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CLASSIFICATION OF HUMAN–ELEPHANTS CONFLICT MITIGATION SYSTEMS IN BUKIT BARISAN SELATAN CONSERVATION FROM MULTISPECIES PERSPECTIVE

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Abstract *Human–wildlife conflict in Bukit Barisan Selatan National Park (BBSNP), particularly in Pekon Pemerihan, has intensified due to deforestation, land-use change, and expanding agriculture, threatening endangered species such as the Sumatran elephant (Elephas maximus sumatranus). This study formulates the problem of how local communities classify and mitigate conflicts with elephants through ethnoecological knowledge, and how such knowledge can be integrated with a multispecies perspective for sustainable coexistence. Using qualitative methods, data were collected through field observations, in-depth interviews with farmers and mahouts, and participatory mapping. The findings reveal a three-level classification system: (1) domains distinguishing wild and managed elephants and safe versus risk-prone spaces; (2) taxonomies of conflict types (economic, social, spiritual) and elephant identities; and (3) components involving technical, social, temporal, and ritual strategies. Results show that conflicts are understood not only ecologically but also cosmologically, with elephants seen as moral agents shaping human life. The study concludes that effective mitigation must integrate technical interventions with local ecological knowledge, cultural values, and community solidarity to achieve more adaptive and just conservation strategies.*

Keyword:

Human–wildlife conflict, Sumatran elephant, ethnoecology, multispecies, community-based mitigation

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1. Introduction

The Bukit Barisan conservation area encompasses Bukit Barisan Selatan National Park, located in Lampung. This area is a crucial habitat for endangered wildlife species, including the Sumatran elephant, Sumatran tiger, and Sumatran rhinoceros (Purnama, Nugroho, & Setiawan, 2022). However, the ecosystem in this national park is threatened due to deforestation, land-use conversion, natural resource exploitation, and settlement expansion (Putra & Rachman, 2023).

Environmental changes cause the narrowing of wildlife habitats, leading to an increase in conflicts between humans and wildlife in the buffer zone of the national park (Rahman et al., 2021). In Bukit Barisan Selatan National Park (BBSNP; Indonesian: *Taman Nasional Bukit Barisan Selatan*; TNBBS), data from the Lampung Natural Resources Conservation Agency show that in 2023–2024, there were more than 10 cases of elephants damaging agricultural land, 5 cases of tiger predation on livestock, and 3 cases of Sumatran rhinoceros poaching (BKSDA Lampung, 2023). The deforestation rate in BBSNP is estimated at 0.158% per year, and land cover change analysis indicates a cumulative loss of approximately 42,251 ha (2000–2017), with an average of 0.47% from 2011 to 2017. This suggests habitat loss with implications at the landscape scale (Mongabay Indonesia, 2020). In addition, fragmentation and land-use conversion can reduce wildlife habitats and also trigger more frequent interactions between humans and wildlife. Animals leave the forest to search for food or water because humans open coffee plantations or fields at the forest edge in areas that serve as wildlife movement corridors (Kuswanda et al., 2022).

Human–wildlife conflict (HWC) in Bukit Barisan Selatan National Park (BBSNP) is documented in recent studies, such as SMART patrols in the Pemerihan Resort (Lampung), which recorded high-threat findings, including poaching, indicating the intensity of human activities that disturb wildlife and their habitats. These findings are consistent with reports of agricultural damage by elephants and incidents involving livestock that frequently occur in the buffer landscapes of the national park in Sumatra. These findings state that edge pressures and land-use practices contribute to the increasing frequency of human–wildlife interactions (Harianto et al., 2024; Struebig et al., 2018; Weiskopf et al., 2019). Mitigation efforts implemented to address this issue include the installation of electric fences, patrols, relocations, and various early warning devices. These efforts have indeed had an effect, but purely technical approaches tend to be reactive and less effective if not combined with socio-cultural dimensions and the local ecological knowledge of communities. Recent literature emphasizes that successful coexistence strategies must be grounded in local contexts. Community participation in Lampung has shown the effectiveness of community-based crop guarding and simple evidence-based deterrent methods, while cross-landscape studies highlight the need for mitigation designs that are sensitive to social contexts (Gunaryadi, Sugiyo, & Hedges, 2017; Ardiantiono et al., 2021; Göttert & Starik, 2022).

This issue occurs in the buffer village of Bukit Barisan Selatan National Park, specifically in Pekon Pemerihan, Bangkunat District, Pesisir Barat Regency, which is one of the villages directly bordering the Bukit Barisan Selatan National Park (BBSNP). This area has high biodiversity and serves as an important habitat for endangered species such as the Sumatran elephant (*Elephas maximus sumatranus*), the Sumatran tiger (*Panthera tigris sumatrae*), and the Sumatran rhinoceros (*Dicerorhinus sumatrensis*), as well as various other protected wildlife, including birds, primates, herbivorous and carnivorous mammals, and plant species typical of tropical rainforests. The presence of these animals makes this area highly important for conservation, but at the same time, vulnerable to conflict due to the overlap of human and wildlife habitats. Local regulation, as outlined in Pekon Pemerihan Regulation Number 01 of 2023 concerning Sustainable Environmental Management, Chapter IX, Article 13, emphasizes the prohibition of illegal hunting and the obligation to protect protected species, while also encouraging protection and preservation against wildlife conflicts, all while considering the safety of both humans and wildlife. However, implementing this regulation in the field faces challenges. Human–wildlife conflict occurs due to intensive interactions in farming and plantation areas, mainly resulting

from the reduction of wildlife habitats. Existing mitigation strategies, such as the installation of electric fences, patrols, or the use of digital devices, tend to be technical and have not fully incorporated the community's knowledge and local wisdom. Meanwhile, the social conditions of the community, which is predominantly of Javanese ethnicity and still maintains its traditions and customs, can actually serve as important social capital for developing more contextual mitigation strategies (Profil Pekon Pemerihan, 2023).

Several studies on the Sumatran elephant (*Elephas maximus sumatranus*) show that the species is classified as Critically Endangered (CR) by the IUCN due to massive habitat loss and fragmentation, which reduce population connectivity and increase conflicts with humans around forest edges (IUCN, 2011; Kuswanda et al., 2022). Research in Lampung indicates that human–elephant conflict (HEC) primarily manifests as crop damage in agricultural lands adjacent to forests, and mitigation efforts are most effective when they involve community participation (Gunaryadi, Sugiyo, & Hedges, 2017). A study in Aceh using GPS telemetry shows that elephants prefer low elevations and river valleys, which are also areas used by local communities for farming, thereby increasing the potential for conflict (Rahmi et al., 2023). Various technical interventions, such as electric fences, sound deterrents, and innovations like aversive geofencing devices, are considered promising but have limitations, either due to wildlife habituation or ethical and sustainability issues (de Mel et al., 2023). International reviews emphasize that long-term solutions must integrate technical approaches with social governance, economic compensation, and habitat corridor restoration (Shaffer et al., 2019).

