



## **Living with Komodo Dragons: Wildlife and Tourism in Labuan Bajo, Indonesia**

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### **Abstract**

Komodo National Park, a UNESCO World Heritage Site and habitat for the endangered Komodo dragon (*Varanus komodoensis*), is simultaneously a symbol of global biodiversity conservation and a leading tourist destination in the Labuan Bajo area of Indonesia. This dual role creates tensions between ecological protection and economic interests. Tourism provides a significant source of funding for conservation and regional development, but it also has the potential to transform wildlife and landscapes into tourist commodities that threaten the dry tropics ecology and local human-animal relations. This research focuses on the intersection between conservation, tourism, commodification, local communities, and development. The study shows that local beliefs regarding Komodo dragons as animal relatives plays a crucial role as a cultural conservation mechanism that complements state regulations. However, tourism development has driven the commodification of wildlife, turning Komodo dragons into a tourist attraction and Labuan Bajo into a tourism hub. The resulting economic, cultural, and ecological risks have been met by local community resistance.

**Keywords:** Komodo dragon, wildlife tourism, human-animal relations, tourism development, community resistance, Labuan Bajo Indonesia

## Introduction: Komodo Dragons and Tourism Development

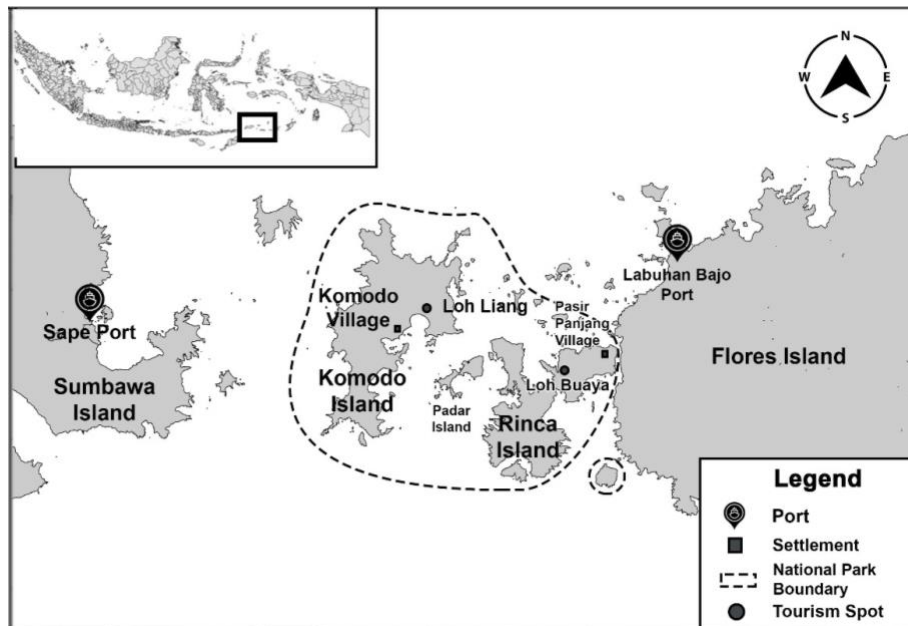
In the global policy arena, tourism is framed as a key sector for achieving the Sustainable Development Goals, particularly those related to decent work, responsible consumption and production, and marine conservation (United Nations Tourism, 2024). Indonesia adopted this agenda by positioning tourism as a leading development sector under former President Joko Widodo, with the Ministry of Tourism and Creative Economy (*Kemenparekraf*) as the focal institution. A central policy has been the designation of five “super-priority” destinations, one of which is Labuan Bajo in the West Manggarai Region of Flores Island (Nusa Tenggara Timur province). Labuan Bajo, as the gateway to Komodo National Park, is promoted as a flagship for world-class tourism ([kemenparekraf.go.id](http://kemenparekraf.go.id), 2021).

Labuan Bajo has also received strong support from the central government through the designation of the Komodo National Park (KNP), together with Labuan Bajo, as a National Tourism Strategic Area (*Kawasan Strategis Pariwisata Nasional-Labuan Bajo/KSPN-LB*), which is considered highly promising for both domestic and international tourism (The Cabinet Secretariat of The Republic of Indonesia, 2019). The central government has invested seriously in the KSPN-LB development project, as evidenced by the establishment of the Labuan Bajo Flores Tourism Authority (*Badan Pelaksana Otorita Labuan Bajo Flores/BPOLBF*) in 2018 and the subsequent upgrading of KSPN-LB to a super-priority tourism destination in 2019 (Labuan Bajo Flores Tourism Authority, 2020; The Cabinet Secretariat of the Republic of Indonesia, 2022).

Within this policy framework, Komodo National Park and its surrounding communities, have been drawn into new forms of conservation–tourism governance, which in turn impacts the Komodo dragons. At this juncture it is pertinent to remember that the tourism potential of West Manggarai Regency, particularly Labuan Bajo and its offshore islands as a super-priority tourism destination, is rooted in the popularity of the Komodo dragon as one of the world’s natural wonders.

