

Whose Feathers? Changes and Conflicts in the Use of Mountain Hawk-eagle Feathers among Rukai Communities in Taiwan

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ABSTRACT

In Rukai culture, the mountain hawk-eagle is a very sacred and symbolic bird to aristocratic families. Recently, some scholars have called the government's attention to address the near extinction of the mountain hawk-eagles by restricting the hunting and trapping of this species through strengthening the law enforcement. The following research primarily focuses on the continuity of the indigenous cultures of Taiwan by conducting interviews with individuals from the Rukai communities regarding the changes and conflicts between the traditional use of feathers by ceremonial practitioners versus the conservation of the mountain hawk-eagles. This study suggests that the government should invite relevant authorities, indigenous representatives, and local leaders to establish a co-management committee with legitimate power, so as to ensure the sustainable feather usage of the mountain hawk-eagle species.

Keywords: mountain hawk-eagle, ethnoecology, political ecology, eagle repository, imitation feathers

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誰的羽毛？魯凱族熊鷹羽毛利用的變遷與衝突

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摘 要

在魯凱族文化中，熊鷹是極具代表性的猛禽，族人認為熊鷹羽毛具有象徵性權利的意義，是部落頭目或重要人物的表徵。近幾年野生動物保育意識高漲，有些學者認為原住民狩獵文化不合時宜，有關單位必須正視原住民利用熊鷹羽毛導致熊鷹瀕臨滅絕的事實，因此呼籲加強執法，杜絕熊鷹的獵捕。本研究以民族生態學及政治生態學的角度，欲瞭解魯凱族使用熊鷹羽毛的文化及與保育的衝突，當中訪談了 52 位族人，包括頭目、獵人及社區幹部等等。本研究發現魯凱族仍然保有獵捕熊鷹的禁忌和倫理，希望有關當局能與族人合作，例如設置熊鷹羽毛庫、制定部落公約、成立資源共管委員會，設立獵人學校，以及推展生態旅遊等措施，找出熊鷹保育和文化保存雙贏的途徑。

關鍵詞：熊鷹，民族生態學，政治生態學，熊鷹羽毛庫，仿真羽毛

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1. Introduction

Since time immemorial, people have relied on a variety of natural resources for survival. Apart from the life-sustaining flesh that it provides, the skin, fur, feathers, and teeth of animals have been used for warmth, adornment, and conducting various religious sacrificial rituals (Lawrence 1990; Murray 2011). People have been using animal resources for a long time, a practice that has generated distinct cultures and knowledge. The science of ethnoecology emerged from research on people's utilization and management of animal resources and has garnered much attention in recent years. In addition to research on animals, ethnoecology mostly addresses issues concerning social development and continuity of traditional culture and knowledge in modern times.

In Paiwan and Rukai communities in Taiwan, the mountain hawk-eagle¹ is a very emblematic bird of prey and has been discussed in many ethnographic studies (Demalat 2002; Gu 1989; Hu 2011; Pan 1996, 1998; Shi 1971; Wu 1993). The first reference to sacrificial ceremonies, naming places, and taboos related to mountain hawk-eagles appeared during the Japanese colonial period (Kojima and Kobayashi 2004[1922]: 145-146), after which more anthropological researches on the subject started to emerge. Studies suggested that mountain hawk-eagle feathers carry a symbolic meaning, representing chieftains and other important members in the community (Hu 2011). Gu's (1989) notes taken during her research on the clothing culture of the *Paridrayan* community in Taiwan, indicated that the use of mountain hawk-eagle feathers in this community related to positions and titles. Hu also discussed the cultural significance and the use of mountain hawk-eagle feathers in the Paiwan *Kuljaljau* community, a practice that has long been passed down to later generations (Hu 2011: 11-43). Meanwhile, with the emergence of wildlife conservation, natural sciences have been incorporated into ethnoecological researches to investigate the indigenous use of mountain hawk-eagle feathers and the conservation issue of this species. Despite the widely recognized importance of indigenous cultural preservation, the hunting culture of indigenous peoples is inconsistent with contemporary trends. Relevant authorities must acknowledge that the use of mountain hawk-eagle feathers by indigenous peoples is driving mountain hawk-eagles to extinction, a fact which calls for bolstering the strength of law enforcement and the cessation of mountain hawk-eagle hunting (Chung 2001; Lin 2000; Yang 2004). As ethnoecological

research in Taiwan is still in its early developmental stage, there is a lack of relevant studies, especially studies on the usage of mountain hawk-eagle feathers in indigenous communities. A clear and comprehensive discussion of the actual use of mountain hawk-eagle feathers in indigenous communities is problematic. For instance, there has been no systematic research on Rukai communities, which are known for using mountain hawk-eagle feathers more often than any other indigenous groups in Taiwan. This makes it difficult to conduct a large-scale analysis to compare the culture, usage, and attitudes towards mountain hawk-eagle feathers across different communities. Thus, a more thorough examination and understanding is needed in order to strengthen ethnoecological researches in Taiwan.

After the recent Convention on Biological Diversity, the issue of cultural diversity has drawn worldwide attention. Interest has grown with respect to the tension between conservation and indigenous cultures. The code of professional ethics established in the 10th International Congress of Ethnobiology held in Chiang Rai, Thailand, on November 8, 2006, stated that culture and language are essentially linked to land and territory, and that culture, language, and biodiversity are inseparable. Therefore, the International Society of Ethnobiology acknowledged that indigenous peoples, traditional societies, and local communities have the rights and responsibilities to practice conservation and to preserve their culture and language while managing their land, territory, and traditional resources and declared their key roles in maintaining biodiversity on Earth.

Over the past few decades, indigenous rituals, beliefs and taboos in hunting, gathering and farming have made a unique contribution to ecological conservation, and indigenous ways of knowing have gradually received attention and recognition from the governments and the preservation organizations. This traditional knowledge, also known as traditional ecological knowledge (TEK), is endorsed and praised by anthropologists and ecologists (Armitage 2003; Becker and Ghimire 2003; Berkes and Folke 2002; Brodt 2001; Ghimire and Pimbert 1997; Gómez-Baggethun et al. 2013; Gómez-Pompa and Kaus 1992; McNeely 1994; Smith 2001). Therefore, maintaining traditional resource management method, or innovating new patterns of resource management system founded on traditional concepts, including TEK, has become a focus of discussion in natural resources management since 1990 (Hanna et al. 1996; Hellier et al. 1999; Ostrom 1990). In his book *Sacred Ecology: Traditional Ecological*

Sasala Taiban, Jun- Lin Chen, Yuan-Hsun Sun • Whose Feathers?
Changes and Conflicts in the Use of Mountain Hawk-eagle Feathers among Rukai Communities in Taiwan

Knowledge and Resource Management, Berkes points out that several fascinating case studies outlining the ways in which indigenous cultures can manage and care for their lands sustainably. The examples of tropical rainforests, semi-arid regions, Pacific Islands, the Caribbean and the James Bay region are interesting. They show how indigenous cultures have an in-depth understanding of their local ecosystems and how they develop adaptive strategies to ensure the maintenance of a healthy, productive and sustainable ecosystem (Berkes 1999).