However, the literature still pays little attention to socio-cultural aspects and local knowledge. In fact, ethnoecology can reveal how communities understand elephant movement patterns, organize planting spaces, and formulate customary rules related to wildlife (Berkes, 2018). A multispecies approach also emphasizes elephants as ecological subjects that co-shape the landscape together with humans (Tsing, 2015; van Dooren, Kirksey, & Münster, 2016). Thus, the research gap lies in the lack of integration between ecological data (telemetry, habitat mapping) and local knowledge, as well as multispecies relations, which are essential for designing sustainable coexistence strategies. Building on this framework, it is important to further elaborate the notion of multispecies relations as a central analytical lens. Rather than viewing human–wildlife encounters solely through ecological or conflict-based parameters, multispecies perspectives invite us to consider how humans and nonhuman animals co-produce shared environments, social meanings, and moral obligations (Feinberg, Nason, and Sridharan 2013).

Local ecological knowledge (LEK) of communities often includes the taxonomic classification of wildlife, an understanding of movement patterns, activity seasons, and home ranges, based on historical experience. Within the framework of ethnoecology, communities not only utilize resources but also develop knowledge systems and cultural values that influence how they tolerate or respond to conflicts with wildlife. Ethnoecology, as explained by Heddy Shri Ahimsa-Putra (2015), is the study of how a community understands, classifies, and interprets its natural environment based on cultural categories that exist within that society. This is important to view human–wildlife conflict not merely as an ecological issue, but also as a socio-cultural one. Within the multispecies framework, the Sumatran elephant is no longer positioned merely as a background or ecological threat, but as an active agent whose life has social and political consequences. As emphasized by Kirksey and Helmreich (2010), “animals, plants, fungi, and microbes once confined… to the realm of zoe… have started to appear alongside humans in the realm of bios, with legibly biographical and political lives” (*Cultural Anthropology*, 25(4), p. 545).

The paradigmatic emergence of multispecies ethnography marked a significant shift in anthropological inquiry toward recognizing the entanglements of humans and other living beings. As discussed by Kirksey and Helmreich, this approach moves beyond human-centered perspectives to explore how animals, plants, fungi, and microorganisms participate in shaping social worlds and political processes. Multispecies ethnography thus challenges the anthropocentric boundaries of traditional ethnography, proposing that nonhuman beings possess agentive and biographical dimensions that are integral to shared ecologies. This paradigm invites researchers to attend to the interdependence and co-production of life across species, situating humans as part of broader multispecies assemblages rather than as separate observers. So far, elephants have often been viewed solely within the framework of *zoe*, as biological creatures that can damage crops, disrupt livelihoods, or even be hunted when considered a threat. However, with a multispecies perspective, elephants must be placed in the realm of *bios*, namely, a life instilled with social, cultural, and historical meaning. For the community of Pekon Pemerihan, elephant tracks are not merely signs of danger, but also part of their collective memory, symbols of natural power, and determinants of the socio-economic mobility of communities in the buffer zone of the national park.

The ethical implication of this change in perspective is the need to recognize elephants not only as causes of economic loss, but as part of the ecological network whose right to live is equally important as that of humans. The question then arises: who speaks for the elephants? How are their rights accommodated in conservation policy? These questions demand a just conservation politics approach, in which conflict mitigation not only emphasizes agricultural security but also ensures the continuity of elephant ranging areas. This aligns with Tsing's (2015) view, which states that “human nature is an interspecies relationship. Our lives are made possible by other species” (p. vii); thus, the life of the Pekon community cannot be separated from the existence of elephants. Based on this framework, this study formulates two main research questions: first, how does the Pekon Pemerihan community classify interactions with elephants from an ethnoecological perspective? Second, how can the results of this ethnoecological classification, which include domains, taxonomy, and components, be analyzed with a multispecies perspective to design a more adaptive and sustainable conflict mitigation system?

The objective of this study is to map local knowledge about wildlife and conflict, identify the ecological, social, and cultural factors underlying it, and formulate mitigation strategies that are responsive to community experiences while also considering interspecific relations. The expected benefits are academic contributions in the form of enriching conservation literature based on ethnoecology (Ahimsa-Putra, 2015) and multispecies perspectives (Helmreich, 2009; Kirksey & Helmreich, 2010; Tsing, 2015), as well as practical contributions in the form of a basis for local policies and more effective community-based mitigation strategies. The expected results are a spatial map of community perceptions regarding wildlife habitats and conflict points, an ethnoecological classification of wildlife species, interaction spaces, and activity times that trigger conflicts, as well as a multispecies analysis that shows how humans and wildlife mutually shape relationships within the ecosystem. Thus, this study can support conservation efforts that are more inclusive, sustainable, and contextual in the buffer zone of BBSNP.

This study used a qualitative method with an ethnoecological approach to understand how communities around Bukit Barisan Selatan National Park (BBSNP) classify and manage conflicts with wildlife, particularly the Sumatran elephant. The main focus was directed at mapping local knowledge systems regarding human–wildlife conflict, accompanied by the categorization of mitigation strategies that have developed within the community. This method positions

elephants as active agents in a multispecies network whose lives are interconnected with humans. In line with the research by Ahimsa-Putra (2022), which states that ethnoecology examines how communities perceive and categorize their environment through their living cultural practices, this study aims to explore how conflicts with elephants are understood within the socio-cultural context of the Pekon community.

Data collection was carried out through field observations, in-depth interviews, and participatory mapping. Observations were directed at elephant crossing paths and areas where conflicts frequently occur, such as community-owned coffee, corn, orange, and banana plantations, to document signs of elephant presence, patterns of appearance time, and how communities respond, either by driving them away or by avoiding certain areas. Observational data were enriched with in-depth interviews with informants selected purposively. The purposive sampling technique was used because the researcher required informants who truly had direct experience with elephant conflict. From the Pekon community, seven key informants were selected who owned farms and had experienced conflicts with wild elephants; thus, they possessed in-depth knowledge regarding movement patterns, damage impacts, and traditional strategies used to reduce risks. In addition, three informants from among the mahouts who interact daily with elephants at the conservation resort were also interviewed, as they possess technical and practical perspectives on animal behavior, as well as control strategies implemented by conservation authorities. The selection of informants from these two groups was intended to provide a more comprehensive understanding of conflict and its mitigation, from both local and institutional perspectives.