The existence of the Komodo dragon was first publicised in 1912, when reports of a giant reptile prompted Lieutenant van Steyn van Hensbroek, a Dutch officer, to visit Komodo Island. At the time, Indonesia was still a Dutch colony. On the island, he observed the giant reptiles, shot one individual, had it skinned, and sent the skin to Peter Ouwens at the Bogor Zoological Museum in West Java. Ouwens subsequently published a scientific paper in which he reported the discovery, described the reptile’s physical characteristics and movements, and formally named the species *Varanus komodoensis* (Ouwens, 1912). Through this paper, the name “Komodo dragon” became known worldwide and has remained in use to this day.

**Figure 1. Location of Komodo National Park**



Map edited by Uus Faizal Firdausy, 2025

Komodo dragons have a restricted distribution in eastern Indonesia. They live primarily on four small islands in Komodo National Park: Komodo, Rinca, Nusa Kode and Gili Motang. They also have limited distribution in coastal areas along the western and northern shores of Flores, including: Wae Wuul, Wolo Tadho, Riung and Tujuh Belas Pulau Nature Recreation Park (Ciofi & De Boer, 2004; Jessop et al., 2004, 2006; Pasang et al., 2022). Komodo dragon viewing tours operate only on Komodo Island at a site called Loh Liang, and on Rinca Island at Loh Buaya. At these two sites, tourists can see the last “dragons” on earth at close range and take photographs of Komodo dragons from a safe distance of about 2-4 metres.

Komodo National Park, although part of West Manggarai Regency of Flores Island, is also close to Sumbawa Island to the west. Before Labuan Bajo port was developed as a priority tourist destination, tourists who wanted to see Komodo dragons usually travelled through Sape Port on Sumbawa Island (Pardede & Darwanto, 1999). However, once Labuan Bajo began to be developed and Komodo National Park was recognised as one of the New 7 Wonders of Nature in 2012, tourism in Labuan Bajo began to grow (mongabay.co.id, 2012). In 2013, the Indonesian government held “Sail Komodo,” a marine tourism event in the Labuan Bajo, drawing further recognition and making the area a leading tourist destination after Bali and Lombok. In 2015, Komodo Airport was built in Labuan Bajo to facilitate tourism. Since then, tourism development in Labuan Bajo has been rapid. In 2017, President Jokowi designated “10 New Balis” as priority destinations for development. In 2019, this was narrowed down to five

“super-priority” tourism destinations, one of which was Labuan Bajo. In 2022, Komodo Airport was expanded and transformed into an international airport.

Against this background, conservation in Komodo National Park has entered a new phase. Conservation, initially focused on preserving endemic species, has gradually become entangled with tourism interests which positions Komodo dragons as the primary draw for visitors to this area. This process has produced commodification practices that treat wildlife as economic assets that can provide financial support for conservation but also introduce significant ecological risks. The impacts of commodification are further complicated by their consequences on local communities, both through economic opportunities such as employment, as well as through marginalisation and loss of access to resources. At the same time, local communities still contribute valuable traditional knowledge and conservation practices to ecosystem sustainability. This research therefore examines how interactions among conservation, commodification, tourism and local community resistance shape new configurations of conservation and tourism governance, and discusses the implications for ecological sustainability and social justice.

To examine these issues, of conservation and development this study was conducted in two stages. The first stage was carried out by Yusuf Maulana and Rahmat Saleh in 2022 and aimed to map, identify, and explore key issues of tourist development in Labuan Bajo and the West Manggarai Regency. The second stage was conducted by Rahmat Saehu and Uus Faizal Firdausy in 2024 and employed patchwork ethnography (Günel et al., 2020) to understand the interactions of conservation and tourism within Komodo National Park. This method involves fragmented but repeated field visits and is well suited to locations with limited accessibility, such as Komodo and Rinca Islands. Systematic observation of interactions between local communities and Komodo dragons within villages, in addition to interactions between tourists and Komodo dragons, was conducted through fieldwork spanning 21 days in June 2024.

## **Conceptual Framework**

### ***Right to Development***

Since 1981, additional dimensions of human rights have been recognised, including the right to peace and security, development, and a healthy environment. These rights provide the necessary framework to be fully perceived compared with other rights. However, one human rights category is not required to be a prerequisite for another. These rights are categorized as solidarity rights because they require international cooperation and fulfilment in the collective context of social life (Benedek, 2012).

Within the Indonesian context, the Declaration of the Right to Development provisions are suitable for addressing the violation of human rights resulting from development.

Among them is the right to fully control natural wealth and resources. This rule implies that the community's natural resources and wealth, which it controls, are not subject to confiscation, and it also has the right to decide the use of these resources. Unfavourable events were a common occurrence for people during development projects. This study contends that the government in the KSPN-LB project made a sole decision to survey the hills, sea, and forests near where people lived and the community's rice fields.

