# Implementation of conservation partnership to improving the role of local community in the management of Mount Rinjani National Park, West Nusa Tenggara, Indonesia

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## Reseach

## Abstract

*Background:* The conventional emphasis solely on protective measures in national park management has proved ineffectual in averting damage resulting from illicit human interventions. Facilitating local community access to the national parks through conservation partnerships constitutes a strategic conciliation, aimed at forestalling potential conflicts. This study seeks to ascertain if the government's proposition of conservation partnerships, serves as a conciliatory mechanism to alleviate tensions between local communities and park administrators.

*Methods:* Data was procured through in-depth interviews and field observations conducted within the research site. The informants consisted of academicians, staff of the national park, local government, village leaders, and local communities. Field observations encompassed an immersion into the national park locale, involving the scrutiny of diverse community activities.

*Results:* The conservation partnerships have fostered a more symbiotic rapport between national park management and local communities. The local community is now perceived as collaborative guardians of the sustainability of the national park, while park managers assume the role of facilitators and protectors of community activities within the park. The fears and illegal actions of local communities that were carried out before the partnership have been replaced with harmonious engagement and unhindered participation.

*Conclusion:* The implementation of conservation partnerships has brought positive impacts on the livelihood of local people and also on the sustainability of the forest. Through conservation partnerships, the activity of the local community to access non-timber forest products was protected by the park office. This condition encourages the creation of harmony between local communities and the forest manager.

*Keywords:* conservation partnership, local community, management, national park.

## Background

Indonesia has conservation forest areas of 26.894.122,42 hectares (ha) in 2021, and 16.094.804 ha (59,84%) of them is divided into 54 units of national parks and spread throughout Indonesia (Pamungkas and Jones 2021; KLHK 2023). Even though the conservation area has become a national park, few have suffered damage due to human activities. Some of the national parks that were damaged for example are the Bukit Barisan Selatan National Park in Lampung (Deni 2011), the Kerinci Seblat National Park in Jambi (Salfutra 2016), and the Rawa Aopa Watumohai National Park in Southeast Sulawesi (Subarudi and A.S.L.P. Putri 2006). One of the existing national parks is the MRNP also damaged mainly in Bebidas village in the form of community control over the MRNP covering an area of 150 ha which is claimed by the community as the Jurang Koak customary forest and has long been managed as an agricultural land long before the designation of the MRNP in 1997 (Risdiana 2017; Hasnika et al. 2020) , and the conditions in Bebidas village are now conducive (Jpang 2022).

Before 2018, the management of national parks in Indonesia was carried out without giving access to the public to be able to utilize existing resources in the area. National Park management emphasizes conservation interests above all else. This is emphasized in Act No. 11/1990 on natural resources conservation claims that the main purpose of Indonesian national parks is biodiversity conservation and sustainable development (Pamungkas and Jones 2021). Even though, since the 2003 National Parks Congress in Durban mandated the need for community involvement in national park management, the Indonesian government has begun to improve national park management patterns by prioritizing community interests through collaborative management patterns, in practice, this is not the case (Dunggio and Gunawan 2009).

The conservation partnership in Indonesia is a correction to the previous policy, which did not involve local communities in managing national parks. Conservation partnerships are seen as an embodiment of collaborative management (Co-management), namely the management of conservation forest areas by involving community participation (Participatory) through providing access to the use of forest resources (Okthalamo et al. 2022). If viewed from a conservation partnership with community-based management, this conservation partnership can also have the capacity to improve the social and economic conditions of communities that depend on forests, as in the concept of community-based forest management (Manolache et al. 2018). Partnerships in forest areas can also be a solution to resolve conflicts between the government and local communities, or between the private sector and local communities (Asmin et al., 2019; Iriyani et al., 2020; Nawir, 2005; Ota, 2019; Race et al., 2019; Santika et al., 2019; Suhardjito & Wulandari, 2019; Widman, 2016), community awareness and commitment to forest area sustainability (Suwarno et al., 2009), and supporting improving the welfare of local communities (Rustinsyah, 2015).

The correction to the previous policy is necessary because one of the major reasons for the failure of most forestry programs in tropical developing countries is the exclusion of local people in forest management and poor recognition of local peoples' customary rights and dependency on forests (Ota et al., 2020). The national park was considered places for conserving biodiversity and public recreation, and they were to be protected by the highest national authority, as happened in the management of national parks in Indonesia (Wianti 2014) and other developing countries, following the North American park system(Nepal and Weber 1995). The North American national park concept was followed by The International Union for Conservation of Nature and Natural Resources (IUCN) which emphasized that national parks should be free from all human exploitation and steps should be taken by the highest competent authority of the country to prevent such exploitation (Kharel 1993).

The management of national parks without involving local communities to access them or strong prohibitions on land and resource use has been a defining feature of the conservation paradigm (Lele et al. 2010) and has experienced many conflicts (Lamsal 2012). In this context, the implementation of conservation forest measures often leads to environmental conflicts, triggered mostly by conflicting uses of natural resources and a top-down approach to designate protected areas (Manolache et al. 2018; Batiran et al. 2023). The findings from Ruschkowski (2009) and Ruschkowski & Mayer (2011) mentioned that the designation of protected areas (e.g. national parks) often leads to conflicts between local communities and the area's administration. Meanwhile, relate to Nepal & Weber underline that the fundamental issue of the emergence of conflicts in

the management of national parks is the customary right to use national park resources by local people (Nepal & Weber, 1995). Conflicts occurred because the management of the national park did not provide access to local communities to benefit from the national park Yng and Hasan (2022) said that the conflict arose because local communities who traditionally depend on the park resources for their livelihoods, have been either denied or restricted access.