In this study, we argue that indigenous cultures should not be distorted and become victims of conservation. Therefore, it is necessary not only to study the cultural use of eagle feathers of the Rukai, but also to explore the symbolic implications behind the culture. At the same time, the study will also explore the possibility of seeking a win-win solution for indigenous cultures and conservation through the amendment of the conservation law and the establishment of the mountain hawk-eagle feather repository. This two-year study on the use of mountain hawk-eagle feathers was conducted in three Rukai groups, namely the Western Rukai in Pingtung, the Eastern Rukai in Taitung, and the Xiasan Rukai in Kaohsiung, and 52 people from 14 indigenous communities were recruited for the study. This study aimed to determine approaches that would allow the coexistence of indigenous cultures and conservation, which would also bring about implications for modern conservation, and positive and constructive benefits to the preservation of indigenous cultures, the sustainable development of mountain forest environments, and the effective management of natural resources.

2. Literature Review

Without a written language to serve as a narrative tool in indigenous cultures, indigenous peoples are often mistakenly regarded as people without history. Their legends, oral histories, and local stories are generally considered to be unreliable and are often ridiculed. Therefore, ethnographic studies often omit discussions of traditional ecological wisdom, place names and meanings, and systems of symbolic representation. However, the recent implementation of the Indigenous Traditional Territory Survey by the government has inspired more studies on indigenous territories, place names, and land surveys to be conducted. Many studies on

traditional ecological knowledge have been published in ethnoecology, environmental anthropology, and agricultural ecology in the last 50 years (Hunn 1999). In particular, researches in ethnoecology and environmental anthropology have found that the livelihood strategies used in indigenous communities were often adapted to their local environments in order to achieve balance with them (Altieri 1995; Nazarea 1999).

Ethnoecology is a study of the relation and interaction between the local community and its surroundings. Levi-Strauss (1969) believes that local knowledge is a system of classification with scientific significance and can be used as another means to understand the world for Western researchers. Clifford Geertz (1983), an expert in symbolic anthropology, believes that local knowledge is the common sense developed by local residents to understand the surrounding environment (Geertz 1983). Evans-Pritchard believes that indigenous knowledge is a logical process of thought and practice and is equal in value to Western sciences (Evans-Pritchard 1963). In addition, many scholars believe that the ethnoecological classification system is an accumulation of knowledge from observing and utilizing animals, plants, and natural phenomenon over a long period of time by local communities, and may therefore provide the modern society with ways to interact with the environment and live in harmony with nature (Castetter 1944; Conklin 1957; Nazarea 1999).

In recent years, many international scholars have gone beyond the scope of culture, and incorporated the issues of power, knowledge, and politics into conservation. Their studies point out that conservation policy should not be isolated from the broader affairs of politics, economics, and cultures; rather, it should undergo a process of negotiation and confrontation among stakeholders (Bryant 1997; Escobar 1996; Gadgil and Guha 1993; Hecht and Cockburn 1989; Merchant 1994; Peet and Watts 1996). Such an idea made political ecology one of the hottest areas of research at the end of the twentieth century. More and more anthropologists, ecologists, and geologists begin to emphasize the dynamics and conflicts between culture and space, and believe that it is necessary to examine the meanings of cultural politics in the utilization, management, and representation of resources in different geological environments (Sivaramakrishnan 1999: 16). On this particular point, issues such as changes in the use of lands and resources are bound to relate to conflicts in politics instead of being a simple topic of culture that is separate from power dialectics.

Among the indigenous communities in Taiwan, mountain hawk-eagle feathers are mainly used by the Paiwan and the Rukai. The Rukai people believe that the mountain hawk-eagle is an incarnation of the hundred-pacer, and only the chieftains and warriors have the privilege to wear the feathers. In the past, the Rukai people were not allowed to hunt mountain hawk-eagles; if a mountain hawk-eagle was inadvertently killed, tribal members were bound to conduct a ceremony to comfort the bird's soul, otherwise, bad luck would come along (Hsu 1987). Elders from *Kucapungane*, a Rukai community, said that their ancestors came from the eastern coast of Taiwan, crossed the Central Mountain Range under the guidance of the clouded leopard and the mountain hawk-eagle. After arriving at *Kucapungane*, the clouded leopard refused to move any further, thus, the ancestors decided to stay and settle down. As a result, *Kucapungane* is known as "the home of the clouded leopards". To express their gratitude, the Rukai people prohibited the hunting of mountain hawk-eagles and clouded leopards. Moreover, the mountain hawk-eagle is considered sacred as established through oral traditions, so the *Kucapungane* people prohibited eagle hunting. If an eagle is killed or captured by mistake, it is released or abandoned and cannot be eaten or taken back to the community; the failure to release or abandon it is believed to bring danger and bad luck (Kadresengan 1996).

The Rukai's use of feathers as a symbol of privilege has a long history. The mountain hawk-eagles symbolize chieftains and warriors while the feathers of *Mikado pheasants* and *Swinhoe's pheasants* are also symbols of significant status, contributions, or achievements. In the past, if a tribal member suffered from an incident or went missing, the community would dispatch young members to the rescue mission. The first person to retrieve the victim would have the privilege to wear a *Mikado pheasant* feather. Those who prayed for rain and helped the community survive the drought were also allowed to wear *Swinhoe's pheasant* feathers. Runners who were responsible for delivering important news or the hunters who managed to capture or kill over five male wild boars received the privilege to wear lilies in public places and decorate their house fronts with lilies or animal symbols to honor their heroic deeds (Taiban 2006).

The aforementioned research mainly summarizes the tradition of the use of mountain hawk-eagle by the Rukai from the perspective of anthropology and cultural studies, and it

might be difficult to understand the current situation of excessive hunting that may occur when the Rukai are using mountain hawk-eagle feathers. Sun's (2007) study indicated that the eagle taming market and the indigenous use of eagles have resulted in an increase in the commercial hunting of mountain hawk-eagles since the 1960s. At the peak of this hunting activity from 2000 to 2005, about 40 mountain hawk-eagles were captured each year. As a result, the population of mountain hawk-eagles has decreased. Thus, in addition to a comprehensive research on Rukai's traditional use of mountain hawk-eagle feathers, contemporary use of mountain hawk-eagle feathers and the conflict between tradition and conservation must be investigated.

3. Research Methods

This study focused on the Rukai communities in southern Taiwan, including *Vutai*, *Kabalelradhane*, *Labwane*, *Karamemedisane*, *Adiri*, *Kinulane*, *Auba*, *Kudrengere*, *Kucapungane*, and *Laladengane* in Pingtung County, *Terdreka*, *Oponoho*, and *Kongadavange* in Kaohsiung City, and *Tarumak* in Taitung County (Figure 1). Researchers conducted in-depth interviews and a literature review to understand the use and management principles of mountain hawk-eagles.