Another key provision in the United Nations Declaration on the Right to Development is that human beings must be active participants in, as well as beneficiaries of, development (United Nations, 1986). In practice, however, development projects often prioritise physical infrastructure and leave people behind, producing interventions that are not grounded in community needs and may even reduce quality of life. The Declaration also stresses equal opportunities to access basic resources, education, health care, food, housing, employment and a fair distribution of income (United Nations, 1986). Taken together, these provisions frame the Right to Development as a human-centred, rights-based approach that emphasises participation, equality, non-discrimination and self-determination (Benedek, 2012). The core principle is to ensure equitable access to resources and opportunities so that no community is made worse off by development and all individuals are able to benefit from it.

### ***Political Ecology and Commodification***

A central focus of political ecology is the commodification of nature, which highlights the process by which ecological elements become quantifiable, saleable, and exchangeable commodities due to neoliberal economic principles (Büscher et al., 2014; Reyes Grande et al., 2024). This commodifying process is inherently shaped by power relations, producing unequal access, control, and benefit distribution. Evidence from other contexts reinforces this pattern: studies from Mexico, India, and Chile show how the privatisation of aquatic resources, intensive shrimp aquaculture and fisheries-aquaculture complexes tend to benefit large industries while dispossessing small-scale fishers and deepening class, gender and caste hierarchies (Durai & Babuji, 2023; Reyes Grande et al., 2024; Velásquez & Ayala, 2024). These cases demonstrate that commodification is never merely an economic process but a political one that reorganises ecological relations and redistributes power.

A more profound analytical perspective on the critique of commodification can be achieved by integrating the more-than-human relationality framework, which contests anthropocentrism by framing humans within networks of relationships that encompass non-human entities. This framework conceives of ecological communities as ethical and political collectives jointly produced by human and non-human entities (Smith, 2013), and it is operationalized through methodologies that decentre human authority

while acknowledging material agency in non-human beings (De Roo & Ganzevles, 2023; Legun & Virens, 2020). When placed alongside political ecology, this perspective highlights how conflicts over resources and conservation are also conflicts over how humans imagine, interact with, and co-constitute the more-than-human world.

These developments are entwined with the long-standing relationships between local communities and Komodo dragons on the park's inhabited islands. On the island of Komodo, dragons have coexisted with humans for centuries. Unlike the Rinca Island community, which is a blend of migrants from Komodo Island and the Bajau tribe,<sup>1</sup> the Komodo Island community, informed by their origin stories, still strongly considers the Komodo dragons as their relatives. The islanders' long and close relationship with the reptiles continues to ensure the Komodo dragon's survival from poaching and habitat destruction. Today, the human-Komodo dragon relationship is not only about safeguarding the animals, this relationship also impacts the community's livelihoods in the tourism sector. The community now relies heavily on tourism, compared to previously relying on fishing. Despite the ancient human-Komodo dragon relationship, humans are sometimes threatened by the Komodo dragons.

The entanglement of commodification, power, and more-than-human relationality is clearly reflected in the history of Komodo conservation. Early interventions, from the Sultan of Bima's 1915 hunting ban, colonial regulations in the 1931 Wildlife Protection Act, the establishment of the 1938 Nature Reserve, and additional 1940 restrictions, show that top-down, law-centric conservation alone was insufficient to halt hunting and exploitation. This history affirms Emel's (1995) argument that "what it means to be human can never be defined without other animals," because human-Komodo dragon relations have always been mutually shaping across social, cultural, and biological dimensions. In the contemporary governance of Komodo National Park (KNP), conservation outcomes emerge from negotiations between ecological priorities, state authority, local livelihoods, and the agency of Komodo dragons themselves, demonstrating that conservation is a cultural-political, not merely ecological, project.

This dynamic becomes even more complex with the rise of wildlife tourism, which reframes Komodo dragons as global attractions in wildlife-based tourism (Reynolds & Braithwaite, 2001). Conservation thus becomes increasingly tied to economic valuation, reproducing the logic of commodification. While wildlife ecotourism can generate economic benefits (Hoefle, 2016), research also reveals its ambivalence: tourist interactions can alter animal behaviour, impact reproduction (Jacobson & Lopez, 1994), and disrupt foraging patterns (Meissner et al., 2015). Moorhouse et al.

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<sup>1</sup> The Bajau are also known as sea gypsies. They have small settlements at the edge of land comprised of wooden stilt houses set over sea water. There are many Bajau settlements across Indonesia. Labuan Bajo means: labuhan (harbour) bajo (bajau).

(2015) and Moorhouse et al. (2017) further demonstrate that close tourist-animal proximity, even under ecotourism narratives, often harms animal welfare. In the case of KNP, these tensions illustrate how commodification, power relations, and more-than-human interactions converge in shaping both conservation outcomes and the lived realities of Komodo dragons and local communities.