The 'prohibition' and 'protection' approaches that have been used so far in the management of national parks and other conservation areas tend to have implications for the occurrence of inevitable conflicts over resources, especially with local communities (Ichsan 2022). It means that conflict occurred because the management of the national park did not provide access to local communities to benefit from the national park. Many of them depend on national parks for their lives and not a few were active in them before the forest area was designated as a national park. Conflicts have occurred between local communities and national parks management in Indonesia, for example in the Bantimurung-Bulusaraung National Park in South Sulawesi (Wakka et al. 2013), the Teluk Cenderawasih National Park in West Papua (Sembiring et al. 2010), the Batang Gadis National Park in North Sumatera (Lubis et al. 2009), the Baluran National Park in East Java (Wianti 2014), the Halimun Salak Mountain National Park in West Java and Banten (Rahmawati et al. 2011; Hakim et al. 2016) and the MRNP in West Nusa Tenggara (Ichsan 2022; Nindyatmoko et al. 2022).

The emergence of conflicts in the management of national parks is not only in Indonesia but also in other countries. Management of national parks in the world that experience conflict with local communities to mention a few examples are the Benoue National Park in Northern Cameron, because of the involvement of local people in illegal activities, their lack of access to natural resources, and damage by wildlife (Weladji and Tchamba 2003); the relationship between park management and the neighbouring communities in the Khao Yai National Park (KYNP), Thailand can be seen as a conflict between two opposing objectives: natural resources protection on the one hand; and safeguarding local livelihoods on the other; because the number of animals leaving the forest and the potential for crop damage of farmer without compensation from national park manager (Yng and Hasan 2022). Conflicts with wildlife over crops, livestock and human safety issues in local communities also occurred in the Northern Gonarezhou National Park (Gandiwa et al. 2013).

To reduce conflicts between national park managers (including wildlife that live in the national park) and local communities that depend on resources in the national park, several methods have been implemented. The park management policies of the Nyungwe National Park in Rwanda started to shift residents from traditional mindsets to thoughts about tourism development (Nyirarwasa et al. 2020); minimizing forest dependency to the vulnerable people in the Chitwan National Park, Nepal (Poudel 2019); implemented to plant vegetation and fruits inside the KYNP boundary such as corn, coconuts and bananas so that the animals could enjoy the crops inside national park areas and they would not come out to cause problems (Yng and Hasan 2022). Hereafter, the management of the Northern Gonarezhou National Park, Zimbabwe, to reduce conflict in the national park is implementing the Communal Areas Management Program for Indigenous Resources (CAMPFIRE), which is an effort to empower local communities adjacent to the national park which is considered one of the main initiatives adopted to ensure that there is no conflict between the economic viability of agricultural communities and the foraging needs of wildlife (Gandiwa et al. 2013).

This paper aims to answer whether the conservation partnership offered by the government through national park managers to local communities in the park is a form of compromise to mitigate conflicts between local communities and national park managers, as well as to increase the role of local communities in managing national parks. To answer the questions above, a study was conducted at MRNP, West Nusa Tenggara Province, Indonesia, and the results are discussed in this paper.

## Materials and Methods

**Study area**

The Mount Rinjani National Park is on the island of Lombok, West Nusa Tenggara Province (Figure 1). The park's size is around 41,330 ha. The establishment of the MRNP as a national park based on the Decree of the Minister of Forestry No. 280/Kpts II/1997 and later designated as MRNP according to the Ministerial Decree Forestry No. 298/Menhut-II/2005 (Pangestu 2017). The MRNP lies at longitude 116°17'30" E- 116°33'30" E and latitude 8°17'30" S - 8°33'00" S (Pangestu 2017), with mountainous landscape and elevations ranging from 500 to 3.726 m above sea level and slopes ranging from flat-medium (0-25o), heavy (25-40o) and very heavy (> 40o) (Kristiawan et al. 2021).

The MRNP in its management is divided into seven zones according to its function. In 2020, the MRNP zoning division is shown in Table 1. The traditional zone is part of the MRNP area that has been and will be partnered with forest farmer groups (Kelompok Tani Hutan/KTH). Relate to the explanation of the Republic of Indonesia Government Regulation No. 28 of 2011

concerning the Management of Nature Reserve Areas and Nature Conservation Areas, the definition of the traditional zone is part of a nature conservation area (e.g. national park) that is designated for the benefit of traditional use by people who have depended on natural resources for generations. Information from the head of the MRNP Office when the discussion was held on May 9, 2023, said that the number of KTH has been formed and already have cooperation agreements with the MRNP Office reach 8 until at the time and large area around 721.174 ha or 30% from the whole of traditional zones. The total number of members from all KTH is 324 people.

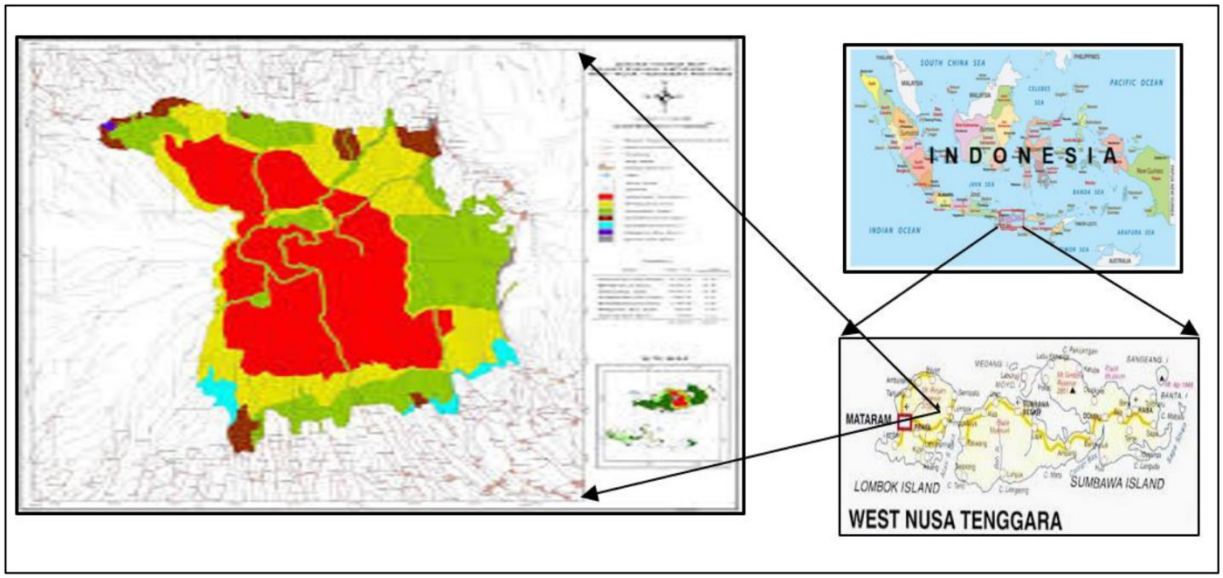


Figure 1. Map of Mount Rinjani National Park (Nindyatmoko et al, 2022)