In-depth interviews were conducted to explore narratives of experiences, local ecological knowledge (LEK), and the symbolic meanings associated with elephants. The collected narratives were then analyzed using the domain, taxonomy, and component approaches within the ethnoecological framework (Albuquerque et al., 2019). Domain analysis was used to identify local terms for wildlife species and forms of conflict. Taxonomy analysis identified the categories used by communities to classify conflicts and mitigation strategies, while component analysis revealed the factors influencing these interactions. In addition to interviews, participatory mapping was also carried out by directly involving community members to draw maps of conflict locations, elephant movement routes, as well as cultural spaces or sacred sites. This process used a simple base map equipped with different color markers for wildlife, movement routes, and cultural spaces, thereby producing spatial representations that were easily understood collectively. All data were then linked to the multispecies perspective to position elephants as living agents with biographical lives (Kirksey & Helmreich, 2010).

2. Method

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3. Result and Discussion

3.1 History of Sumatran Elephant Conflict in Pekon Pemerihan

The early history of the establishment of Pekon Pemerihan cannot be separated from the dynamics of land clearing and interactions with wildlife in the Bukit Barisan Selatan forest area. In the 1960s, individuals from Java, such as Mr. Misri and Mr. Budianto, cleared the forest to be converted into rice fields and plantations in an area known as Cawang Ara at the time. The commodities developed included rice, coffee, peanuts, and soybeans, which were then sold to the Sukaraja–Tanggamus market through a walking journey that took up to a full day. This practice of forest clearing occurred before the community was aware that Cawang Ara was part of a Wildlife Reserve, so from the beginning, the human–environment relationship was marked by tensions between agricultural needs and conservation regulations.

In 1975, the Special Police for Nature Protection and Conservation (Indonesian: Perlindungan dan Pengawetan Alam; PPA) initiated socialization efforts. Officers conveyed that Cawang Ara was part of a conservation area and asked the community to move to the vicinity of the Way Pemerihan River. However, the community remained until 1984 due to economic reasons and social attachment to the cultivated land. During this period, major conflicts with

Sumatran elephants began to occur. Elephants that had lost their migration routes due to forest clearing encroached upon agricultural land and settlements, causing significant damage, which forced the community to relocate across the river. This marked the starting point of the history of human–elephant conflict in Pemerihan, which is still collectively remembered to this day.

The second period (1984–2010) was marked by the establishment of a new settlement named Sukamarga. In this area, the community opened new agricultural land and began to build basic infrastructure, such as an elementary school and connecting roads. However, the isolation of the area still made mobility difficult until the main road in Bengkunat was widened and paved in the early 2000s. During this phase, the intensity of conflicts with elephants increased, particularly in the late 2000s. In 2008, records from the community and the BBSNP Authority mentioned a major conflict case that caused human fatalities due to an elephant attack that had previously been provoked. This phenomenon is consistent with the findings of Gunaryadi, Sugiyo, and Hedges (2017), who reported that human–elephant conflicts in Sumatra often increase in areas with high habitat fragmentation, leading to community responses in the form of direct confrontation.

From an economic perspective, the Sukamarga period showed commodity diversification, with coffee, pepper, and cocoa dominating the market. However, pest and disease attacks caused a decline in production, leading many farmers to switch to planting corn and papaya. This shift affected interactions with elephants, as corn and papaya crops became new attractions for the animals. The study by Rahmi et al. (2023) shows that elephants select agricultural land due to the greater availability of varied food sources compared to forests, which contributes to the increasing frequency of conflict through the transition of agricultural commodities.

During this period, the community, in collaboration with the Bukit Barisan Selatan National Park Authority (Indonesian: Balai Besar Taman Nasional Bukit Barisan Selatan; BBTNBBS) and NGOs, undertook various mitigation efforts. One of them was the formation of an elephant patrol team tasked with driving away the animals when they entered plantations. This effort was supported by the distribution of simple equipment, such as carbide firecrackers, fireballs, and lighting devices to repel elephants. However, the sustainability of the program was often hampered by limited funding and weak inter-agency coordination. In line with the IUCN SSC (2023) report, many conflict mitigation interventions failed because they did not incorporate the socio-cultural factors of local communities in strategy design. The third period (2010–2020) became an important phase because Pekon Pemerihan was officially established as a definitive administrative village, having previously been merged with Pekon Sukamarga. In 2012, this area became part of the newly established Pesisir Barat Regency, thereby opening wider access to development programs. However, at the same time, conflicts with elephants continued. Interview data show that wild elephant herds consisting of 8–12 individuals often came to community plantations at night, damaging banana, corn, and even oil palm crops. The intensity of the conflict reached its peak when elephants appeared almost every harvest season, resulting in significant economic losses for farmers.

In this period as well, a tragic incident occurred in 2012 when two residents died due to an elephant attack. This event left deep trauma and reinforced the perception that conflict is not only an ecological issue but also a direct threat to human safety. Nevertheless, the community continued to show respect for elephants by giving them names, such as Mbah Gede. This indicates an ambivalence: elephants are viewed as both enemies and sacred beings. This concept aligns with the idea of Ahimsa-Putra (2015), which emphasizes that local ecological knowledge is formed through a dialectic between practical experience and cultural symbolism.

The historical dynamics of Pemerihan show a consistent pattern in which the intensification of conflicts with elephants has accompanied every phase of village development. When new land is cleared, elephants lose their ranging space; when new commodities are planted, elephants find new food sources; and when infrastructure develops, spatial pressures increasingly close the elephants' natural corridors. This analysis aligns with the Mongabay (2020) report, which indicates a forest cover loss of approximately 42,251 ha in the BBSNP between 2000 and 2017, highlighting it as a significant factor contributing to the increase in wildlife conflicts in the buffer zone.

Policy changes also influenced the dynamics of conflict. The inclusion of Pemerihan into Pesisir Barat Regency introduced new regulations, such as the Pekon Pemerihan Regulation Number 01 of 2023 concerning Sustainable Environmental Management, which emphasizes the prohibition of illegal hunting and the protection of communities from wildlife conflicts. This local regulation represents the institutionalization of the community's long-standing experiences in dealing with conflict, while also showing that community adaptation strategies are not only technical but also institutional. Thus, the history of conflict in Pekon Pemerihan can be understood as an interrelated process between population migration, forest clearing, changes in agricultural commodities, infrastructure development, and conservation policies. Conflict with the Sumatran elephant did not emerge suddenly, but is rooted in long-term interactions between humans and wildlife within the same geographical space. As stated by Tsing (2015), human life is always intertwined with other organisms; thus, both conflict and coexistence are logical consequences of ecological interconnectedness.

3.2 A Meeting: Activities of the Pekon Pemerihan Community

The activities of the Pekon Pemerihan community have been closely tied to the ecological space that has become the habitat of the Sumatran elephant since they began clearing land in this area in the 1960s. Over time, farming practices became the core of household economies, but at the same time, they also generated ecological tensions that continue to this day. Corn, coffee, pepper, banana, and orange are the most commonly chosen crops because they are easy to cultivate and have relatively high market value. However, these very crops have become an attraction for wild elephants that continue to maintain their ranging routes from within the forest to plantation areas. This situation makes farming not merely an economic matter but also an arena of ecological conflict that recurs every season. The elephant routes that cross plantations seem to form spatial patterns already understood by the community, because almost every household has encountered these animal herds. In other words, agricultural activities and encounters with elephants are two inseparable aspects that shape the community's daily life patterns. There is not a single harvest season that is truly safe, as residents are always prepared to face the risk of loss. This reinforces the collective awareness that farming in Pemerihan means farming under the shadow of wild elephants. This is the foundational basis of the entire narrative of human–wildlife conflict in this village.