## Results and Discussion

### *Human–Komodo Dragon Relations*

Humans and Komodo dragons have coexisted on Komodo Island for centuries. The island, which covers about 390 square kilometres, is home to a legend about the origins of the island's human and Komodo dragon inhabitants. Interviews conducted by the authors with older residents and customary elders during fieldwork indicate that the first human settlement was on Najo Hill, named after Umpu Najo, the first person said to have settled here. Umpu Najo belonged to the Ata Modo tribe. The Ata Modo are described as having large ears and an average height of around 175 cm. However, this tribe did not flourish, in part because of a childbirth practice: when a woman was about to give birth, her abdomen was cut open to deliver the baby, resulting in many maternal deaths. This practice severely limited births and kept the group small.<sup>2</sup>

In the local language, Komodo dragons are called “Ora” or “Sebae.” “Ora” is the Komodo's common term, while “Sebae” means “next door” or “twin,” used when people communicate with Komodo dragons with emotional meaning. This emotional closeness is built through intergenerational folklore. In one legend, Epa, the offspring of Umpu Najo, gave birth to twins—one male human, and one female Komodo dragon named Ora. Epa and her family were not afraid despite having a non-human child. However, as Ora grew, she showed differences (preferring meat and preying on livestock), sparking conflict and expulsion from the village. This concept of human-animal kinship calls up more-than-human worlds and multispecies studies, where ethical relationships extend beyond just human interaction (Chao & Enari, 2021; Nathaniel, 2025).

After Umpu Najo, newcomers arrived: Nenek Sumba, Umpu Dato (Welak), Ginggu Kele, Ina Prafu (Siti Khadijah), and Nanga Babu. They met at Umpu Najo's old village

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<sup>2</sup> In Komodo oral tradition, the end of this dangerous childbirth practice is linked to the arrival of another ancestral figure, Nenek [Grandmother: an elder title] Sumba. She and her group were originally heading for Sumbawa Island when strong ocean waves forced them to land on Komodo Island. After landing, they searched desperately for water and saw smoke rising from a mountain, hoping it signalled a settlement. Before they reached the mountain, they met an Ata Modo man who explained that in the village on the hill (present-day Najo Hill), a woman was about to give birth undergoing the dangerous practice of caesarean section. When he learned that the Sumba group included a midwife called Nenek Sumba, the Ata Modo messenger returned to inform Umpu Najo. Umpu Najo then sent four men with a litter to carry Nenek Sumba up the hill so that she could assist with the delivery.

and agreed that the newcomers could stay on the island but must help protect the island from attacks by *pegora* (pirates/invaders). Today the descendants of these ancestral clans live together in Komodo Village and recognise five founding lineages. They have formed a customary organisation in which leadership rotates among these lineages, maintaining cultural continuity and a shared responsibility for the island. Although the original tribe of Ata Modo is said to no longer exist, the descendants still call themselves Ata Modo or “Komodo People,” a cultural identity that continues to anchor community life.

Beyond these origin stories, the everyday spatial arrangement of Komodo Village also materialises human-dragon relations. The physical layout of Komodo Village reflects this interspecies proximity. Built along coastal and hilly contours, the village forms an elongated line of houses close to the natural habitat of Komodo dragons. Dragons frequently pass through the village, and local residents often give individual dragons names. Thomas is often seen near the rubbish dump and football field; *Cincin* (ring) is known for a ring-shaped wound on his tail; and others are identified by letters such as F and S. This physical proximity and mutual “accommodation of space” between humans and Komodo dragons implies cohabitation or “living-with”. In more-than-human or multispecies studies, the presence of non-humans in social space is treated as part of shared living (Culos et al., 2025).

**Figure 2. Juvenile Komodo and Little Girl in The Village**



Photo credit: Uus Faizal Firdausy, 2024

These everyday encounters further show how ordinary Komodo dragons are in village life. Young dragons typically nest in surrounding trees until they are two to three years old or reach around 20 kilograms, feeding on birds, butterflies, and small animals. When we encountered a young Komodo dragon in the Komodo village, the villagers seemed not afraid but rather interested. A toddler was eating candy, and his mother, sitting near a tree, told her child, "Give modo some candy". This gesture indicates how sharing with Komodo dragon brothers and sisters is passed on to village children. After waiting for a while, the young Komodo dragon climbed down and went into the back of a villager's house. When we informed the homeowner, she simply said, "It's okay, just let it be".

The primary reason adult Komodo dragons enter the village is to chase goats, chickens, and other livestock. Villagers often lose animals to predation, but they express regret rather than anger. Because livestock are free-ranging and not routinely fed, their deaths are treated as part of the natural cycle. Villagers also carry the carcasses of goats that die to the hills so that dragons can eat them. This continues a longstanding practice of sharing food with Komodo dragons. Similar behaviour occurred when villagers hunted deer in the forest before the area was designated a conservation zone. Groups of five to ten hunters would go into the forest with dogs and could harvest 600-1000 kilograms of meat in a week. They preserved the meat with salt and stored it high in trees. The smell would attract Komodo dragons, and if a dragon approached, hunters would simply tell it, "Wait, *sebae*", and the dragons would usually wait patiently. Hunters always gave Komodo dragons the scraps from the carcass. These included the heads, feet, and skin and were offered as a sign of brotherhood. The abundant meat was not traded but consumed over three or four months, and when their supply was nearly exhausted, they would return to hunting.