Table 1. Zonation of Mount Rinjani National Park

| No | Zones | Area (Ha) | Percentage (%) |
|---|---|---|---|
| 1. | Core | 19,379.44 | 46.89 |
| 2. | Special | 147.02 | 0.36 |
| 3. | Utilization | 7,891.40 | 19.09 |
| 4. | Rehabilitation | 950.90 | 2.30 |
| 5. | Religion | 88.81 | 0.21 |
| 6. | Jungle | 10,483.19 | 25.36 |
| 7. | Traditional | 2,389.23 | 5.78 |
| | Total | **41,330.00** | **100.00** |

(Source: Asriady, 2021)

The MRNP is one of the busiest national parks in Indonesia because of its worldwide tourism activities, especially climbing to reach the top of Mount Rinjani. Mount Rinjani which is in the MRNP area is one of the main tourist destinations in West Nusa Tenggara Province, which consists of four hiking trails (Senaru, Sembalun, Timbanuh, and Aik Berik) (Pangestu 2017). For example, the number of visitors through the four gates of climbing Mount Rinjani in 2022 was 9,691 foreigners and 27,037 Indonesian citizens (TNGR 2022).

The ecosystem of the MRNP which consists of savanna, and tropical rainforest from lowlands to highlands is a habitat for wildlife for 19 species of mammals, 8 species of reptiles, 8 species of amphibians, 160 species of birds, 25 species of butterflies, 447 species of trees, 59 species of ferns, 117 species of mushrooms, 80 species of orchids, 28 species of lianas, 6 species of rattan, and 153 species of medicinal plants(Kristiawan *et al*. 2021). Mount Rinjani with the plants in it shows that savannas and grasslands also exist in the highlands (Sutomo *et al*. 2021).

In the discussion results with the MRNP's staff, it was explained that the MRNP area was surrounded by 37 buffer villages inhabited by a population of around 184,771 people in 2019 (Asriady 2021). The population around the MRNP area is part of 48 million the total of population lives within or bordering Forest Estate lands in Indonesia (Fisher *et al*. 2018). Based on the Decree of the Governor of West Nusa Tenggara in 2019 & the West Nusa Tenggara Environment and Forestry Service in 2018,

as many as 18 villages out of 37 buffer villages of MRNP are classified as poor villages (Kristiawan *et al*., 2021). The majority's livelihood of people who dwell in the surrounding MRNP area are farmers.

**Data collection**

The authors conducted fieldwork in May 2023. To collect data regarding the conservation partnerships, we first discussed with the staff of the MRNP Office as forest managers to manage MRNP. We also collected data and information on programs and activities in the MRNP area involving local communities. Discussions with staff of the MRNP Office are also to determine the impact of involving local communities in NP management, especially in terms of ecology and local community welfare from the MRNP Office perspective.

Although MRNP has two schemes of conservation partnership, i.e. through the environmental care group (ECG) and non-timber forest product utilization, this study focuses on KTHs which have been given access by the MRNP Office to manage traditional zones by utilizing non-timber forest products (NTFPs) within them. Meanwhile, ECG's activities are in the rehabilitation zone with ecosystem restoration such as replanting of zona and their activities are not quite intensive. After discussion with the staff of the MRNP Office, we visited three KTHs in three villages which represent KTHs in the villages surrounding the MRNP area which have gained a cooperation agreement of non-timber forest product utilization (*PKS-Perjanjian Kerjasama*) with MNRP management. The three KTHs were visited such as Gawah Gantar in Sajang village, Wakul Lani in Toya village, and Lawang Batu in Pesanggrahan village. The KTH members of Wakul Lani and Lawang Batu are Sasak ethnic, and members of KTH Gawah Gantar are Sasak and Bali ethnic. KTH members registered at the MRNP Office reached 110 farmers.

The research method to obtain data was conducted through three mechanisms, such as in-depth interviews with 33 informants and field observation. Informants came from different backgrounds, as though one academician, three persons of local government, 13 local communities who are also heads and members of KTH, five heads of village, and 14 officers of the MRNP office. The interview was held with one informant and in small groups with as many as five informants. Interviews in small groups were conducted with local government and officials of the MRNP Office.

The other mechanism to obtain data in research sites is observing the area of MRNP which has partnered with forest farmer groups in traditional zones. The locations visited and observed were stingless bee (*Trigona* spp.) honey cultivation sites, places for planting and harvesting grass in Pesanggrahan village, places for collecting candlenut and ferns in Toya village, and a cattle farm and customary forest in Sajang village.

To support primary data, which was obtained through in-depth interviews and field observation, secondary data was also obtained from the literature study and documents from many institutions related to this study. The secondary data are such as reports of the Ministry of Environment and Forestry Republic of Indonesia (MoEF), MRNP Office, and articles that have been published in various journals.

Data collected by in-depth interviews, field observation, and literature study, carried out with a qualitative approach, were analyzed by using descriptive qualitative methods to answer the question in this study. All the data that came from various informants were collected, categorized, and then summarized based on the issues discussed. Furthermore, the data is interpreted to describe the research objectives previously stated and analyzed descriptively. In this study, the analysis focuses on explaining and describing the relationship between local communities and national parks that have been given access to manage the MRNP area through conservation partnerships: utilizing NTFPs.