A coffee and corn farmer in Pekon Pemerihan described how farming activities are never separated from encounters with wild elephants. Every corn season, he and other residents almost always prepare to face the arrival of these animals. Night patrols are carried out as part of farming work, where farmers sleep in field huts and bring torches, firecrackers, and flashlights to drive away elephant herds. Although various efforts have been undertaken, large herds often still enter and damage crops. Once elephants enter the fields, dozens of corn stalks can collapse in an instant, resulting in months of work lost. This condition makes farmers feel exhausted, but

it must still be carried out because, without patrols, the losses would be far bigger. The long experience of farming has taught them that elephants almost always come near harvest time, as if knowing when the corn is ready to be picked. Night patrols are therefore no longer considered additional work, but an obligation integrated into the farming process. Nevertheless, there is also an awareness that human efforts are often weaker compared to the larger number of wild animals. Not infrequently, farmers can only helplessly watch their fields being destroyed, yet they return to the land the next day to plant again. For them, farming is the only way of life, even though it must continue side by side with the threat of elephants.

For the younger generation in Pekon Pemerihan, the dilemma of choosing crop types is no less burdensome than for their parents. They tend to seek commodities that generate cash quickly, because daily needs are increasingly pressing and food prices often fluctuate. Dwi Pujiyanto, a young villager, chose to plant papaya for practical reasons, as it can be harvested within a few months and sold at the market. However, this choice carries much greater risks, since papaya is among the crops favored by elephants. As the harvest season approaches, the threat of wildlife becomes more tangible, making each night feel like a gamble between yield and loss. He recounted that elephant herds could arrive at any time, often without clear warning, and then, in a single night, destroy the entire field. The incident not only caused economic losses but also created a sense of despair, because months of hard work could vanish instantly. However, the community continued to plant papaya because urgent economic needs forced them to take risks. In this perspective, farming activities are no longer merely about cultivation but a struggle for survival amid the uncertainty of interactions with wildlife. This dilemma shows the existence of uncertainty patterns in human–elephant conflict, because although the community already knows the risks, they cannot precisely predict when and how many herds will come. This narrative illustrates that every planting season in Pekon Pemerihan is essentially a bargaining space between household economic sustainability and ecological threats that are difficult to control. As expressed by the informant himself.

> "I plant papaya because it is quick to harvest, it only takes a few months before it can be sold at the market. However, the risk is very high, as elephants have a strong preference for papaya. Once elephants enter, in a single night, an entire field can be gone, leaving nothing behind." (Interview with Dwi Pujiyanto, Pekon Pemerihan, August 10, 2025).

The domestic space is also not spared from encounters with wild elephants, particularly home yards planted with banana and cassava. A definite pattern recognized by residents is that the presence of bananas around the house almost always attracts elephants when there are sufficient trees. However, the uncertain pattern lies in how close the elephants will approach the house and whether they will actually fall the trees. Natural signs, such as the sound of breaking branches, trembling ground, or the appearance of small insects, are often used as indicators of elephant arrival; however, these signs are not always followed by direct encounters. Sometimes elephants only pass through, while at other times they stop for a long time to feed. As a result, households in Pekon Pemerihan live their daily lives with constant vigilance. The activity of guarding children at night becomes a routine considered as important as guarding the fields. Thus, the definite pattern is the attractiveness of home yards planted with bananas, while the uncertain pattern is how far elephants dare to approach the human domestic space.

The community's collective strategy is reflected in night patrol activities carried out in turns. A definite pattern known to residents is that elephants tend to follow certain routes that have long been understood, in this case, routes near rivers or fields directly adjacent to the forest. However, the uncertain pattern is the alternative routes often used by elephant herds when the main routes are guarded or blocked. In several cases, elephants demonstrated cleverness by circling from the other side, making community patrols less successful. This confirms that patrols function more to delay or divert elephants, rather than to stop them completely. Social solidarity is maintained because every resident feels the same threat. Mutual cooperation in patrols becomes an important part of collective adaptation. However, although patrols provide a sense of security, the community realizes that success in repelling elephants can never be guaranteed. In other words, the definite pattern lies in the main routes of elephants, while the uncertain pattern is the variation of routes taken by the animals to avoid humans.

For farmers of perennial crops such as pepper, the risk of conflict carries a heavier dimension. The definite pattern understood is that once elephants damage a pepper plantation, the losses are very large and take years to recover. Pepper plants that collapse cannot immediately be replaced with new harvests, unlike corn, which can be replanted every season. However, the uncertain pattern lies in how often elephants attack pepper plantations, as such incidents are less frequent compared to those involving seasonal crops. Although rare, the impacts are far more damaging; thus, every patrol is always accompanied by a sense of anxiety when elephants approach pepper fields. This condition makes perennial crop farmers live with a heavier psychological burden. They always regard pepper plantations as the assets that must be safeguarded the most. Thus, the definite pattern is seen in the long-term impact of losses, while the uncertain pattern is the frequency of attacks.

From a conservation perspective, the experiences of mahouts also provide valuable insights into patterns of encounters with wild elephants. The definite pattern recorded from mahout patrols is that elephant tracks can always be identified from dung, footprints, and broken branches left along certain routes. However, the uncertain pattern is the effectiveness of herding elephants out of plantations, because although their routes are known, the success of mitigation still depends on field conditions. Sometimes, tame elephants can drive away wild herds, but at other times, large herds remain unaffected. Mahouts also understand that wild elephants follow seasonal habits; thus, patrols are conducted more intensively during specific periods. Nevertheless, the adaptation of wild elephants does not always make predictions accurate. Communities often still experience incursions even though patrols are carried out. This shows that formal mitigation can only reduce risks, not eliminate them. Thus, the definite pattern is the presence of tracks that can be mapped, while the uncertain pattern is the success in herding elephants out. This was conveyed by the informant that,

> "Every morning and evening, we feed the elephants at the resort, then join patrols into the forest. We look for dung, soil footprints, or broken branches to identify the routes of wild elephants. If new tracks are identified, we immediately report them to BBTNBBS so that follow-up actions can be taken. We train tame elephants to herd wild elephants out of the plantations, but this is not always successful. Because wild elephants have greater strength and numbers, they sometimes do not retreat. However, through these patrols, we can map the elephant routes, so residents also know at which points they must remain vigilant." (Interview with Miskun, Pekon Pemerihan, August 13, 2025).