The content of in-depth interviews included feather sources and purposes, feather-wearing methods, and the acceptance of alternatives to feathers. A map, mountain hawk-eagle images, photos of flying mountain hawk-eagles, and imitation eagle feathers were prepared for the survey. This study interviewed 52 people from 14 communities. Interviewees included chieftains, elders, hunters, and community leaders. The interviews and literature review aimed to collect data concerning people's views on the use of mountain hawk-eagle feathers to establish a reference and basis for future research on mountain hawk-eagle conservation and use.

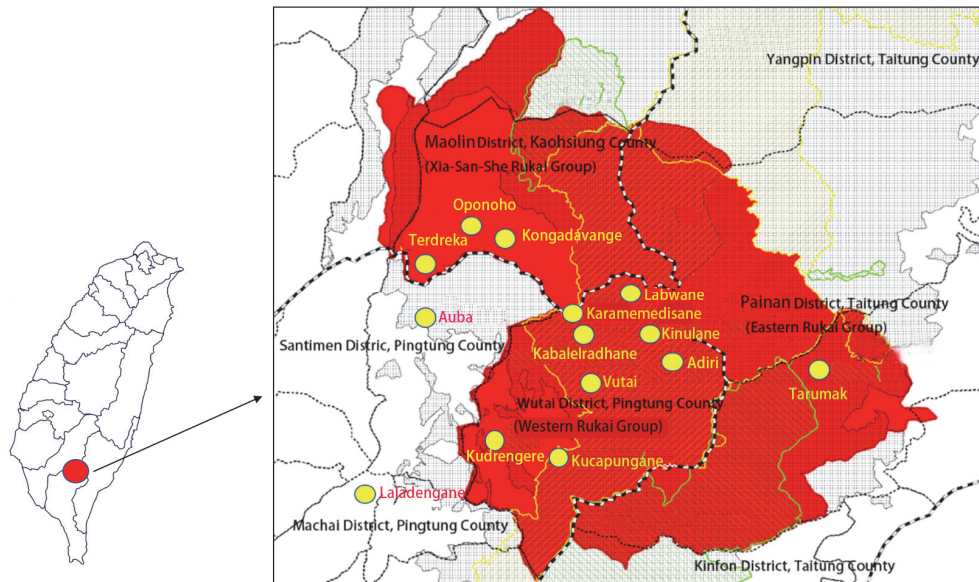


Figure 1 The locations of the Rukai communities in Taiwan

4. Origin and Methods relating to Mountain Hawk-Eagle Feather-Wearing Culture

4.1 Origin of the wearing of mountain hawk-eagle feathers

All Rukai members follow the tradition of wearing mountain hawk-eagle feathers. Elders said that this custom already existed before the Japanese colonial period, which suggests that the custom has existed for several centuries. However, the origin of this tradition cannot be identified. An elder in *Vutai* said that a Rukai chieftain who possesses the exclusive rights to land management, mountain and river management, and management over tribal members may wear a mountain hawk-eagle feather. The land that a flying eagle looks upon is entirely its hunting ground and, thus, belongs to that eagle. Therefore, an eagle feather, which represents power and respect, cannot be worn by anyone other than the chieftain. The chieftain of the *Karamemedisane* said that a chieftain must have *laegelaeye* (rivers), *kataengane* (land), and *dalupane* (hunting ground), as well as the right to manage the people living within the territory, in order to be called *raedre* (highest-ranking chieftain) and be

regarded as the true chieftain of the community.

The chieftain of *Kucapungane* believes that the mountain hawk-eagle flies in the air, much like the ruler, to patrol the land under its watch, to guard the resources in the field, and to maintain order within its territory. The chieftain who wears the feathers of the mountain hawk-eagle, like the eagle, emanates a sense of dignity and authority. The people may obtain permission from the chieftain to use the land for farming, and then provide a portion of the harvest to the chieftain as a tribute. In addition, upon return from a gainful hunting expedition within the chieftain's territory, hunters must offer the prey's internal organs and thighs as gifts to the chieftain as a display of allegiance.

Not only the chieftains, the finest headhunters could also adorn themselves with mountain hawk-eagle feathers in the past. After a headhunting expedition, warriors would present heads of the enemies to the chieftain and each of the warriors would be conferred with a mountain hawk-eagle feather to honor their bravery in protecting the community.

4.2 Weddings and funerals

A mountain hawk-eagle feather is an important betrothal gift when two chieftain families intermarry. In the past, marrying families would consult with the highest-ranking chieftain on the number of betrothal gifts to prepare, which was determined by their social status in the community. The family from a lower social status is to present betrothal gifts to the family of higher status. Clay pots or money could be used to substitute for mountain hawk-eagle feathers.

In the *Kongadavange* community, a marriage between a chieftain's family and that of a noble tribal member requires the *sabadulrau* ritual, during which a mountain hawk-eagle feather is presented to the chieftain's family as a betrothal gift. If *sabadulrau* were not done, the noble family could not adopt the chieftain's family name. The mountain hawk-eagle feather that is normally used as a betrothal gift is the primary feather (P10, Figure 2), called *kalesekesane*. Feathers used in the weddings among the *Karamemedisane* chieftains are *palrici* and *mulnimulrithane*². If the betrothal gifts do not include glass beads, they could be replaced with the primary feather (P4, Figure 2). The description above demonstrates that the precious value of mountain hawk-eagle feathers, as they could be regarded as a symbol of the

high prestige and status of the family during the wedding process. It further illustrates that the special value of the mountain hawk-eagle feathers is sufficient to match that of the glass beads and clay pots.



Figure 2 Positions of primary (P10-P1) and secondary (S1-S10) feathers of the mountain hawk eagle

In addition, when a *Kucapungane* chieftain is buried at a funeral, a mountain hawk-eagle feather is put on his head and a *taravigivigi* (priest) is asked to conduct the ceremony; once the ceremony is finished, the feather is taken and not buried together with the deceased, and the honor can be passed on to the offspring of the deceased. On the other hand, in the death of a *sibabara* (headhunting warrior), the mountain hawk-eagle feather is buried and not given to the deceased's offspring. In the past, *Tarumak* chieftains were buried with mountain hawk-eagle feathers as a symbol of honor. As burial practices have changed and cremation has become more common, mountain hawk-eagle feathers are no longer buried with the deceased and are passed down to the next generations.

4.3 Use of feathers

The shape (lanceolate or round), pattern, and barb count of the mountain hawk-eagle feathers worn by a Rukai member will indicate his or her social status in the community. The use of feathers, from the outer primary feathers (P10-P1, Figure 2) to inner secondary feathers (S1-S10, Figure 2), in different communities would be described below.