## Results

**The dynamics of the relationship between Mount Rinjani National Park and local communities**

The MRNP area is surrounded by 37 villages with a total population of 184,771 people in 2019 (TNGR 2023). Some villagers who dwell in MRNP's surroundings depend on MRNP resources, either before or after the forest areas adjacent to them were designated as national parks. Before it became a national park, or when it was still in the status of a wildlife reserve area as stipulated by the Governor of the Dutch East Indies in 1941 (Ichsan 2017), MRNP was also a part of The Rinjani Forest Group (TRFG) established by the Governor of the Dutch East Indies on September 9, 1929; many local communities carried out logging activities and harvest of NTFP in the area, and hiking tourism to Mount Rinjani was not yet widespread. Based on the Decree of the Governor of West Nusa Tenggara Province No. 2 of 1989, MRNP was designated as a tourist destination in West Nusa Tenggara province in 1989. For tourism activities, MRNP won the Destination Stewardship Award in 2004 from Conservation International and National Geographic Travelers. In 2005, the MRNP also received nominations (top 3) for the

"Tourism for Tomorrow Award 2005" category "Destination Award" from the World Travel & Tourism for Tomorrow Award 2007. On July 25, 2018, the island of Lombok (Rinjani Biosphere Reserve-Lombok) designated by UNESCO as a new Biosphere Reserve, where the MRNP area is the core area, and the Rinjani area (Geopark Rinjani Lombok) has also been designated as the new UNESCO Global Geopark on 17 April 2018 (KLHK 2022).

Interaction between the MRNP area and local communities has been going on for a long time. For example, the Tanaq Sembahulun Indigenous Peoples group in Sajang village has interacted with them since the 7$^{th}$ century AD (Yamni, 2015) and the Jurang Koak Indigenous Land Community in Bebidas village. Yamni said that the area of the MRNP long ago was an area of customary communities and natural resources inside it were rights of customary communities. The Jurang Koak also through their ancestors have managed this customary land since before the Republic of Indonesia became independent (Hasnika *et al*. 2020). Relate to Yamni and Hasnika *et al* stated that the existence of the MRNP resulted in the loss of management space for land that had long been managed by the ancestors of the two community groups.

The local communities who dwell around the wildlife reserve area carry out logging because there is no other source of livelihood. This logging activity resulted in the forest area which later became the MRNP in Pesanggrahan village and Toya village being deforested at that time. The felled trees are then sold to other parties or bartered for necessities such as rice. The impact of illegal logging in the past is still visible in the village of Pesanggrahan with sparse forest cover, overgrown with grass which is used by KTH members as animal feed (Figure 2).

Figure 2. The condition of low forest cover in Pesanggrahan village, as well as the land that the MRNP has partnered with KTH Lawang Batu

Local community activities in the Rinjani forest group pushed the Dutch colonial when colonizing Indonesia to raise the status of the Rinjani forest group to a wildlife reserve. The Dutch colonial assumed that local community activity in the forest could destroy the existing ecosystem (Yamni 2015). The rise of the status of the Rinjani forest group made the local community limit the use of existing resources in the forests of Mount Rinjani. Yamni also underlined that the New Order government during the Soeharto regime again raised the status of the Rinjani forest area to become the MRNP in 1997 resulting in local people being prohibited from entering and doing activities in the MRNP area. This policy resulted in local communities no longer having forest areas that they managed themselves based on their local wisdom values played by the Mangku Gawar. Mangku Gawar is a local leader who plays an important role in regulating forest utilization activities by the community so that the local community is not free to enter forest areas without Mangku Gawar's permission (Yamni 2015).

After access to local communities was excluded from the management of the MRNP area, MRNP destruction and encroachment continued, until it came to MRNP management in the form of a conservation partnership. The dynamic interaction between MRNP and local communities who dwell surrounding the MRNP area since the colonial era until at time the research was conducted in 2023 can be summarized as seen in Figure 3 below.

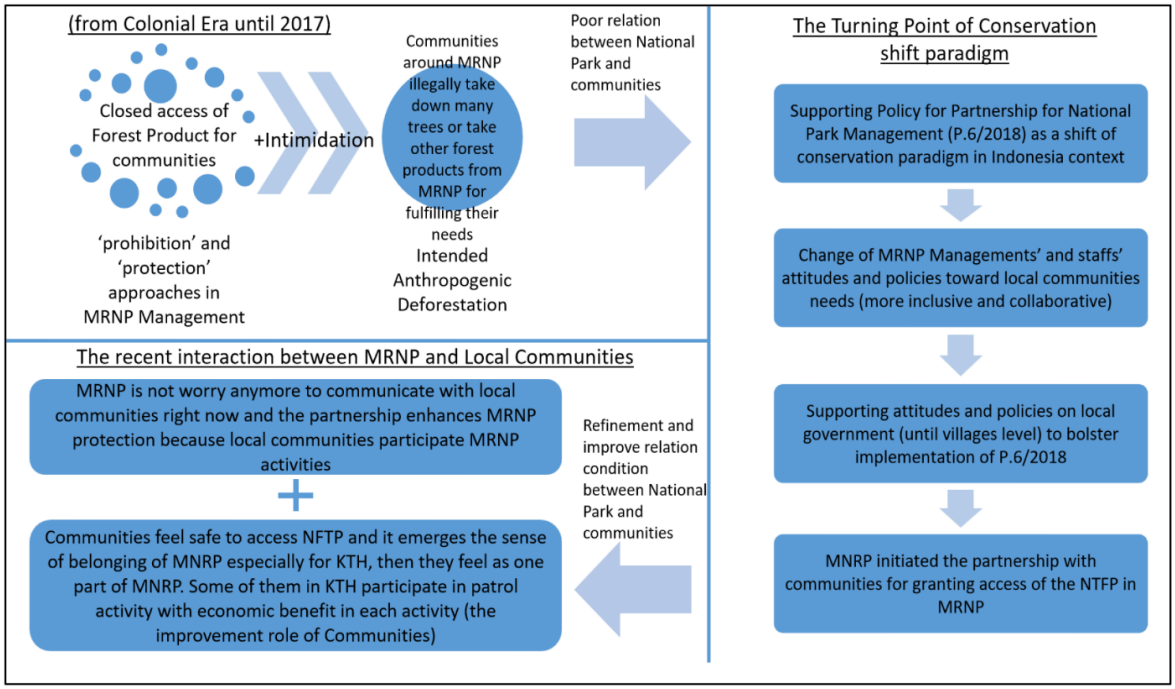


Figure 3. Transformation of Dynamic Interaction between MRNP Office with Local Communities

**Contribution of conservation partnership to improve the welfare of local people and conflict prevention**

The livelihood of the local community who dwell in surrounding of the MRNP area is farmers and cattle of cows. In addition to utilizing their land to meet their daily needs, they also make use of existing resources in the MRNP area. Based on information from the local community, the resources utilized by the MRNP are elephant grasses (*Cenchrus purpureus*), reeds (*Imperata cylindrica*), vegetable ferns (*Diplazium esculentum*), rattan fruit (*Calamus mana Miq.*), candlenut fruit (*Aleurites moluccana*), and forest honey (from *Apis dorsata*).

