of wildlife trade. This results in large quantities of wild animals are now on the brink of extinction, such as Chinese pangolin (Manis pentadactyla) and tiger (Panthera tigris) [9, 10]. Additionally, Indonesia is one of the countries with a high prevalence of illegal and unsustainable wildlife trade [11].

Asia, renowned for its rich biodiversity and global ecological significance, has become a central area of concern for scientists and conservationists on a global scale [12]. This diverse continent spans tropical rainforests, towering mountain ranges, and a spectrum of species, ranging from charismatic megafauna to the tiniest organisms [13]. Nevertheless, within this natural grandeur lies a complex interplay involving human activities, the utilization of wildlife, and conservation endeavors. Grasping the profound repercussions of wildlife exploitation on conservation is vital to address urgent challenges, which include zoonotic diseases and illegal wildlife trade. These issues present severe threats to ecosystems and human health [14].

This paper specifically directs its focus toward Asian countries where wildlife utilization is particularly high. These nations are known for their diverse ecological landscapes, which are home to a wide range of wildlife, ranging from elusive tigers to graceful cranes. However, this biodiversity richness is accompanied by numerous challenges, including human-wildlife conflicts and the vulnerable status of many species. Therefore, the primary objective of this review is to document the utilization of endangered wildlife across Asian countries, in addition to reporting existing conservation measures and recommendations for sustainable wildlife management over the years. By meticulously examining the existing literature, this review seeks to bridge the gap between knowledge and the practical aspects of wildlife utilization in Asian countries. It also aims to provide researchers and stakeholders with the necessary information to work toward biodiversity conservation collaboratively.

2 Materials and Methods

2.1 Database selection and search strategy

Our data collection primarily focused on the SCOPUS database, renowned for its extensive repository of scholarly articles and research across disciplines, ensuring comprehensive coverage. To refine our search, we combined different keywords using Boolean operators such as “AND” and “OR”. During our search strategy development, a preliminary scoping exercise was conducted to identify the most relevant keywords and phrases related to wildlife utilization.

The following search terms were used:

1. (“Wildlife”) AND (“Utilization” OR “Utilisation”)
2. (“Wildlife”) AND (“Consumption” OR “Consume”)