The community of Pekon Pemerihan recognizes certain and uncertain patterns from each encounter with wild elephants. The definite patterns are primarily related to harvest seasons, crop types, crossing routes, and clear ecological signs. Meanwhile, the uncertain patterns include herd size, exact time of arrival, alternative routes used, and the success of mitigation. By understanding these patterns, the community can develop practical adaptation strategies, whether through night patrols, mutual cooperation, or reading natural signs. This knowledge is passed down from generation to generation, forming a distinctive ethnoecological system in the buffer zone of BBSNP. However, they also realize that elephants have their own cleverness, so not all human strategies will succeed. Therefore, human–elephant conflict in Pekon Pemerihan is often understood as a recurring cycle marked by uncertainty. The definite patterns provide direction for vigilance, but the uncertain patterns keep this conflict as a persistent threat.

3.3 Community–Elephant Encounters in Participatory Mapping

Participatory mapping in Pekon Pemerihan emerged as a key community strategy for documenting encounters with wild elephants and mapping shared living spaces. This process was carried out collectively, involving farmers, traditional leaders, the younger generation, and mahouts who interact daily with the resort-managed elephants. A base map in the form of printed sheets of the area was used, then visual markers were added using colored markers, pins, and sticky notes to indicate ranging routes and conflict points. Each color had its own meaning, including red for wild elephant routes, yellow for conflict points in plantations, blue for river routes frequently crossed by herds, and green for cultural or spiritual spaces. In the informants' explanation, the community not only marked locations but also recounted their direct experiences when encountering elephants. This process combined spatial data with lived narratives; thus, the resulting maps reflected both ecological and socio-cultural dimensions. Such practices show that the community perceives space not only in a physical sense, but also within historical and cultural contexts, as evident in the spatial maps and interactive maps generated from participatory mapping data provided by the informants.

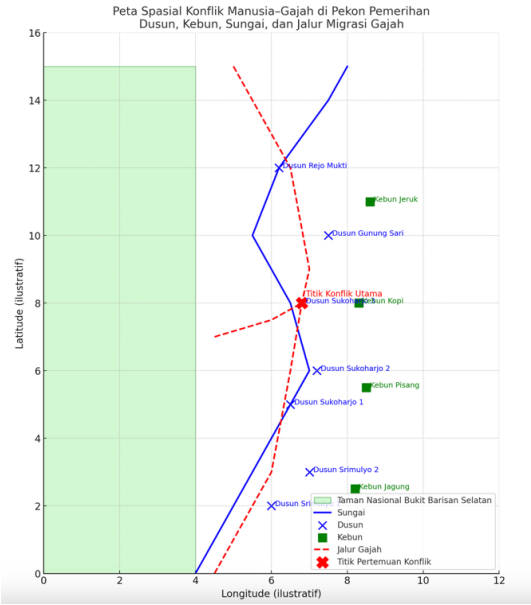

Figure 1. Spatial Map of Human–Elephant Conflict in Pemerihan, Pesisir Barat, Lampung

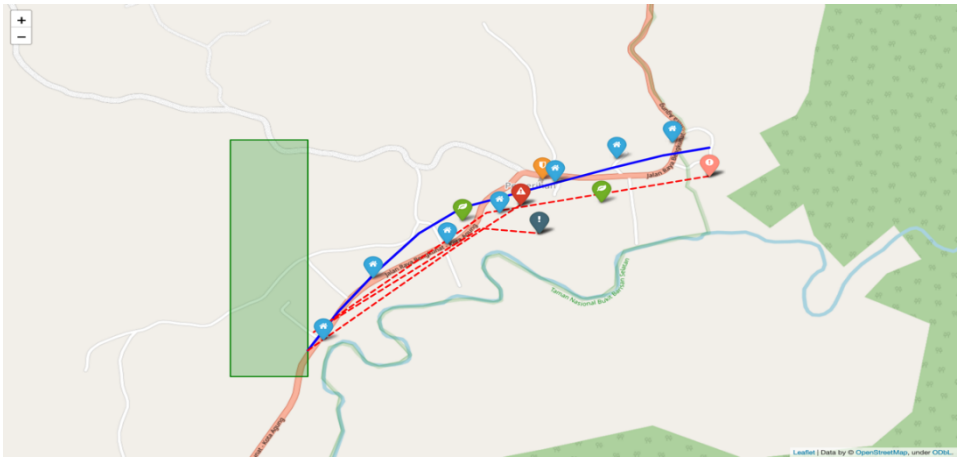

Figure 2. Interactive Map of Human–Elephant Conflict in Pemerihan, Pesisir Barat, Lampung (Source: OpenStreetMap Data under ODbL)

The spatial map of human–elephant conflict in Pekon Pemerihan shows a clear interconnection between hamlet locations, plantations, rivers, and elephant migration routes. The red dashed lines representing elephant routes intersect directly with several hamlets, particularly Sukoharjo 1 Hamlets and Sukoharjo 2 Hamlets, which are located near corn and banana fields. This location is consistent with community narratives because corn and bananas are indeed the most vulnerable commodities to be consumed by elephants. The main conflict points, marked with red symbols, are located around Sukoharjo Hamlets, indicating that this area is the center of encounters between elephants and humans. The river, illustrated with a blue line, also functions as a natural corridor, connecting elephant habitats within the forest area to community agricultural land. This map confirms that conflicts follow spatial patterns that recur annually with each harvest season. Upon closer examination, the map reveals that hamlets located closer to elephant routes (Rejo Mukti, Sukoharjo, Gunung Sari) have a higher risk of conflict compared to those farther away (Srimulyo). The position of coffee plantations, which are relatively farther from elephant routes, also supports interview findings that coffee is rarely damaged by wildlife. This indicates the presence of distinct patterns, such as food crops located near elephant routes being more frequently targeted compared to perennial crops located farther away. However, the map also shows uncertain patterns, such as the possibility of elephants taking alternative routes from the river upstream toward other plantations, which cannot always be predicted. In practice, the community marks conflict-prone points based on empirical experience, which are then reinforced by this spatial mapping. In other words, the map becomes visual evidence that explains the local narrative that conflict follows consistent ecological routes, but also leaves room for uncertainty.

This map also shows how mitigation strategies can be more effectively designed by referring to conflict-prone points, such as night patrols or the installation of lights, which are more effective if placed around Sukoharjo Hamlets, as this area is the main elephant route leading to corn and banana plantations. Meanwhile, the river route, which serves as a natural corridor, can be designated as a priority patrol location for mahouts and BBTNBBS. Thus, participatory mapping and spatial maps complement each other, as maps visualize space while community narratives provide socio-cultural meaning to the points and lines illustrated. This analysis also shows that human–elephant conflict can be understood from spatial, social, and cultural perspectives that are rooted in the spatial context.