This deeply embedded kinship began to shift after the recorded Komodo dragon attack on a human in Komodo Village in 2007. This incident was the first attack in 33 years. Before this event, children were not afraid of Komodo dragons. Many adults recalled how when they were children they went into the hills after school to look for dragons, threw stones at them, and chased them for fun. The dragons did not attack, and this experience strengthened the sense of familial closeness. Today the situation is different. Parents forbid children to enter the mountains, and they repeat the warning "*mokela ntodo*" ["do not go to the mountains"]. This change shows a shift in the community's perspective. People who once felt no fear because they regarded Komodo dragons as relatives have become more aware of the danger. They now see the dragons less as kin and more as wild animals that can attack humans.

When violent encounters occur, the long-standing sense of mutual safety between humans and Komodo dragons breaks down. The boundary between kinship and risk becomes uncertain. Villagers must reconsider how close they can, and should, remain

to these animals. This situation creates a new “ethical distance”. This distance is a cautious relational space that reshapes the way humans and Komodo dragons live together. In a more-than-human framework, relationality means that neither humans nor non-humans exist in isolation. Their identities and behaviours develop through ongoing interactions. When events such as attacks change these interactions, the relationship itself changes. And people also change the way they understand themselves in relation to Komodo dragons (Price & Chao, 2023).

Conservation history intertwines with this evolving relationship. Efforts to protect Komodo dragons date back to 1915, when Sultan Ibrahim of Bima issued a decree that banned killing them. The Dutch colonial administration later strengthened restrictions on hunting and collecting specimens. Incidents nonetheless continued. In 1926 an expedition led by W. Douglas Burden captured 13 specimens and two live dragons, with the live dragons later dying. By 1927, the West Manggarai Regency authorities had prohibited the capture, hunting, and disturbance of Komodo dragons and their nests. The Dutch Resident Governor of Timor formalised this policy. Further protection followed in the 1931 Wild Animal Protection Act and in the establishment of a wildlife sanctuary in 1938. The sanctuary was later expanded to include parts of Rinca Island. Despite these measures, killings continued, especially during deer hunts, and new restrictions were introduced in 1940.

Before Komodo Island was designated a national park, local people used the island’s natural resources. They gathered tamarind and soursop fruit and hunted deer in the forest. Hunting continued until the 1980s. In 1983, however, Komodo Island became part of Komodo National Park and the area was reclassified as a nature conservation zone. At that time forest rangers shot the dogs that lived on Komodo Island because they were considered invasive animals that might disrupt the island’s natural ecosystem. Hunting by residents of Komodo Island has now stopped, but poaching in the national park by people from outside the island still occurs.

The Komodo dragon is currently listed as Endangered on the IUCN Red List and is included in Appendix I of CITES, which bans all forms of international trade in the species. Threats to Komodo populations differ between regions. Within Komodo National Park, Komodo dragons have been relatively safe from direct human pressures for the past 30 years. Dragons on smaller islands such as Nusa Kode and Gili Motang face higher risks because of small population sizes, limited prey, and a high likelihood of inbreeding. The local extinction of Komodo dragons on Padar Island shows the effect of intensive deer hunting. Since 2013 the population on Padar has begun to recover through conservation measures led by Komodo National Park staff. Projects such as the Komodo Dragon Project and the Komodo Survival Project show that when local communities take part in patrols, training, and public-awareness

activities, Komodo populations inside the national park are better protected (Bioparc Fundacion, 2009).

The 2007 attack in Komodo Village shows how conservation procedures and local cosmological beliefs interact. After the attack on a villager, Komodo National Park staff captured the Komodo dragon, tagged it, and relocated it to another island to reduce the risk to the community. A few days later a house in the village caught fire. A villager then reported dreaming of an old woman who came down from the mountain. When people in the village asked why she had appeared, she explained that in the dream she had caused only one house to burn and that the Komodo dragon should not be blamed. She referred to the dragon as her “child”. This dream narrative shows how villagers place dangerous events inside a cosmological frame that strengthens, rather than weakens, their moral relationship with Komodo dragons. Such interpretations reduce the likelihood of species stigmatisation after negative encounters and makes it easier for people to continue living alongside dragons despite conflict.

Local beliefs that treat Komodo dragons as relatives act as an informal conservation system that complements formal regulations. Local norms about respect for nesting areas, access to forests, and the treatment of wildlife, continue to support the survival of Komodo dragons. Even when attacks occur, the cultural logic that shapes community responses places emphasis on moral interpretation rather than retaliation. In this way, cosmological narratives, customary practice, conservation law, and changing everyday experience, all combine to shape a dynamic and complex relationship between humans and Komodo dragons in Komodo Village. These processes help prevent the species from being condemned as a collective “enemy” (Walpole & Goodwin, 2001).