The grass is harvested for its use as animal feed, especially during the dry season because the grass growing on its land is used up. The need for grass for animal feed is huge. A cow needs about a full wheelbarrow (35 kg) of grasses (Figure 4), if converted to money the price is around IDR 25,000/ wheelbarrow. This means that the more cows raised the more grass is needed, and the more money is spent when the fodder grass is purchased. Therefore, the existence of a partnered MRNP is beneficial for breeders to meet their animal feed needs so they do not have to buy or look for it further away. If a farmer looks for grass far from where he lives, then he must pay for transportation to the place where he looks for grass and brings it to his house.

Based on the MRNP Office report the economic value of grasses harvested by 30 farmers in Tetebatu village reaches IDR 14.5 billion per year. The total weight of grass that has been harvested by members of KTH Lawang Batu in Pesanggrahan village from 32.42 ha of land in the MRNP area reaches 22.8 million kg per year.

As explained above, members of KTH do not only harvest elephant grasses but also the other NTFPs. The KTH Wakul Lani for example, harvested a wider variety of NTFPs from the MRNP area such as grasses, vegetable ferns, candlenut fruit, and jackfruit (*Artocarpus heterophyllus*). Although various NTFPs were harvested, however, if converted to economic value based on the MRNP Office report, the total of all NTFPs harvested is IDR 121.3 million only per year. This is because the land for grass plants is not as large as those owned by another KTH, where candlenuts and jackfruit are harvested only once a year (one season), and there are no buyers for rattan fruit anymore. Trees of candlenut, jackfruit, and elephant grasses grow in the MRNP area because, in 2008, the MRNP Office carried out green belt activities along the MRNP area in Toya village which

is 25 meters wide from the edge of the park towards the inside of the area. The Green Line area is managed and utilized by the community to improve their welfare, and the area currently is a part of the MRNP area that is partnered with KTH Waku Lani. The rule that applies to KTH members who harvest candlenuts is that they are only allowed to harvest candlenuts that fall to the ground and are not allowed to climb candlenut trees so that more KTH members can harvest them. All NTFPs harvested from the MRNP area except grass, are sold or bartered to other parties to get money or other necessities of life. For example, vegetable ferns harvested from the MRNP area are substituted with rice. However, the volume of NTFPs that are harvested and then sold or bartered is not in large quantities because many local people harvest them, not restricted to KTH members.

Figure 4. Elephant grasses have been cut by a farmer and put on a wheelbarrow for transporting them to cattle pens. The wheelbarrow is not visible because it is covered by the grass above it.

Information from the MRNP Office said that the sum of KTHs have been created to respond its reach eight units and KTH members are 324 people. The KTHs spread in ten villages, namely Batu Rakit, Jenggik Utara, Perian, Pesanggrahan, Tetebatu, Lenek Duren, Toya, Sajang, Loloan, and Sambik Elen. There is one KTH in two villages, such as KTH Wakul Lani for farmers in Lenek Duren and Toya villages, and KTH Montong Jinatri for farmers in Loloan and Sambik Elen villages. A KTH occurred in two villages because the traditional zones within the MRNP of the partnered areas are in a similar landscape. The joint KTH aims to avoid conflicts over the use of NTFPs in the same area among members if the KTH is separated by village. The main administrators from the KTH who represent the two villages also come from the two villages.

**Formation of conservation partnership in the Mount Rinjani National Park**

The conservation partnership which is implemented by the MRNP Office is to respond to the Regulation of the Director General of Conservation of Natural Resources and Ecosystems (*Perdirjen* KSDAE) No. P.6/KSDAE/SET/Kum.1/6/2018 concerning Technical Guidelines for Conservation Partnership in Nature Reserve Areas and Nature Conservation Areas. Conservation partnership occurred as a compromise solution to accommodate local people to access NTPFs in national parks areas because relate to Lele *et al* (2010) underlined that the protectionist approach to conservation forest areas has been reported to have succeeded in several places but at a high social cost and conflict, especially in developing tropical countries.

Through the conservation partnership policy, the MRNP Office offered a collaboration chance for the local community to access NTFPs in the MRNP area. It means the MRNP Office gives opportunities to the local community to benefit from MRNP so that their welfare increases. Access is given to local communities not individually but in the form of forest farmer groups. For this reason, the village head forms and makes decrees regarding forest farmer groups, namely those who actively utilize NTFPs from within the MRNP area, such as wild honey, ferns, medicinal plants, forest moringa, grass, jackfruit, candlenut, vetiver, rattan fruit. Those who actively utilize the resources in the MRNP, the MRNP through the village head are asked to form a KTH which will be proposed to partner with the MRNP Office which is bound in a PKS. The maximum number of KTH members is 50 people for administrative needs, while local people who take NTFPs from the forest are more than the number of registered members. This PKS was signed by the head of the MRNP Office as the manager of the MRNT area and the head of the KTH on behalf of the KTH member. In the PKS, there were also the signatures of witnesses, such as the PKS between the Head of MRNP Officer and Head of KTH Wakul Lani with five witnesses who also signed the PKS, namely: Head of the Natural Resources and Environment sub-Sector of the Regional Development and Planning Agency for East Lombok District, Head of Sub-District Lenek, Head of Section Social Welfare of the Aikmel Sub-District, Head of the Village of Toya, Head of the Government Section of the Village of Lenek Duren, and the Head of the Management Section for Mount Rinjani National Planting Region II. Membership of KTH in partnership with MRNP is mostly filled by village elites such as hamlet heads, heads of neighborhood associations, and other village officials.