4.3.1 Primary feathers (P10-P1)

The first outer feather of the mountain hawk-eagle is called *kalesekesane* (P10), which means “little finger” or “fingernail” in the Rukai language. This is the strongest feather that helps the mountain hawk-eagle to fly upwards. A *kalesekesane* is usually used as a betrothal gift and can be worn only by senior members of the community. In terms of value, it is second only to a *palrici* and is commonly referred to as “the second rank.” The P7-P9 feathers, located between the outermost primary feather (P10) and the most valuable feathers (P5-P6), are called *taububane*, which means “sheath,” as the mountain hawk-eagle folds its wings into its *taububane*. The mountain hawk-eagle’s longest feathers, the *palrici*, are located in the position of lanceolate feathers (P5-P6) and have the form of a knife. Called “the first rank”, these are the most valuable feathers and are used in the head ornaments of the chieftains. The *palrici* are considered by the Rukai people to be the most honorable feathers and are also the longest feathers with the highest barb count. According to the *Terdreka* community, *palrici* means “turn.” Being the longest feather, it represents the greatest power in the community and the ability to drive and transform the community, and only the chieftains could wear this feather. Most of the Rukai people use feathers from both wings of the male mountain hawk-eagles, while the *Karamemedisane* plucks only *palrici* from the left wing of the male mountain hawk-eagles. The inner feather adjacent to *palrici* is called *silu* (P4), which means “necklace.” *Silu* is also referred to as *mulrimulrithane*, which means “most valuable glass beads.” It ranks third in terms of value, and is thus called the “the third rank.” When glass beads are missing from the betrothal gifts, they can be replaced by *silu*. Next to *silu* (P4) is *lrabu* (P3), which ranks fourth in terms of value and is called the “the fourth rank.” When there was a conflict between a community and other families, a headhunting warrior could wear *lrabu* and the valuable *palrici*. *Terdreka* headhunting warriors could wear mountain hawk-eagle feathers in their hair as a symbol of their heroic deeds.

4.3.2 Secondary feathers (S1-S10)

The Rukai do not attach much significance to round-shaped secondary feathers (S1-S10) and call them *siapakepake*. In the *Adiri* community, there is a particular type of secondary feather called the *kasilu*, which means “pearl”. In the past, the *kasilu* could only be worn by chieftains and nobles. The feather closest to the eagle’s body is called *panasingisingi*. All mountain hawk-eagle feathers are called *adisi* in the Rukai language but *lumu* by the *Auba* community. The *Vutai* and the *Karamemedisane* consider the round blunt feathers (secondary feathers S10-P4) to be *palrici* and the lanceolate feathers (primary feathers P10-P5) to be *kalisekesane*.

4.3.3 Number of worn feathers

In the Rukai culture, the number of mountain hawk-eagle feathers that people can wear depends on their class. The highest-ranking chieftain of the *Kudrengere* can wear three feathers, the secondary chieftain can wear two feathers and nobles can only wear one. The chieftain can choose how many feathers to wear according to his preference. Family members who are no longer a part of the highest-ranking chieftain’s immediate family can only wear inner or secondary feathers. The *Kucapungane* people usually wear two feathers in V-shaped arrangement, while a headhunting warrior wears only one *palrici*. The number of mountain hawk-eagle feathers worn by *Kucapungane* people ranges from one to three. The most common combination is one long feather and two short feathers. An elder from the *Kucapungane* said that, in the past, chieftains wore one feather to indicate their identity and did not need to wear more. The *Labwane* do not have any protocols regarding the number of feathers to wear. In earlier times, one feather was sufficient and a maximum of two small feathers could be added to the side. Multiple feathers were not necessary, as one feather already signified the honorable position held by a community member. The highest-ranking chieftain in *Kinulane* used to wear one feather. However, in order to distinguish chieftains and nobles from individuals who wore feathers yet disregarded traditional protocols, the community decided that the highest-ranking chieftain would wear three feathers, the nobles would wear two feathers and are prohibited from wearing *palrici* feathers.

In *Vutai*, the highest-ranking and secondary chieftains, and the nobles wear different numbers of feathers. The highest-ranking chieftain can wear two to three feathers, whereas

noble families that branched off from the chieftain's family can only wear one feather, and distant relatives and marginal nobles cannot wear any feathers. According to a hunter from *Vutai*, chieftains wear feathers with different barb counts depending on their position: those with higher position can wear feathers with more barbs. One mountain hawk-eagle feather has a maximum of nine barbs, the number of which is smaller in shorter feathers. The class of chieftains and nobles can be determined based on the barb count in the feathers they wear. In *Adiri*, the highest-ranking chieftain can wear three feathers, secondary chieftains can wear two feathers and lower-class nobles can wear one. The right to wear *palrici* is restricted to the highest-ranking chieftain; other chieftains and nobles are not allowed to wear *palrici*.

5. Changes in the use of mountain hawk-eagle feathers

In Rukai society, only the highest-ranking chieftains and headhunters used to have the rights and privileges to wear mountain hawk-eagle feathers. However, nowadays, mountain hawk-eagle feathers are not regarded as sacred as they used to be. With the loss of chieftain's power due to the disintegration of traditional social structure, increase of marriages between different ethnicities, rise of commoners, and the influence of the market economy, more and more ordinary tribal members have begun to wear mountain hawk-eagle feathers. Apart from the *raedre* (highest-ranking chieftains), secondary, tertiary and even marginal nobles began to wear mountain hawk-eagle feathers without regard to traditional protocol, and this has led to class confusion. As a result, the use of mountain hawk-eagle feathers has become increasingly common.

5.1 Disintegration of social class structure

In the old days, traditional norms in Rukai tribal communities were followed strictly. Each community was akin to a nation-state. Chieftains possessed the power to govern and was endowed with a substantial ability to lead the community. In addition to inherited land rights, chieftains could wear rare adornments and head ornaments. Hsu (1987) indicated that community members shared captured animals with their community. In addition, captured wild boars were first shown to the elders, chieftains, and hunters within the community, after which these individuals would then decide whether the hunter was qualified to wear a lily for

the achievement.

When making traditional clothing, commoners needed to receive approval from the chieftains to proceed. If a community member wore something that did not correspond to his or her status, he or she could be reprimanded by the community. In a traditional Rukai society, disapproving communal chatter is the best form of punishment as it is difficult for indigenous peoples to live their lives in a community when public opinion turns against them. However, the power of public opinion and punishments has been declining, resulting in the failure to enforce community norms and protocols.

The disintegration of the traditional structure of chieftains and social class has caused gradual changes in the Rukai culture. Nowadays, totems representing chieftains can be seen engraved by the houses of low-class nobles in Rukai communities. More and more people are wearing mountain hawk-eagle feathers publicly. These phenomena, which run contrary to traditional protocols, are indicative of the transformation of the traditional concept of social classes. The main reasons for the disentanglement of the chieftain position include the intervention of external political power and the influence of national policies; particularly, traditional social structure was greatly affected by a directive prohibiting tribute to chieftains enforced during the Japanese colonial rule.