### ***Komodo as Commodity: Between Conservation and Capital***

As outlined in the introduction, the designation of Komodo National Park as a New 7 Wonders of Nature site, combined with national programmes such as five “super-priority” tourism destinations and the upgrading of Komodo International Airport in the town of Labuan Bajo, has made this area a flagship tourism hub. These policy shifts have accelerated a development model that treats Komodo dragons and their habitat, including surrounding islands and the town of Labuan Bajo, as high-value tourism assets, paving the way for intensive infrastructure projects and ‘premium’ visitation schemes inside the park.

In this context, the commodification of wildlife tourism occurs when wildlife, especially Komodo dragons, becomes the main attraction that generates visitor numbers and revenue. This commodification can have positive effects, such as increasing local income and conservation funding, but it also has negative consequences, including

pressure on the natural behaviour of Komodo dragons and degradation of their habitat. One important element of this attraction is wildlife viewing. Tourists travel to sites such as Loh Liang on Komodo Island and Loh Buaya on Rinca Island to see Komodo dragons in what is presented as their natural habitat. Visitors also hope to observe associated species such as Timor deer and wild boar under relatively natural conditions.

Closer interaction with wildlife in Komodo National Park is an even more sensitive issue. Such interaction involves physical proximity and direct presence between humans and Komodo dragons or other animals. One form of interaction occurs through tourism activities such as in Rinca Village. Local communities live side by side with Komodo dragons, and tourists can join locally guided tours to see dragons in and around the village (Ibadurrahman, 2024). However, these interactions are not always safe or ethical. Research on human encounters with dangerous reptiles in Komodo National Park show that people sometimes engage in negative behaviour towards reptiles, including the Komodo dragons. They may chase them away or even attack them if they perceive them as a threat. Tourist interactions with Komodo dragons, whether through deliberate luring or by positioning animals for a closer experience or photo opportunities, can change the dragons' natural behaviour and reduce their wariness of humans. Uncontrolled interaction of this kind increases the risk of human-wildlife conflict.

**Figure 3. Tourists Queue to Take Photos with Komodo Dragons**



Photo credit: Rahmat Saehu, 2024

The use of wildlife as photo props is now often discussed as part of commodification. Tourists frequently photograph Komodo dragons dramatically or up-close, potentially using professional cameras or drones. "Instagrammable" photo desires may encourage behaviors like using food to lure animals or altering tourist paths for easy photos of Komodo dragons. Animals' natural behaviour could be changed by these practices, which disrupt their routines. For instance, research on Rinca revealed that Komodo dragons in tourist spots got used to people and sometimes ignored them, perhaps because they were often photographed or observed. In examining the daily routines of Komodo dragons, researchers found that the frequency and length of their movements and maintenance activities differed between areas with and without tourists (Ardiantiono et al., 2018).

The commodification of wildlife tourism frequently entails intricate economic consequences. Tourism centered on the wildlife of Komodo National Park creates income for the local government, national park administration, and local communities from entrance fees, guide services, lodging, and transport. Conversely, commodification can generate economic forces that prioritize attractive tourist interactions and experiences, potentially damaging conservation. Overcrowding of tourist routes and high visitor numbers can lead to an increased risk of habitat destruction and disturbance to wildlife.

From an animal welfare perspective, the handling and use of captive wildlife as "photo props" has become a highly controversial tourism activity (Carder et al., 2018). Previous research has highlighted how such practices can severely harm the physiological and psychological well-being of wildlife during capture, restraint, and subsequent use (Baker et al., 2013). Our field observations also support existing concerns about how such repeated handling, combined with poor husbandry, constant exposure to photography, and unnatural environments, can lead to stress, illness, injury, and associated mortality (Osterberg & Nekaris, 2015).

These dynamics of commodification and contested animal welfare are closely linked to the political and economic structures that govern tourism development in Labuan Bajo and Komodo National Park. Establishing the BPOLBF as an agency of the central government was an effort to accelerate development and investment in the West Manggarai Regency. This entity was established under Presidential Regulation Number 32 of 2018 and is intensely centralized and technocratic. The BPOLBF's authority is considerable and even exceeds the authority of Regional Heads and the Regional People's Representative Council (DPRD), which are democratically elected directly by the people. One of its authorities controls over 400 hectares of land to develop the National Tourism Strategic Area KSPN-LB (Indonesia.go.id, 2022). This has resulted in conflict between local communities, the government, and companies.

### ***The Case of “Jurassic Park”***

A high-profile example concerns the proposed construction of a “Jurassic Park” tourism infrastructure on Rinca Island in 2020. Rinca Island is home to the second-largest population of Komodo dragons. The project was dubbed “Jurassic Park” after the architects posted an Instagram video of their project proposal set to the music from the Jurassic Park dinosaur film (BBC, 2020). The video was shared widely in Indonesia by local campaigners and was picked up by national and international press.

The “Jurassic Park” project initiated by PT. Flobamor, PT. Segara Komodo Lestari, PT. Komodo Wildlife Ecotourism, and PT. Synergindo Niagatama, met strong resistance from local communities. Although the companies had obtained Business Permits for Providing Nature Tourism Services (IUPJWA) and Natural Tourism Facilities (IUPSWA) from the Ministry of Environment and Forestry, the corporations’ attempt to build a large-scale wildlife park infrastructure inside the conservation zone raised serious environmental concerns.