Through this PKS, local communities can collect NTFPs within the MRNT area that has been partnered, the land is in the traditional zone. Local communities are no longer secretive when they access NTFPs in the MRNP area because their activities are legally recognized by the manager of MRTN. The PKS validity period is five years. KTH who have signed it must follow up on this by preparing a Program Implementation Plan (*Rencana Pelaksanaan Program*/RPP) and translating it into an Annual Work Plan (*Rencana Kerja Tahunan*/RKT). The RPP and RKT are made jointly between the MRNP Office and KTH because the human resources owned by KTH members are unable to make and formulate both RPP and RKT. Members of KTH are also entitled to receive assistance from the MRNP Office to increase their capacity to improve the quality and quantity of KTH products.

The mechanism of KTH to take benefit from MRNP difference between a KTH with the other KTH. For example, all villagers who dwell in Toya and Lenek Duren villages, both members and non-members of KTH Wakul Lani can collect the NTFPs in the MRNP area that has been partnered. The area of 77.97 ha is not divided among communities that depend for NTFP resources in the MRNP area. Candlenut fruit that falls or vegetable ferns that grow on the land partnered with KTH Wakul Lani can be collected by farmers where they fall or grow without any other farmers objecting. The management mechanism practiced by KTH Wakul Lani for the partnered MRNP land is the same as that carried out by KTH Gawah Gantar in Sajang village.

Different from the two KTHs above, conducted by KTH Lawang Batu in Pesanggrahan village. The traditional zone in the MRNP area which is managed by KTH Lawang Batu is about 32.48 ha and it is divided among villagers who take grass in the area according to their respective abilities. Although the KTH has 30 members, this amount is only for administrative needs in MRNP as an officially registered member. However, there are more than 30 people who can access the requested traditional zone, namely all residents of Pesanggrahan village who usually use the grass that grows in the area. The grass is an animal feed that livestock by the local community. The land already controlled by a villager or a member of KTH can no longer be controlled by other people. The grass that grows on the land becomes the right of those who control it, including replanting it with new grass and tree seeds if the land under his control is cleared.

## Discussion

**Impact of conservation partnership for local people**

The relationship between community and forests has been important for the development of forestry (Ritter and Dauksta 2013). The forest is also an important resource that plays a crucial role in the socio-economic well-being of the rural people (Aning-Agyei *et al*. 2013), including the local community who live around the MRNP area. Forest management involving the community is directed at two main goals, namely improving the livelihoods and welfare of rural communities and forest conservation (Pagdee *et al*. 2006). Choosing the right form of forest management should not create a dichotomy between the community and the government. Intermediary options are available to bridge it (Sikor 2006).

Local communities around the national parks are given legal access to utilize NTFPs. Providing this access increases their income and welfare. The increase in the welfare of the local community has not yet appeared significant as a result of the conservation partnership, but residents now have security of tenure which is an important basis for sustainable livelihood security (Rukminda *et al*. 2020). Far before the emergence of conservation partnerships, the utilization of Non-Timber Forest Products (NTFPs) had already been taking place for a long time; the presence of PKS provides a legal basis for the residents around the forest to harvest NTFPs.

Forest resources in the MRNP area have supported local people for a long time long before the area was designated as a national park in 1997. At that time, utilization of the national park was not free from illegal logging activities which destroyed the forest area, as happened in Tetebatu village, East Lombok Regency, which resulted in drought and fires (Asrori 2021). The management partnership concept in the MRNP provides direct benefits for the community. Conservation partnerships emerged to bridge the gap between conservation interests and poverty in the governance of natural resources, especially forests (Setyadi *et al*. 2006).

The MRNP based on the explanation above shows that the MRNP area has abundant natural resources in the form of NTFPs which have been utilized by those who live in the vicinity. The local community around the MRNP can take advantage without damaging them. The use of NTFPs is based on an agreement between the MRNP Office and KTH members, so if the agreement is violated by the KTHs, the PKSs that have been signed by both parties can be evaluated and even cancelled. NTFPs have a positive impact on increasing the welfare of local communities surrounding MRNP. Local communities who raise cattle with a high demand for fodder in the form of grass no need to worry anymore, especially during the dry season

so the supply of grass that grows in the yard or garden itself has been harvested, because the supply of grass from the MRNP area is still abundant.

Even with the involvement of local communities in utilizing NTFPs in the MRNP area, they can become partners of the MRNP Office to protect the national park area. Farmers in the surrounding MRNP area were no longer just spectators but had become part of the manager of the partnered area. Local communities can enter the partnered area and collect NTFPs in the MRNP area at any time without intimidation from the MRNP staff. By granting access to NTFPs in the MRNP, members of KTHs or village communities can warn each other if one of them violates the agreements. The same thing can also be done for people who destroy national parks and come from other villages. The local community implements this to maintain the sustainability of the NTFPs that they use from within the area and to maintain the agreement with the MRNP area.

Area managers of MRNP and KTH members underline that since the legal access to local communities to utilize NTFPs in the traditional zone was granted in the form of a conservation partnership, conflicts between the two parties have never occurred again. Before that, the relationship between the local community and the National Park office had never been friendly. The local people even consider the national park office to be their 'enemy' because of the ban imposed by the national park office on entering and utilizing NTFPs in the MRNP. The frequency of local community meetings with MRNP staff has increased without mutual suspicion or hostility and local community houses have been opened for visits by staff.

The result of partnership conservation is not only reducing or even eliminating conflict but also local community recognition of the existence of the MRNP. The recognition of the local community is important for sustainability in the management of MRNP. As agreed by both parties, in the PKS both parties first explained the existence of the MRNP and the rules that followed the establishment of the MRNP. It was also emphasized that KTH as the second party supports the MRNP Office as the first party to strengthen the function and sustainability of the MRNP area through conservation partnerships. This means that KTH members become MRNP Office partners in protecting the MRNP area from damage while also maintaining its sustainability. In short, involving local people to access and utilize natural resources in the MRNT area in the form of NTFP, was highly welcomed by local communities. The local community shows a positive attitude to participate in conservation partnership programs because their activities within the MRNP area have been recognized by the MRNT manager and are legal.