In olden times, commoners farmed and hunted in exchange for the chieftain's allocation of land and privileges, but this relationship ended under the Japanese directives. Chieftains who were not familiar with labor activities needed to forego their privileges and sell their land to commoners in exchange for daily necessities (Hsu 1991: 22). Land survey performed under Kuomintang's policy led to land privatization, which further reduced commoners' willingness to pay tribute to chieftains. Moreover, with the introduction of local self-governance elections after World War II, the community power structure went through drastic changes. The election system was established by the Taiwanese government after the 1950s and led to many commoners being elected as political leaders of the community. As a result, traditional chieftains immediately lost their societal function and their power was transferred to the officials elected by the people. Additionally, with the changing economy, chieftains now need to engage in production in order to earn their living. Chieftains from many Rukai communities said that there is currently no difference between chieftains and commoners, and

that all of them need to work in order to survive. Thus, chieftains need to compete with commoners for job opportunities, and this change has put an end to the traditional society where upper and lower classes existed. With the loss of the chieftain's power, lower-class nobles began to wear mountain hawk-eagle feathers, which was originally worn only by chieftains. As chieftains cannot restrict their people's behavior, the wearing of mountain hawk-eagle feather became increasingly widespread.

5.2 Community marriage frequency and popularity

An *Oponoho* elder said that, in the past, the community did not hold mountain hawk-eagles feathers in high regard, but with the growing number of marriages between communities, the wearing of mountain hawk-eagle feathers as a custom was integrated into the *Oponoho* culture in order to adapt to the betrothal gift requirements. As a result, more people began to wear mountain hawk-eagle feathers. The *Oponoho* is a small community, in which marriages between different social classes are common, thus most people in the community are related to the aristocratic bloodlines, meaning that more and more people have been wearing mountain hawk-eagle feathers.

This phenomenon can also be observed in other Rukai communities. Particularly, the forming of relations between commoners and nobles through intra- or inter-community marriages is common among the western Rukai. The tradition of wearing mountain hawk-eagle feathers is also present in the Paiwan community neighboring the Rukai. Many Paiwan and Rukai peoples are related by marriage, which links the offspring of many lower-class nobles and commoners in Rukai communities to aristocratic bloodlines and thereby granting them the right to wear mountain hawk-eagle feathers. Due to the popularization of such class movement, the use of mountain hawk-eagle feathers is no longer restricted to chieftains and nobles.

5.3 Market demand for mountain hawk-eagle feathers

In former times, chieftains married only those who shared a similar status and there were no issues related to the right to wear mountain hawk-eagle feathers. With the recent weakening of the social class system, many chieftains marry commoners, lower-class nobles, and Han Chinese, who then purchase mountain hawk-eagle feathers in order to present them

Changes and Conflicts in the Use of Mountain Hawk-eagle Feathers among Rukai Communities in Taiwan as betrothal gifts. As a result, the market demand for mountain hawk-eagle feathers has increased.

Currently, the most valuable primary mountain hawk-eagle feathers cost NT\$40,000 (approximately US\$1,300) and the cheapest secondary feathers cost NT\$8,000 (approximately US\$260), while a male wild boar costs only NT\$15,000 (approximately US\$488). Hence, mountain hawk-eagle feathers are more expensive than wild boars and are more valuable on the market. Faced with a business opportunity, more and more hunters and arts and crafts stores sell feathers of the captured mountain hawk-eagles. Commoners with better economic capability hope to improve their social status by wearing mountain hawk-eagle feathers, and chieftains and nobles try to distinguish their honorable status by wearing more mountain hawk-eagle feathers. These incentives have indirectly determined the increase in mountain hawk-eagle hunting (Sun 2007, 2010).

6. Results

The 52 interviewees who participated in this study owned mountain hawk-eagle feathers. 18 participants received mountain hawk-eagle feathers as a present from other people; 21 participants purchased their feathers; 25 people inherited their feathers; 11 people obtained feathers from mountain hawk-eagles that they had hunted. Among the 21 participants who purchased their feathers, 16 people bought theirs in art stores, two from street vendors, one from a hunter, one from a neighboring community, and the last one from the relatives. Clearly, the majority (76.2%) of those who bought mountain hawk-eagle feathers purchased them from arts and crafts stores.

Regarding buyer motivations, 10 people bought feathers for their spouses when they got married. 12 participants (32.4%) used feathers when their children got married. Four participants used feathers in religious festivals. Four participants bought new feathers to replace old feathers. Four participants used feathers in their rites of passage to adulthood. Three people bought new feathers to replace damaged ones. Evidently, mountain hawk-eagle feathers were most likely to be purchased as a betrothal gift for their children's marriage (32.4%). Furthermore, according to 42 out of the 52 participants, the way mountain

hawk-eagle feathers were utilized in recent years has changed comparing to past usage; five people suggested that the way feathers were used has not changed; five participants did not give a clear answer. 29 out of the 42 people supported the traditional use of the mountain hawk-eagle feathers, accounting for 56% of all the interviewees. Among them, 22 people were concerned that the overuse of the feathers may lead to the extinction of the mountain hawk-eagles.

Concerning the acceptance of imitation feathers, 28 out of the 52 participants, accounting for 53.8% of all the interviewees, were ready to accept imitation feathers. 14 people were not ready to wear artificial mountain hawk-eagle feathers; six participants believed that imitation feathers were not symbolic enough to replace the genuine feathers; four did not offer an opinion on this issue. With regard to establishing a mountain hawk-eagle feather repository administered by the government, 32 participants (61.5%) expressed their support and willingness to stop purchasing feathers. Five maintained that they would continue to purchase feathers while 15 did not provide their opinion in this matter. 40 participants (76.9%) believed that the government should allow tribal members to apply for mountain hawk-eagle feathers during wedding preparation process and 29 (55.8%) reasoned that such applications must be honored for religious festivals. In addition, 22 (42.3%) held that access to mountain hawk-eagle feathers should be allowed when an old feather becomes damaged. Based on the study, we can deduce that the need for the mountain hawk-eagle feathers for weddings (76.9%) is the primary concern among indigenous peoples as indicated in Table 1.