According to Sunspirit (2022), at least four companies, PT Segara Komodo Lestari, PT Komodo Wildlife Ecotourism, PT Synergindo Niagatama, and the provincial BUMD PT Flobamor, hold long-term tourism concessions inside the Komodo National Park conservation area. Media investigations by Kompas.TV (2023), projectmultatuli.org, (2022), and Tempo, (2021) have traced these companies’ ownership structures to national business and political elites, including leading hotel groups, palm oil conglomerates, and politicians close to former President Joko Widodo and the Nusa Tenggara Timur (NTT) provincial government (which oversees West Manggarai Regency). These entanglements between conservation space, private concessions, and elite networks, exemplify an oligarchic structure in which political power and capital co-produce KSPN-LB’s development trajectory.

In short, these corporations are under the control of business people, politicians, public servants (both federal and state), and a small number of powerful elites connected to the central government. Consequently, KSPN-LB’s evolution was largely shaped by political authority and financial backing. The resources of West Manggarai Regency are now tools used to solidify business and political influence. This oligarchy hinders progress in a democratic society that aims to balance civil society, the market, and the government. As Fitri and Jauhari (2020) suggest, joint commitments among civil society, businesses, and the state through cooperative efforts are essential for economic prosperity and for solidifying a collective resolve to realize development goals. The fulfilment of local communities’ development rights is contingent upon this relationship.

### ***Local Communities and the Right to Development***

The positive impacts of KSPN-LB national tourism development strategy has only been enjoyed by certain parties, and the development rights of local communities have been ignored. These include rights to clean water, arable agricultural lands, the protection of villages, improved education, local employment, and the sustainability of traditions, including ikat weaving.

The right to clean water is a major issue in this area of the dry tropics of Indonesia which experiences only a short rainy season and a long dry season. This dryness gives this region of West Manggarai Regency—including Labuan Bajo and Komodo National Park—it's distinctive savannah-like appearance.

Local communities in Labuan Bajo have always experienced difficulty with clean water. However, this situation worsened under the KSPN-LB national tourism strategy and the construction of many hotels and restaurants which consume clean water on a large scale. Adding to the difficulties, clean water supply systems (*Sistem Penyediaan Air Minum/SPAM*) developed by the central government (Ministry of Public Works and Housing (PUPR)) mostly flow to hotels, restaurants, and various tourist attractions which are owned by investors from Jakarta and abroad. Hence, there is discrimination regarding the right to clean water, where local communities, especially the lower classes, have increasing difficulty in accessing clean water compared with corporations in the West Manggarai Regency.

The central government (Ministry of PUPR) also built a large-scale road infrastructure to facilitate KSPN-LB connectivity. For instance, the Labuan Bajo-Golo Mori road, which is approximately 25 km long and 23 metres wide, was built in 2021. The construction of this road infrastructure forcibly displaced residential areas, and negotiation processes with communities were inadequate. Some residents received no compensation. Highway construction with drainage also crossed the rice fields of residents. As a result, the waste water from the road drainage during the short monsoonal rainy season inundated rice paddies and other fields with such force that it resembled a river. Crops failed. Many farmers now have difficulties growing crops. Farming is their primary source of subsistence and income. Thus, the government boosted tourism development but sacrificed agricultural and other local livelihood sectors. From 2021 to 2023, the economic structure of the West Manggarai Regency in the agriculture, plantation, forestry, livestock, and fisheries sectors experienced fluctuations, with a continuing downward trend (Statistics Bureau of Manggarai Barat Regency, 2022, 2023).

Rapid growth in the tourism sector, supported by new infrastructure, has not been matched by improved access to education and formal employment for local

communities. Data from the Statistics Bureau of Manggarai Barat Regency [West Manggarai Regency] (2023) shows that most residents aged 15 and over have only completed primary or junior secondary education, and around one in ten have not finished primary school. With such low educational attainment, it is very difficult for local people to enter a labour market that increasingly demands at least upper secondary or tertiary qualifications.

**Figure 4. Labuan Bajo Harbor**



Photo credit: Rahmat Saleh, 2022

While tourism development has turned Labuan Bajo into an open market for job seekers, tourism-related employment does not look to local residents, but rather draws labour from other parts of Indonesia (interview MM, May 2022). Foreign and domestic investors prioritize skilled workers imported from outside the West Manggarai Regency. Such human resource conditions result in local inhabitants becoming unemployed and thus entering into a cycle of economic vulnerability (Ngubane et al., 2023; Pohlig, 2021). Rather than enriching locals through job opportunities, tourism development has had the reverse impact and increased the risk of poverty.