3.4 Classification of Human–Elephant Conflict Mitigation in Pekon Pemerihan

The classification system for human–elephant conflict mitigation in Pekon Pemerihan is based on historical experiences, ecological observations, and the socio-cultural practices of the local community. The results of the ethnoecological analysis, conducted through interviews, observations, and participatory mapping, reveal that the community possesses a fairly detailed classification system, comprising three main levels: domain, taxonomy, and component. These three levels are not only a conceptual framework but also a practical guideline for dealing with daily conflicts with wild elephants.

3.4.1 Domain

The community of Pekon Pemerihan understands conflict with elephants through a broad division called a domain, which is a basic framework of thought that separates reality into broad categories. The primary domain they use is the distinction between wild elephants and those managed by resorts. Wild elephants are known to form large herds that descend from the forest at certain times, especially at night, in search of food in community plantations. They are considered a serious threat because they can damage staple crops, such as corn, bananas, papayas, and coconuts. Conversely, resort-managed elephants are seen as allies because they are under the control of mahouts and are often used to help drive wild herds away from community plantations. From the community's perspective, these two categories form the outline of a survival strategy: how to face threats, while at the same time, how to utilize assistance from the conservation authority.

The domain also includes an understanding of space. Certain routes are considered traditional pathways of wild elephants, known to the community since the earlier Cawang Ara period. These routes are regarded not merely as crossing sites, but also as part of the village's collective history. The elders recount that rituals of *ruwatan* were often performed along these routes, intended to maintain the balance between human and animal relations. Therefore, the domain in the local knowledge system encompasses not only ecology but also spirituality. The Way Pemerihan River, for instance, is often mentioned as a conflict-prone point, and the presence of elephants there is understood as part of the natural cycle, as well as a reminder to maintain social conduct.

Furthermore, this domain emphasizes that the community distinguishes between "safe" and "risk-prone" spaces. Plantations located far from the routes are considered relatively safe, while those near rivers or forests are considered risk-prone. This boundary is fluid because elephants sometimes appear outside the designated routes, but in general, this perception becomes a guideline for residents. In this way, the domain forms a mental map used by the community to organize daily activities, ranging from choosing plantation locations to arranging patrol schedules. This distinction shows that the community integrates empirical experience with cultural symbols to construct a solid framework for understanding conflict. The domain is also historical. Mr. Paiman, as an informant, emphasized that the elephant routes currently mapped had actually been recognized since the colonial period, even recorded in Dutch maps. For him, the route is not only a geographical passage but also a line of memory that connects generations. The *ruwatan* rituals conducted in the past show that the conflict domain has always been understood as an interaction between human power and greater animal forces. Thus, the domains of wild and resort-managed elephants, including routes and sacred spaces, as well as safe and risk-prone areas, form the foundation of all community strategies.

3.4.2 Taxsonomy

After the domain divides reality into broad categories, the community develops a taxonomy to specify the types of conflict and ways of addressing them. The first taxonomy is the classification of conflict based on its impact, namely economic, social, and spiritual. Economic conflict arises when harvests fail due to elephant damage, resulting in significant losses for households. Corn, as the primary source of both food and income, is considered the most vulnerable. Bananas and papayas are also frequently attacked because they are easily consumed by elephants. On a larger scale, these losses disrupt village food security, making economic conflict the primary topic of discussion.

The second taxonomy is social conflict. When elephant herds enter, residents often evacuate temporarily or stay with relatives whose houses are farther from the conflict routes. Trauma also emerges, especially among children who witness damaged plantations or hear the herds' noises at night. Occasionally, inter-hamlet conflicts arise when one group feels that it does not receive patrol assistance from another group. Thus, elephant conflict shows that the social taxonomy encompasses not only direct losses but also effects on internal social relations. The third taxonomy is spiritual. The community believes that elephant conflict can be triggered by the violation of taboos, such as adultery committed in the plantations or harsh words considered disrespectful to the animals. This belief leads the community to establish strict moral rules, especially during planting and harvesting seasons. *Slametan* rituals and collective prayers are conducted to calm the situation. In this case, the spiritual taxonomy becomes the way the community connects human behavior with animal responses.

In addition to conflict classification, there is also a taxonomy for recognizing elephants. The community gives names to certain elephants, such as *Tepang*, Buntung, Gembong, and Mbah Gede. These names are based on physical traits and behaviors. *Tepang* is known for limping, Buntung for a defect in its tail or tusk, Gembong for its large body and aggressive nature, while Mbah Gede is known for its old age and status as the herd leader. This taxonomy reveals that the community views elephants as unique individuals, not merely as anonymous animals. This knowledge also helps them predict herd behavior, for example, when Gembong is present, the damage tends to be more severe. The following taxonomy is a response. There are three categories of response: technical, social, and spiritual. Technical responses include firecrackers, torches, fireballs, pathway lights, and *krenceng*. Social responses are night patrols, joint patrols, and cooperation with mahouts. Spiritual responses are *slametan*, prayers, and *ruwatan*. This taxonomy functions as a "strategy map" used by the community when dealing with conflict. All categories complement one another, forming a system that is not only pragmatic but also full of cultural meaning.

3.4.3 Component

The component is the most detailed level of the classification system, namely, technical details and field practices. In the technical aspect, components include the tools used. Carbide firecrackers are the primary choice, employed immediately after signs of elephant arrival are detected. Fireballs are made from cloth soaked in kerosene and then thrown toward the herd to frighten them. *Krenceng* are installed along the plantation entry routes as simple alarms that sound when the herd passes. Pathway lights are installed around the plantations to create bright illumination, although they do not always succeed in deterring elephants. All of these tools are used sequentially, with escalation depending on the elephant's response.

The component also includes temporal details. The community knows that elephants usually appear between 19:00 and dawn. At the beginning of the harvest season, elephants come more frequently, especially in the first week. If the herd feels successful in obtaining food, they tend to return to the same location several times. Therefore, patrols are carried out intensively during critical weeks. Residents remember this temporal pattern, and it becomes a guideline for arranging patrol schedules. Elephant migration routes are mapped through Sukoharjo and Gunung Sari Hamlets, and the spatial component is also highly important. The main conflict points are located in plantations near the Pemerihan River, because the waterway facilitates elephant movement. The participatory map created by residents displays red lines for herd routes, black points for damage locations, and blue lines for the patrol routes of resort-managed elephants. In this way, the community possesses not only oral knowledge but also visualizations that can be used collectively.

The final component is cultural values. Elephants are addressed with respectful titles, such as "Mbah" or "Tamong." Myths state that elephants are incarnations of ancestors or guardians of the forest. Taboo prohibitions, such as speaking harshly in the fields, are observed to maintain balance. *Slametan* rituals are performed before planting, collective prayers are offered during harvest, and ruwatan is conducted when conflicts occur too frequently. All of these examples illustrate that the cultural component is a crucial part of addressing the reality of conflict. Technical, temporal, spatial, and cultural components complement one another. With these details, the community relies not only on practical tools but also on local ecological knowledge and spiritual beliefs. The component system shows that mitigation is not merely a reactive response, but rather a complex effort that integrates simple technology, social solidarity, ecological knowledge, and cultural meaning. To facilitate understanding of the points related to domain, taxonomy, and component, they are explained in Table 1. Ethnoecological Analysis of Community and Sumatran Elephant Conflict.