Table 1 Results of the Interview

Variable	N (%)
1. Source (Multiple Responses Allowed)	
Inheritance	25 (48.1%)
Given by others	18 (34.6%)
Own capture	11 (21.2%)
Personal purchase	21 (40.4%)
Arts and crafts stores	16 (76.2%)

Sasala Taiban, Jun- Lin Chen, Yuan-Hsun Sun • Whose Feathers?
Changes and Conflicts in the Use of Mountain Hawk-eagle Feathers among Rukai Communities in Taiwan

Street vendors	2 (9.5%)
Hunter	1 (4.8%)
Nearby tribal communities	1 (4.8%)
Relatives, purchase from	1 (4.8%)
2. Purchase Motivation	
Children's marriage	12 (32.4%)
Marriage	10 (27.0%)
Religious festivals	4 (10.8%)
Old-feather replacement	4 (10.8%)
Children's rites of passage	4 (10.8%)
Damaged-feather replacement	3 (8.1%)
3. Feather Usage	
Different from past	42 (80.8%)
Same as before	5 (9.6%)
Unclear	5 (9.6%)
4. Acceptance of Imitation Feather	
Willing to accept	28 (53.8%)
Will not wear	14 (26.9%)
Not representative	6 (11.5%)
No opinion	4 (7.7%)
5. If set up Eagle Feather Repository	
Will no longer buy feathers	32 (61.5%)
Will continue to buy feathers	5 (15.6%)
No comment	15 (46.9%)
6. Occasion for Hawk-Eagle Feather Repository Application	
At the time of the wedding	40 (76.9%)
Festival	29 (55.8%)
Damaged-feather replacement	22 (42.3%)

6.1 Conflicts with current regulations

Despite increasing hunting pressure on mountain hawk-eagles, numerous contradictions lie within current government decree and efforts on conservation. For instance, in 1989, the government implemented the Wildlife Conservation Act, which stipulated measures in order to promote wildlife conservation. However, taking traditional use of the wildlife in indigenous communities into consideration, Article 21-1 of the Act was added in 2004. The amendment stipulated that with the approval from authorities, specified quantities of certain wildlife species “may be hunted or killed by indigenous peoples based on traditional, cultural, or ritual needs” at designated times, locations, and using specific methods.

The Council of Agriculture and Council of Indigenous Peoples also announced the “Regulations on Indigenous Peoples’ Traditional Cultural and Ritual Hunting, Killing, and Utilization Needs of Wildlife” in 2012, which contained a detailed table of time, location, method, and species. The regulations also designated certain cities and counties as administrative agencies responsible for reviewing and authorizing the species and quantities to be hunted. Although the government intends to regulate indigenous hunting activities, the law does not explicitly prohibit mountain hawk-eagles from being listed on the hunting permit application. *Masalut* (annual Millet Festival) and *Maleveq* (Quinquennial Festival) of the Paiwan, *Kalalisiyan* (annual Harvest Festival) among the Western Rukai, *Molapangolai* (annual ceremony commemorating ancestral spirits) of the *Oponoho*, *Tsatsapipianu* (annual Millet Harvest Festival) of the *Kongadavange*, etc., are on the list of occasions when mountain hawk-eagles could be included in the hunting permit application. Other wildlife may include Reeves’ muntjac, goat, red deer, wild boar, bat, macaques, etc.

A chieftain from *Kucapungane* remarked that indigenous peoples continue to believe that mountain hawk-eagle hunting must not be encouraged and hunters who capture mountain hawk-eagles must not be honored with the right to wear a lily. Regulatory exemptions illustrated here fully highlighted the contradiction and inconsistency of governmental emphasis on wildlife conservation and the legislative sanctioning of indigenous cultural rights.

6.2 Acceptance of the imitation feathers among communities and mountain hawk-eagle feather repository suggestions

Although there is still a demand for the use of mountain hawk-eagle feathers in the traditional customs and rituals of the Rukai communities, it is an indisputable fact that the number of mountain hawk-eagles has declined. In this study, we used the American National Eagle Repository as an example to suggest the imitation feathers to understand their attitude towards the establishment of the mountain hawk-eagle feather repository and the use of the imitation feathers. The hope for a balance between cultural practices and the mountain hawk-eagle conservation remains.

In the United States, the image of the eagle feathers is immediately associated with Native Americans. They honor and respect eagles because eagles are considered to symbolize certain characteristics, such as honesty, truth, majesty, courage, wisdom, strength, and freedom. For all these reasons, wearing or receiving eagle feathers in many Native American cultures is considered the hallmark of great honor.

Many Native American tribal members wear eagle feathers in rituals and ceremonial dances just as the Rukai do in Taiwan. The United States restricted the seizing, transporting, selling or bartering of bald or golden eagles without a permit by passing the Bald and Golden Eagle Protection Act in 1940. After the passage of the act, tribal members had no access to feathers or other parts of the raptors required for certain religious and cultural activities, which led to a serious impact on the Native American culture (Ross and Gould 2016). In the 1970s, at the request of Native Americans, the U.S. Fish and Wildlife Service set up the National Eagle Repository in recognition of the cultural significance of these feathers to Native Americans. After meeting with 300 tribal leaders at the White House, President Bill Clinton signed an executive memorandum in 1994 that reformed the repository and obliged all federal agencies to send dead eagles to the repository. The National Eagle Repository is operated and managed under the Office of Law Enforcement of the United States Fish and Wildlife Service, serving as the central location for the receipt, storage, and distribution of bald and golden eagles that have been found dead. Eagles and eagle parts are available only to Native Americans enrolled in federally recognized tribes for use in religious and cultural ceremonies. This approach is to ensure the survival of the eagles on the one hand, and the

continuation of the Indian culture on the other, and the balanced approach between conservation of eagles and the protection of culture may be the model that the Taiwanese government could consider.

According to the study, more than half of the participants accepted the suggestions of the feather repository. The *Adiri* chieftain maintained that the establishment of a mountain hawk-eagle feather repository would relieve people from the need to purchase feathers and was therefore considering. Nevertheless, the chieftain suggested that Rukai communities must find a way to reinvigorate mountain hawk-eagle feather wearing protocols in order to avoid the loss of their traditional culture. The interviewee also accepted the idea of selling imitation feathers in arts and crafts stores as the main objective is to pass on the mountain hawk-eagle culture. Moreover, the *Adiri* chieftain hoped that Taiwan's wildlife can be conserved with all due consideration given to indigenous rituals and cultures and that there would be a channel for applications to use mountain hawk-eagle feathers. The chieftain also suggested that it would be better if mountain hawk-eagle feathers were cut rather than plucked. In the case of short feathers, substitutes can be searched for. The *Adiri* chieftain also agreed that in the future, people could apply for feathers and submit their applications to a mountain hawk-eagle feather repository established by the government.

The *Kucapungane* chieftain suggested that the acceptance of the imitation feathers among indigenous peoples would depend on the situation. The authenticity of the betrothal gifts for the weddings is very important and their value is often assessed by people who specialize in this area. Furthermore, the use of the imitation feathers would constitute a breach of tradition. However, wearing imitation feathers in public would not be a serious issue and the establishment of a mountain hawk-eagle feather repository should be feasible. In the future, indigenous peoples may use imitation feathers during festivals and submit applications to the repository to obtain feathers for weddings.

The chair of the *Kongadavange* Community Development Association suggested that in the future, mountain hawk-eagles captured alive should be sent to a mountain hawk-eagle shelter; feathers naturally shed by mountain hawk-eagles may be then registered and applied for by communities. Many participants believed that the application process must first be piloted to establish proper regulations in order to avoid disputes. A hunter from *Vutai* said that

the government must introduce a reward system in order to incentivize people to send mountain hawk-eagles to the shelter. Most interviewees accepted the idea of a mountain hawk-eagle feather repository, believing that the imitation feathers could be worn in public, while feathers for betrothal gifts could be obtained through the repository.