Another impact is on the local weaving traditions. Weaving is part of the Manggarai people's rich cultural heritage. The intricacies of the weaving process have been passed down from mother to daughter for generations: from making cotton thread, to the ikat process of dyeing threads, to the weaving of the cloth. Villages each have their

own story traditions woven into the intricate patterns of the ikat design. Weaving holds a village's identity and ties family lineage to the ancestors. There is a cultural depth within each textile and weaving is considered a form of local wisdom.

The development of KSPN-LB created a paradox in which tourism was proliferating, however, local weaving traditions have been threatened by extinction because young women are forced to work abroad as migrant workers. Local women hoped to work in the West Manggarai Regency so that they could still weave in their daily lives continuing to learn and practice the tradition. The lack of local job opportunities, has resulted in local weaving traditions being threatened by extinction because there was no opportunity for the regeneration of young weavers.

Therefore, the super-priority tourism destination development project in Labuan Bajo has had consequences for increasingly marginalized local communities. The government-state initiatives have not addressed the national development goals of physical and spiritual prosperity and social justice for all Indonesians (Safudin, 2019). Pratama et al. (2024) emphasize the importance of inclusive and sustainable development which would necessitate the KSPN-LB involving local communities in various stages of tourism development. Such a development practice will become a sustainable tourism model, with local communities involved from the outset of project decision-making and planning, and also focus on long-term economic, social, and environmental benefits for the lives of these communities (Mavrin, 2024). Thus, the KSPN-LB development project needs local community participation to be increased and expanded (Islahuddin et al., 2022). Taken together, the principles of the Right to Development and alternative development approaches underline that every citizen has the right to participate actively in various stages of development, not only as a stakeholder but also as local community "hosts" as well as "shareholders" of this development project.

In contrast to a sustainable tourism development model, the BPOLBF has been perceived as exacerbating, rather than resolving latent tourism problems in Labuan Bajo, Komodo National Park, and the West Manggarai Regency in Flores. However, the many controversies around violations of the right to development remained largely local and ignored. Then, in 2020, a viral image of a Komodo dragon facing a construction truck on Rinca Island and the hashtag #savekomodo drew national and international attention. Civil society groups from Labuan Bajo wrote to UNESCO and UNEP warning that large-scale tourism concessions in conservation areas threatened both Komodo National Park and community rights. They called for the park's World Heritage and Man and Biosphere status to be reconsidered if environmental and local concerns were ignored (Haryanto & Jempau, 2022). UNESCO and IUCN later expressed concern about the new infrastructure and private concessions and sent a

Reactive Monitoring Mission in 2022. However, the mission's selective itinerary avoided company concession areas and critics on the ground (Haryanto & Jempau, 2022; UNESCO, 2021). Domestically, Komnas HAM (National Commission on Human Rights) acknowledged alleged rights violations and offered mediation, yet there has been little visible follow-up (konnasham.go.id, 2021).

**Figure 5. Komodo dragon vs Tourism Development**



Social media viral photo #savekomodo. Photo credit: X @KawanBaikKomodo, 2020

## **Conclusion**

The relationship between humans and Komodo dragons demonstrates that conservation cannot be understood solely from an ecological perspective but must also encompass cultural and social aspects. The local community belief that views Komodo dragons as relatives has formed the foundation of an ecological ethic inherent in daily life. In practice, communities protect the Komodo dragons' habitat in ways not always enshrined in formal regulations, but rather in customary norms and cosmological narratives. This mechanism has been proven to maintain the sustainability of the Komodo dragon population even before the advent of state regulation. This symbolic relationship also gives rise to reciprocity, for example in the

practice of sharing prey with the Komodo dragons. The presence of Komodo dragons around settlements is not simply perceived as a threat but also as part of a coexisting community. Thus, the human-wildlife relationship in Komodo forms a pattern of coexistence rich in both symbolic and practical meaning.

The shift from conservation to tourism presents both new opportunities but also complex dilemmas. Wildlife-based tourism creates a source of income to support habitat protection, including through entrance fees and guide services. These economic benefits incentivize conservation but are not free from risks to the ecosystem. The intensity of tourist interaction with Komodo dragons has the potential to alter animal behaviour, disrupt reproductive patterns, and create new conflicts with humans. This situation demonstrates that successful conservation is inextricably linked to tourism management that is sensitive to animal welfare.

Furthermore, the development of the KSPN-LB represents a tourism management model rife with the logic of commodifying space, natural resources, and cultural identity. Rather than fostering inclusive development, this project creates an asymmetry of benefits and burdens where profits accumulate in the hands of investors and external actors, while local communities lose access, living space, and fundamental rights. Rather than offering an opportunity for enrichment (culturally and economically), this tourism development is threatening to produce local cultural and economic vulnerability and impoverishment.

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### **Ethics Statement**

The studies involving human participants were reviewed and approved by the Research Ethics Committee for Social Humanities of Indonesia's National Research and Innovation Agency (BRIN) Numbers: 057/KE.01/SK/4/2022 and 377/KE.01/SK/05/2024. All participants provided written informed consent to participate in the study.

### **Disclosure Statement**

The authors declare no conflicts of interest. All authors contributed equally to this work.

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