Table 1. Ethnoecological Analysis of Community and Sumatran Elephant Conflict

Domain	Taxonomy	Component (Field Details)
Wild animals – resort-managed animals	● Wild elephants (*Elephas maximus sumatranus*) ● Resort-managed elephants under mahouts	● Wild elephants migrate through community plantations, appearing at night ● Resort-managed elephants are used for patrols, helping to drive away wild herds
Types of conflict	● Economic (harvest losses) ● Social (tensions, casualties) ● Spiritual (beliefs in customary violations)	● Destruction of corn, banana, coconut, and small-scale oil palm plantations ● Resident trauma, some evacuate when herds arrive ● Residents believe conflict arises due to taboo violations (adultery, harsh language)
Elephant classification	● Based on physical traits: *Tepang*, *Buntung, Gembong, Mbah Gede*	● *Tepang*: limping, slow, easily recognized ● *Buntung:* tail/tusk defect, often left behind by the herd

Domain	Taxonomy	Component (Field Details)
	● Based on behavior: tame–wild, easily driven away–stubborn	● *Gembong*: large, aggressive, feared by residents ● *Mbah Gede*: old, considered the herd leader, respected
Community response	● Technical (tools) ● Spiritual (rituals) ● Social (cooperation)	● Technical: firecrackers, torches, fireballs, slingshots, pathway lights ● Spiritual: *slametan*, collective prayers, *ruwatan* during harvest ● Social: joint patrols, cooperation with mahouts and elephant task forces
Cultural values & customary norms	● Elephant myths (addressed as "Mbah" or "Tamong") ● Customary rituals (*slametan*, *ruwatan*) ● Taboos & prohibitions	● Myth: elephants are incarnations of ancestors or guardians of the forest ● Rituals: *slametan* in plantations for safety, *ruwatan* before planting ● Taboos: prohibition of adultery in the area, prohibition of speaking harshly when referring to elephants
Conflict landscape	● Elephant migration routes ● Main conflict points ● Temporal patterns	● Migration routes passing through corn and banana plantations ● Recurrent conflict points in Sukoharjo and Gunung Sari Hamlets ● Night pattern: elephants appear after residents have gone to sleep
Elephant arrival signs	● Ecological indicators Social indicators	● Sound of breaking branches and vibrating ground ● Sounds from the river direction ● Arrival of *Merutu* (a type of small mosquito)

Source: field data

Ethnoecology explains how the community of Pekon Pemerihan classifies and responds to conflict with Sumatran elephants as part of the local knowledge system (Ahimsa-Putra, 2022). The community does not view elephants merely as destructive animals, but as ecological and spiritual agents that have roles in their life landscape (Kirksey & Helmreich, 2010). This is evident in the knowledge domain that distinguishes wild elephants and resort-managed elephants, the taxonomy of conflict that includes economic, social, and spiritual aspects, as well as the mitigation components that involve technical, social, and ritual strategies (Qomariah et al., 2019; Ministry of Environment, Forest and Climate Change [MOEF], 2025; Senevirathna et al., 2025; Li et al., 2023; Malta et al., 2022). Participatory mapping reveals that elephant routes traversing corn or banana plantations are not merely geographical spaces, but cultural spaces instilled with collective memory. The old route in Cawang Ara is also associated with *ruwatan*, which was performed when conflict was at its peak. Knowledge of ecological signs, such as the sound of breaking branches, vibrating ground, or the presence of *merutu* insects, is combined

with customary norms, including the taboo on speaking harshly when referring to elephants, which together form a distinctive system of vigilance (Sitompul et al., 2013). Local categories of elephants, such as *Tepang*, *Buntung, Gembong*, or *Mbah Gede*, show that community classification is functional and contextual. These categories serve to determine mitigation strategies, such as handling aggressive elephants through collective patrols, while slow elephants can be driven away using simple methods (Berkes, 2018; Tsing, 2015). Changes in the landscape and agrarian patterns from coffee and pepper to corn and papaya increase the intensity of conflict because the new crops are more preferred by elephants (Campos-Arceiz & Blake, 2011). This transformation highlights the interrelationship between economy, ecology, and culture, emphasizing the importance of community-based mitigation (Malta et al., 2022).

3.5 Shared Living Space of Humans and Elephants in Pemerihan in a Multispecies Perspective

The relationship between the community and elephants in Pekon Pemerihan takes place within a living space that is fragile, full of vulnerabilities, and difficult to predict. The uncertain presence of elephants, especially before the harvest season, forces the community to adjust their life rhythms continuously. Anna Tsing (2015) refers to this condition as *precarity*, a fragile state that requires humans and non-humans to negotiate their shared living space continually. When elephants arrive without a clear pattern, residents postpone harvests, stay on night watch, or alter their daily routines . Every encounter is a risk, but also an opportunity to affirm a more just coexistence. This resonates with what Lestel and Taylor (2013) call *shared life*—a condition in which humans and non-humans cohabit an entangled world, shaping each other's existence through emotional, spatial, and ethical ties. In this sense, coexistence between humans and elephants in Pemerihan should not be reduced to the avoidance of conflict, but understood as an ongoing negotiation within a shared lifeworld where mutual recognition, memory, and affect play central roles. An informant stated,

> "Usually, elephants enter the plantations before harvest, four or five times a year. We have to stay on night watch, bring firecrackers, lights, and sometimes make fireballs. Otherwise, the corn fields can be destroyed overnight. We already know the signs, for example, the sound of breaking branches or vibrating ground. Sometimes there are also small insects, such as *merutu*, which are signs that elephants are nearby. When that happens, all residents come out of their houses, and even the youth join the watch. There is a sense of fear, but also familiarity, because this has been happening for a long time. For us, dealing with elephants has already become part of daily life." (Interview with Mr. Paiman, Pekon Pemerihan, August 9, 2025).

This testimony shows that the strategy of night watch and collective vigilance is not only a way to protect the land but also a social mechanism that fosters solidarity. This aligns with Berkes (2018), who emphasizes that local knowledge is a crucial foundation for the sustainability of socio-ecological systems.

The practice of giving specific names to certain elephants shows the ethnoecological dimension, which is rich in symbolic and cosmological meaning. Elephants known as *"Tepang"* because of limping, or "Buntung" because of a severed tail, are not merely physical identifications, but local categories that reflect the community's long interaction with these animals.