Although the local community has access to manage the MRNP area, especially in traditional zones, through partnership conservation and the main stakeholders are the MRNP Office and KTH, the study shows that partnerships stop there. The partnership built by the two parties has not been seen by other parties who intend to further empower local communities through various mechanisms. Local government at the regency level also witnessed the signing of the PKS, until the research conducted has not contributed significantly to increasing the capacity of KTH members. There is an expectation for example from the head of KTH Wakul Lani that the Office of Agriculture could help them address the issues of horticulture seedling at Toya Village. Different from the conservation partnership in Bantimurung-Bulusaraung National Park where some parties have joined to collaborate in developing KTHs activities in collaboration with the Bantimurung-Bulusaraung National Park Office (Sabar *et al*. 2023). It means that the responsibility to develop the capacity of local people is not national park manager only, so the purpose to increase the local people's welfare is easier and faster to achieve because it is carried out by multi-stakeholders.

The economic benefits obtained by local communities through conservation partnerships in MRNP are not significant when compared with the economic benefits through Village Forest (VF) and Community Forest (CF) as part of the five social forestry schemes. On paper, the value of NTFPs that can be utilized by KTH members was very high based on estimates from the MRNP Office, but in reality, this is not the case. Harvesting elephant grass for animal feed, for example, elephant grass is taken from the MRNP area when the elephant grass growing in your garden has run out. Likewise, rattan fruit with a population of rattan plants is not very large in the partnered area, in fact, there are no longer any buyers. Relate to Wahyu *et al*. stated that the result from their desk research of 14 articles on VF and CF from various sources were selected and reviewed, explaining that VF and CF had contributed to the communities' welfare by improving their incomes with varying degrees of significance (Wahyu *et al*. 2020).

**Conservation forest sustainability and harmony with local communities**

The aim of the conservation partnership is ecological sustainability on the one hand and harmony between national park area managers and local communities on the other hand. Ecological sustainability in national parks is carried out by protecting the forest area. Meanwhile, harmony between national park managers and local communities is by involving local communities

in managing the national parks. Therefore, the national parks as conservation forests are not only for ecological purposes but are multi-benefits. Through this multi-benefits role, national parks play a vital role in the conservation of the world's biodiversity, food security, and human health issues (Hag 2016). In other words, the national parks have a double role, they provide a critical source of natural resources for local people such as timber, minerals, forest products, and medicine on the one hand, and also they are valuable for maintaining ecosystem service, providing wildlife habitats and conserving biodiversity on the other hand (Truong 2022).

Harmony with local communities living around the national park area in the management of the national park itself is important to support the conservation goals of an area. Because national parks management without harmony with local people raises various problems, such as conflicts. These conflicts often affect both the national parks and the local communities as strained relations bear the danger of gridlock on park planning, conservation objectives, or regional economic development (Ruschkowski 2009). Conflict between local people and park managers also emerges because park managers rarely interact and do not understand the conditions of local communities (Ichsan 2022). Local communities with all their activities in the national park area for park managers are a nuisance towards the realization of a sustainable park area. On the other hand, the presence of MRNP staff in the surroundings of local communities was assumed to be an intimidation form for local people.

Conflicts emerge in national parks because as a conservation area, it is closed for the local people, although they have been using the area for generations, as happened in the Kelimutu National Park (KNP) (Batiran *et al*. 2023). Batiran added that the loss of local community access to the KNP area resulted in the loss of authority and relevance of traditional institutions that regulate natural resource management. Long-term conservation of biodiversity cannot be achieved if the relationship between these zones and the areas that surround them are not considered (Palomo *et al*. 2012), including the local community in the surrounding area.

The presence of a conservation partnership in the MRNP is a form of solution to improve communication between the MRNP Office and local communities. In other words, the conservation partnership is an effort to promote harmony between local communities and the management of the MRNP Officer. In the past, communication was more about law enforcement carried out by the center, but now the communication being developed is an effort to improve the welfare of local communities while maintaining the preservation of the MRNP itself.

Conservation partnerships have brought local communities as partners to protect national parks and become the vanguard of protecting the national planting areas around them. The commitment to protect the national parks around them is written in the signed PKS. One form of this commitment includes planting trees in partner areas where tree cover is sparse, as is done by KTH Lawang Batu in Pesanggrahan village. If the national park area partnered with KTHs is damaged, the consequence is that the partnership will be evaluated and even revoked so that local communities will no longer be able to legally access it.

Strengthening the maturity of conservation partnerships is essential. Although conservation-exploitation partnerships involving Non-Timber Forest Products (NTFPs) have shown improvement in the relationship between the local communities around the forest and the national park, there is a need for enhancement so that the goal of improving the welfare of the community can also be achieved. Utomo, Siburian, and Hidayat stated that in the conservation partnership at MRNP, two strategic elements are necessary, namely the optimization of marketing and processing of high-value non-timber forest products, and more robust funding (Utomo *et al*. 2023). Some commodities, such as candlenuts, have the potential to become high-value oils. The main obstacles to the development of these forest products are limited capacity and the lack of community enthusiasm to engage in production activities. Additionally, new marketing channels have not yet emerged, limiting the community's options for marketing their harvests at better prices. Larger funding is also needed for the operational security patrols, strengthening institutional capacity, and resource management capacity in the forest, requiring cost support based on achievements and accountability.

## Conclusion

The conservation partnership between the MRNP Office and the local community in the MRNP area has succeeded in ending the conflict between the two parties. Between the two parties, there is no longer any suspicion of each other in carrying out their activities. In this case, local communities are free to utilize NTFPs in the partnered area. The MRNP Office is also responsible for developing local communities who become partners in managing the national park, as well as empowering them. The two parties are partners in preserving national parks, especially in partner areas.

Therefore, the conservation partnership offered by the government through involvement in managing the MRNP area has not had a significant impact on bringing economic benefit to increasing the welfare of local communities using NTFPs in the partnered land. Granting access to the utilization of NTFPs is not as advanced as economic benefits through tourism activities which also exist in the MRNP area. The limitation of NTFPs in the MRNP area that can be utilized by local communities is relatively small, except for tourism activities which are already worldwide, especially climbing Mount Rinjani which is an icon in the MRNP area.