Presently, some communities are gradually reintroducing traditional practices regarding lilies and mountain hawk-eagle feathers and are attempting to stipulate the quantity of feathers to be worn. *Vutai* has a “Traditional Customs Improvement Committee” that oversees the commercial behavior of its tribal members. The committee is supported by the people and is gradually becoming the official channel through which community consensus is formed. The *Terdreka* people established a school for hunters and formed the “Purple-spotted Butterfly Conservation Committee” in order to promote ecotourism, environmental education, and natural habitat restoration. Approximately 60% of the chieftains and elders interviewed in this study suggested that young people should be introduced to traditional hunting culture through education. They also recommended that the government should assist in the promotion of eagle-watching and birdwatching activities as a substitute for eagle hunting. Forest schools could be established to introduce traditional knowledge and taboos. Participants also suggested that an expansion of ecotourism for community economic development and the promotion of natural resources and perpetuation of traditional culture to be established.

7. Discussion

Sun (2007, 2010) conducted surveys on illegal mountain hawk-eagle hunting in Kaohsiung, Pingtung, and Taitung in order to investigate the hunting pressure exerted by hunters on mountain hawk-eagles. Sun’s research indicated that hunting culture had changed with time; food consumption is no longer the only purpose of hunting and it has thus become increasingly commercialized. The annual number of mountain hawk-eagles captured increased substantially in 2000. Due to a growing unemployment rate that forced indigenous peoples working outside their communities to return home, the number of hunters in the mountains increased. These hunters were unfamiliar with traditional hunting knowledge and culture, which resulted in ignorance toward certain taboos and ethical norms. The inability to

adhere to traditional hunting practices caused a reduction in the mountain hawk-eagle's population. However, more research can be conducted to ascertain the direct effect of indigenous hunting on the shrinking population of the mountain hawk-eagle.

The culprit of the mountain hawk-eagle population decline cannot be attributed entirely to the feather culture of the indigenous peoples. The destruction of the natural habitat and the existing low fertility rate of this species are also likely factors contributing to the sharp decline in number. For a long time, Taiwan's mountainous regions have been subjected to continuous human development and agricultural reclamation, resulting in serious damage to the habitat of the mountain hawk-eagle and other wildlife. In addition, mother mountain hawk-eagle produces an average of one egg per year, and eaglets have only 40% survival rate. The low-breeding condition is another probable cause of the decline in the number of mountain hawk-eagles (Sun 2007).

According to Lin's research on traditional crops of the Rukai (Lin 2017), millet is an important food source for small predators. About 80% of the mature millet in Rukai fields was consumed by people, but 20% also became a food source for small bird species and rodents. The most notable example is the mountain sparrow, which appears most frequently during the ripening period of the Rukai millet, thereby forming a symbiotic relationship among millet, mountain sparrow and the Rukai in the mountainous areas. In the past, the area of millet planted by the Rukai, with an average of about 3 hectares, and communities with a large population, such as *Kucapungane* and *Vutai*, there would be a relatively high area of millet cultivation in a single season, forming a larger millet production area, providing a source for small bird brooding and small mammal food. Therefore, for large predators such as black kites and mountain hawk-eagles, seasonal millet production sites often become an important hunting ground. Over the past 40 years, due to changes in the economy, the migration of indigenous populations, and the aging of the agricultural labor force, the area of millet cultivation in indigenous townships reduced by nearly 6,000 hectares. Only Pingtung County has been less than 20 hectares since the steep drop of nearly 2,000 hectares that year, with an average planting area of less than 1 hectare per household. As a result, the ecosystem formed by the symbiotic relationship between millet and mountain sparrows is difficult to sustain, resulting in a sharp decline in the number of the mountain hawk-eagle due to lack of food

sources.

Currently, the government is the only authority for indigenous peoples to submit their hunting applications. The key issue to explore here is how authorities determine which species and the quantity may be hunted. Are local authorities able to make such determination? According to Article VI of the Regulations on Traditional Cultural and Ritual Hunting, Killing, and the Utilization Needs of Taiwan Indigenous Peoples, promulgated in 2012, authorities must refer to the current data on wildlife resources and the actual number of species and quantity hunted in the previous year under their jurisdiction. However, are local governments able to examine the conditions of wildlife resources within the area of their jurisdiction? Is there currently an institution or individual in Taiwan that has the capacity to monitor the wildlife resources in the manner stipulated in the Regulations on an island-wide basis or within a specific traditional indigenous territory?

In order to determine the allowable quantity of a wild animal for hunting, the spatial distribution, quantity, time dynamics, social structure, and reproductive potential of that particular species must be taken into consideration to predict the changes in its population after the hunting season. Particularly, the inclusion of species in the wildlife conservation list must indicate that it is in danger of extinction and its population must be precisely controlled. How can quantities be determined if resource status and dynamics cannot be assessed? Why is it that the distribution and the quantity of wildlife species, as well as their population structure and dynamics, have not yet been regularly and systematically monitored in Taiwan? How can species and the quantity of such species be determined if this is the case? These questions reveal the missing links in the government's promotion of conservation measures.

In fact, the destruction of habitats is the most important issue for preservation. From the long-term interaction between the indigenous peoples and the land, whether in hunting, collecting, fishing or farming, indigenous peoples, if only for basic needs, do not pose a threat to the environment. But from the point of view of the supply and demand of the economic market, indigenous peoples are nothing more than scapegoats for the vast majority of consumers. When we talk about ecological conservation, we should not regard indigenous peoples as the sole subject of this problem, that is to say, the work of ecological conservation should be the responsibility of the whole society. If we can plan for the development of a

sound regional economic system, and in line with the unique traditional culture and ecological philosophy of the indigenous peoples, it is the fundamental way for conservation and culture to coexist.

8. Conclusions

The mountain hawk-eagle has a profound symbolism in the Rukai culture. It is the incarnation of the hundred-pacer (*Deinagkistrodon acutus*, or sharp-nosed pit viper) as told in Rukai creation stories passed down through oral traditions. Only chieftains or warriors who have gone on a headhunting expedition and returned with heads of the enemies could enjoy the privilege of wearing mountain-hawk eagle feathers. In the migration history of the Rukai, hundred-pacer is venerated for having guided their ancestors to their modern-day territory. Moreover, mountain hawk-eagle feathers serve as significant betrothal gifts between families of chieftains, and at the same time, signify the special status of chieftains and warriors in funeral rites. The Rukai do not eat mountain hawk-eagles customarily and members believe that the act of violating this long-standing taboo will invoke the wrath of the deities.