Buyandelger (2013) states that non-human beings are often positioned as moral agents in traditional communities, and this is clearly evident in Pemerihan. An informant recounted.,

> "When *Tepang* the elephant comes down to the village, he only damages the house of the person who violates customary law, not others. We believe that he carries a message. Once, there was a prohibition against adultery in the village, but someone violated it. Shortly afterward, *Tepang* the elephant came down and damaged only the violator's house. People believe that it was punishment from the elephant. Thus, when certain elephants come, we do not see them merely as animals, but as signs from the ancestors." (Interview with Mr. Paiman, Pekon Pemerihan, August 9, 2025).

From this, it can be seen that elephant classification is not merely an ecological taxonomy, but also a cosmology that connects social ethics with animal behavior. This finding aligns with the research of Kuswanda et al. (2022), who emphasize that animal conflict in Sumatra cannot be separated from local customary beliefs. However, this meaningful relationship is not always harmonious because conflict also leaves deep trauma. Van Dooren (2014) refers to this as *ecological grief*, namely a sense of loss that arises from tragic cross-species encounters. In Pemerihan, this trauma is present both in the form of human casualties and the loss of elephants that were close to the community. One informant explained,

> "There was once a person who died after being trampled by an elephant while guarding the field. That made us traumatized, but we still had to face it because the field is our source of livelihood. When the elephant Yongki died, we were also very sad, because Yongki had been a friend and a protector. After Yongki died, assistance from the national park stopped, as if we ourselves were to blame. However, we never wanted the elephant to die; we only wanted to live side by side. Losing Yongki was like losing a member of the village itself, because many children knew him. Since then, the sense of loss toward wild elephants has also become stronger. We realized that our relationship with elephants is always two-sided; it can be harmful, but it also makes us feel close."

This testimony shows that conflict cannot be understood solely within the economic framework, but also within the emotional dimension, in which the deaths of both elephants and humans evoke grief that reinforces collective awareness. The ambivalence in this relationship becomes more apparent when residents express contradictory views between anger and neutrality. Münster (2016) explains that human–wildlife relations are always full of contradictions, presenting both closeness and distance. This is reflected in the account of an informant,

> "We hate it when the plantations are damaged, but apart from that, elephants are not enemies. They are ordinary animals, annoying only occasionally. When elephants come at night, we have to conduct night watch, sometimes until morning. However, during the day, there is no problem; elephants do not cause any disturbance. Personally, I see elephants as neighbors, sometimes causing commotion, but still having to be accepted. Some people are angry, but others believe that elephants bring messages. Thus, our relationship is never one-sided; it is always a mixture of anger

> and neutrality. This makes us feel that living with elephants is like living with uncertainty, but still has to be accepted." (Interview with Mas U'un, Pekon Pemerihan, 15 August 2025).

This quotation illustrates that the human–elephant relationship is never static, but fluid, full of emotions, yet always striving to maintain balance. Another important aspect is the community's awareness that elephants possess long memories and complex emotions. Richard Lair (1997) noted that elephants are capable of remembering old routes, recognizing traumatic experiences, and even harboring resentment. This is reinforced by the experiences of residents, who explained that elephants tend to return to plantations they have previously passed through and become more aggressive if they have been harmed in the past. One informant stated,

> "If elephants have ever passed through a plantation, they will certainly return, even several times a year. If they were shot with arrows in the past, elephants may hold a grudge and become more aggressive. That is why we try not to injure elephants, only to drive them away. When angry, elephants can cause more severe damage than usual. Therefore, we must be patient and skillful in reading their signs. To us, elephants are not only wild animals; they have feelings. They can remember, they can get angry, and they can choose whom they want to damage." (Interview with Pak Edi Sumantri, Pekon Pemerihan, August 16, 2025).

This knowledge shows that the community's ethnoecology is not only cosmological but also based on detailed ecological observations. Thus, the lives of the community and elephants in Pekon Pemerihan form a dynamic multispecies network. Kirksey and Helmreich (2010) stated that multispecies ethnography requires seeing animals as active agents that also determine the direction of social life. The people of Pemerihan have practiced this in reality by recognizing elephants as part of their cosmology, as moral agents, and as beings with memory and emotions. Every encounter is a risk, but also an opportunity to affirm a more just coexistence. This is the reason why mitigation strategies cannot rely only on technology or conservation authorities, but must be based on local knowledge that integrates emotional, cosmological, and ecological closeness between humans and elephants (Aziz & Sukmani, 2024; Aziz et al., 2025).

4. Conclusion

The relationship between the people of Pekon Pemerihan and the Sumatran elephant is a concrete example of multispecies ecology, marked by ambivalence, collective memory, and local cosmology. The conflict that occurs is not merely an ecological issue, namely habitat reduction and agrarian landscape change, but also a social, emotional, and spiritual issue. From the interviews, it can be seen that the community builds a system of local knowledge in the form of domains, taxonomies, and components of ethnoecology, which include the classification of elephants *(Tepang, Buntung, Mbah Gede),* types of conflict (economic, social, spiritual), as well as mitigation strategies (technical, social, ritual). This system shows how residents perceive elephants not only as threats but also as moral agents and sentient beings with long memories. Tension arises from precarity (Tsing, 2015), which refers to the vulnerability of life that necessitates continuous adaptation. The community develops strategies of guarding, night patrols, and customary rituals, which serve not only as defense mechanisms but also as means of strengthening social solidarity. However, the conflict also gives rise to ecological grief (van

Dooren, 2014), when both humans and elephants experience loss, either in the form of human casualties or the death of elephants that are familiar to residents. Ambivalence thus becomes the main characteristic: elephants are hated for causing destruction, but respected as *"Mbah"* (respected elder) who brings ancestral messages.

From an ethnoecological perspective, the human–elephant conflict in Pemerihan reflects a highly integrated system of ecological, social, and spiritual knowledge. Migration routes are perceived not merely as physical pathways but as cultural and sacred spaces that organize human–nonhuman relations. Rituals such as *ruwatan* and the practice of naming elephants embody the fusion of empirical experience and cosmology, translating ecological encounters into moral and communal meaning. This synthesis resonates with Livingston and Puar's (2011) notion of *interspecies relationality*, which emphasizes that human and non-human lives are co-constituted through shared histories, affective entanglements, and mutual vulnerability. Seen through this lens, coexistence in Pemerihan is an ongoing negotiation within a multispecies in commons that a field of interaction where humans and elephants shape, resist, and sustain one another's lives. Consequently, sustainable mitigation cannot rely solely on technological interventions such as electric fences or centralized conservation authority. It must instead integrate ecological science with local cosmologies, emotional intelligence, and community solidarity. The ethnoecology of Pekon Pemerihan demonstrates that enduring coexistence is achievable only when conservation policy acknowledges the *interspecies entanglements* that define this landscape—where empathy, memory, and shared vulnerability form the ethical and ecological foundation for a more just multispecies future.

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