In recent times, due to the disintegration of the traditional social structure, hereditary chieftains lack the power and influence to rectify the condition of tribal members who wear feathers without abiding by relevant protocols. Moreover, because of the increased frequency of marriages between noble families and commoners, a greater number of tribal members have become sanctioned to wear feathers thereby creating higher hunting pressure toward this raptor.

Of the 52 respondents we interviewed, 48.1% of them inherited feathers from their ancestors. However, the fact that many of them still purchased feathers in art stores shows an increasing demand in business transactions nowadays comparing to the past. Sun's research points out that hunting pressure is the main reason for the sharp decline in the number of mountain hawk-eagles. Therefore, protective measures must be strictly enforced to prevent the extinction of mountain hawk-eagles. This paper argues that serious threat to mountain hawk-eagles posed by hunting should not be ignored, and nor should the rapid disappearance of indigenous culture. In order to achieve a win-win outcome for mountain hawk-eagles and

the indigenous culture, we offer the following points of consideration and recommendations pertaining to mountain hawk-eagle conservation and indigenous cultural preservation:

First, based on our interview results and the Rukai people's expectation, they strongly expressed their desire to restore tribal sovereignty. Therefore, we propose to strengthen the mechanisms of self-government within the tribes so that traditional authority over the leaders can play an important role in self-management. Although every indigenous community operates its own tribal council nowadays, and mostly chaired by traditional leaders, the operation of councils becomes a matter of formality without the real authority and power in self-governance. Thus, if the tribal council could receive legal authorization from the government, it could establish tribal conventions on the protection of the mountain hawk-eagles for the Rukai people to comply.

Second, to strike a balance between the conservation efforts of the mountain hawk-eagle and the preservation of the Rukai lifeways, the community may proactively invite tribal community representatives, scholars and experts from different disciplines to establish a resource co-management committee with legitimate authority and negotiate the use and conservation of mountain hawk-eagles. Tribal chieftains, elders and hunters are considered key stakeholders in the co-management committee or task force and ought to be invited to participate and contribute to the legislative process. In addition, relevant norms should be established under the premise of cultural continuity, the wisdom, experience, and skills of local people should be relied on to support conservation efforts. Indigenous peoples' willingness to participate is an indispensable element for successful conservation measures of mountain hawk-eagles, as some scholars have indicated that the traditional ecological knowledge of indigenous peoples could contribute to the conservation and the management of natural resources (Berkes 1999; Gadgil et al. 1993; Inglis 1993).

Third, the issues of indigenous self-governance and conservation are currently important topics. The Wutai Township could be an ideal pilot site to identify the empirical basis for a successful indigenous self-governance model and to launch a natural resource co-management task force. The reason is that the population in the Wutai Township is ethnically homogenous, with the Rukai people accounting for 98% of it. Moreover, the level of the overlapping land use in the Wutai Township is low, providing high management function to its lands in the

future. In addition, the Assembly of the Rukai was established in 2017 and covers 16 Rukai communities while its membership includes traditional leaders, elders, political elites, community cadres, youth representatives, and so on. There will be positive effects on building local consensus, promoting co-operation with the government and promoting conservation.

Fourth, many participants in our study believed that young people should be introduced to traditional hunting culture and taboos through an education process. We suggest that a joint effort between the authorities and tribal communities be launched to promote an eagle-watching program as an alternative to mountain hawk-eagle hunting. The joint effort should also consider the feasibility of establishing hunter schools in order to promote traditional ecological knowledge. Ecotourism should also be developed to pave the way for more economic development opportunities, and to promote mountain hawk-eagle conservation and cultural continuity. In fact, it has been successful in the Wutai Township for making young people an important force in conservation. The Mountain Forest Patrol (MFP) project in the Wutai Township began in 2010 after Typhoon Morakot and has been well recognized after several years of implementation. Its duties include not only ecological monitoring but also the protection of traditional cultural sites and the maintenance of ecological resources. Through this project, young people in the Wutai area can improve their handling of illegal incidents and curb illegal entry to ensure the safety and integrity of traditional territories. At the same time, the capacity of digital processing can be strengthened to systematically and scientifically calibrate, record, and preserve information about old settlements, water sources, archaeological sites, animals, plants and precious tree species in territories (Taiban et al. 2015). If the work of MFP could be extended to the protection of the eagles, it would certainly greatly improve the effectiveness of the preservation.

Finally, we further suggest that the government and the Assembly of Rukai could model a joint-initiative towards the conservation of mountain hawk-eagles. For example, the government could set up a mountain hawk-eagle feather repository in the Wutai Township, which would provide collected feathers for residents to apply for use. Moreover, the government could work with tribal members to design and provide imitation feathers that residents could wear at weddings or important celebrations. Such initiatives may reduce members' desire to hunt mountain hawk-eagles, indirectly contributing to the conservation

efforts. With the smaller population, designating the Wutai Township as a pilot site might achieve some tangible results within a short period of time while providing operational models for natural resource co-management and effective conservation strategies in the future.

The hunting pressure on the mountain hawk-eagles is beyond imagination, but it involves the traditional practice of wearing eagle feathers by the Rukai people, so it is by no means that the forest police should be asked to step up their law enforcement efforts to solve the problem. In fact, we believe that the mountain hawk-eagle conservation and the traditional culture can coexist, by implementing strategies such as setting quotas, applying for capture permits before weddings or celebrations, educating hunters to use minimum-injury-prone catch methods to mitigate cases of injury, acquiring feathers and transferring them to respective institutions, waiting for eagle feathers to mature and only harvest naturally-shed ones. As for how feathers are distributed, who could wear them and who could not, or how to rent feathers, it is up to the tribal councils to decide.

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Notes

1. The mountain hawk-eagle (*Nisaetus nipalensis*) is a large diurnal raptor that mainly lives in the forest. It currently is distributed throughout China, Taiwan, and other south Asian countries, such as Bhutan and India.

2. “*Mulnimulrithane*” is the most valuable glass bead in Rukai society and only the highest chieftain can own it.

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Appendix

Appendix 1 Community Name Comparison Table

Rukai	Chinese	Ethnic Group
<i>Paridrayan</i>	Tashe	Paiwan
<i>Kuljaljau</i>	Gulou	Paiwan
<i>Tarumak</i>	Dongxing	Rukai
<i>Vutai</i>	Wutai	Rukai
<i>Kabalelradhane</i>	Shenshan	Rukai
<i>Labwane</i>	Tawu	Rukai
<i>Karamemedisane</i>	Jiamu	Rukai
<i>Adiri</i>	Ali	Rukai
<i>Kinulane</i>	Jilou	Rukai
<i>Kudrengere</i>	Guchuan	Rukai
<i>Auba</i>	Qingye	Rukai
<i>Kucapungane</i>	Haocha	Rukai
<i>Laladengane</i>	Meiyuan	Rukai
<i>Terdreka</i>	Maolin	Rukai
<i>Oponoho</i>	Wanshan	Rukai
<i>Kongadavange</i>	Duona	Rukai