Through the above explanation, conservation partnerships being implemented in Indonesian national parks have brought positive impacts for local people and national park managers. This is also a changing paradigm of local people and national park managers it turns out both parties can support each other in preserving national parks and changing relationships from conflict to collaboration through conservation partnerships.

## Declarations

**List of abbreviations:** Not applicable

**Ethics approval and consent to participate:** This research has obtained ethical clearance from the Social Humanities Ethical Commission of the National Research and Innovation Agency, Number 166/KE.01/SK/04/2023, dated April 11, 2023.

**Consent for publication:** All people shown in images agreed to having their image published.

**Availability of data and materials:** Not applicable

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## Literature cited

Aning-Agyei MA, Aning-Agyei PG, Kendie SB, Tenkorang EY. 2013. Community participation and sustainable forest management in the Twifo-Hemang-Lower Denkyira District. Oguaa Journal of Sociological Science 7(1). doi: 10.47963/joss.v7i1.587

Asmin F, Darusman D, Ichwandi I, Suharjito D. 2019. Mainstreaming community-based forest management in west sumatra: Social forestry arguments, support, and implementation. Forest and Soiety 3(1):77-96. doi: 10.24259/fs.v3i1.4047

Asriady D. 2021. Rinjani Menuju Pengelolaan Pendakian Kelas Dunia yang Berkelanjutan [Internet]. Jakarta. https://www.dpr.go.id/dokakd/dokumen/K4-RJ-20210917-011807-7348.pdf

Asrori WR. 2021. Status pemanfaatan atas tanah hutan taman nasional gunung rinjani yang dikelola masyarakat (studi di desa tete batu lombok timur) [Internet]. [place unknown]: Universitas Mataram. http://eprints.unram.ac.id/27824/

Batiran KB, Fisher MR, Verheijen B, Sirimorok N, Sahide MAK. 2023. Uprooting the Mosalaki: Changing institutions and livelihood impacts at Kelimutu National Park. Forest and Society 7(2):295-310. doi: 10.24259/fs.v7i2.26464

Deni. 2011. Analisis Perambahan Hutan di Taman Nasional Bukit Barisan Selatan (Studi Kasus Desa Tirom Kecamatan Pematang Sawa Kabupaten Tanggamus). Journal Ilmu Kehutan [Internet]. 5(1):9-20. doi: doi: 10.22146/jik.578

Dunggio I dan, Gunawan H. 2009. Telaah sejarah kebijakan pengelolaan taman nasional di Indonesia. Journal Anal Kebijak Kehutan. 6(1):43-56. doi: doi: 10.20886/jakk.2009.6.1.%25p

Fisher MR, Moeliono M, Mulyana A, Yuliani EL, Adriadi A, Kamaluddin, Judda J, Sahide MAK. 2018. Assessing the New Social Forestry Project in Indonesia: Recognition, Livelihood and Conservation? Internatuinal Forestry Revue 20(3):346-361. doi: 10.1505/146554818824063014

Gandiwa E, Heitkönig IMA, Lokhorst AM, Prins HHT, Leeuwis C. 2013. CAMPFIRE and human-wildlife conflicts in local communities bordering northern Gonarezhou National Park, Zimbabwe. Ecology and Society 18(4). doi: 10.5751/ES-05817-180407

Hag SMA. 2016. Multi-benefits of national parks and protected areas: an integrative approach for developing countries. Environ Socio-economic Studies 4(1):1-11. doi: 10.1515/environ-2016-0001

Hakim N, Murtilaksono K, Rusdiana O. 2016. Konflik Penggunaan Lahan Di Taman Nasional Gunung Halimun Salak Kabupaten Lebak. Sodality Journal Sosiol Pedesaan 4(2):128-138.

Hasnika H, Sholeh N, Bafadal RE. 2020. Konflik Kepentingan Dalam Pengelolaan Tanah Adat Di Desa Bebidas Kabupaten Lombok Timur. Pertanikan Journal of Social Sciences and Humanity 4(1):17-23. doi: 10.29408/sosedu.v4i1.3530

Ichsan AC. 2017. Kelembagaan Model Desa Konservasi di Taman Nasional Gunung Rinjani Provinsi Nusa Tenggara Barat [Internet]. [place unknown]: Institut Pertanian Bogor. https://repository.ipb.ac.id/handle/123456789/88642

Ichsan AC. 2022. Resolusi konflik penggunaan lahan di taman nasional gunung rinjani desa sajang kabupaten lombok timur. Pertanikan Journal of Social Sciences and Humanity 11(2):182-190. doi: 10.23887/jish.v11i2.35105

Iriyani S, Humam Hamid A, Setyarso A, Basri H. 2020. Towards the implementation of social forestry policy in Aceh Province, Indonesia: Process and institutional assessment. Pertanikan Journal of Social Sciences and Humanity 28(4):2689-2710. doi: 10.47836/PJSSH.28.4.11

Jpang S. 2022. Larik Tenure: Menyigi Konflik Tenurial di Kawasan Konservasi di Indonesia. Bogor.

Kharel FR. 1993. Park - People Conflik in Langtang National Park, Nepal. [place unknown]: Lincoln University.

KLHK. 2022. Taman Nasional Gunung Rinjani Alam Dewi Rinjani [Internet]. [accessed 2023 Sep 11]. https://jasling.menlhk.go.id/berita-dan-artikel/artikel/taman-nasional-gunung-rinjani-alam-dewi-rinjani

KLHK. 2023. Statistik Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem Tahun 2022 [Internet]. Jakarta: KLHK. https://ksdae.menlhk.go.id/assets/publikasi/STATISTIK DITJEN KSDAE 2022.pdf

Kristiawan R, Marianto G, Johansyah A, Soesmardi B, Kurniawan S, Megawati NMD, Rosang DA, Subagja S. 2021. Rencana pengelolaan jangka panjang rencana pengelolaan jangka panjang taman nasional gunung rinjani kabupaten lombok utara, lombok tengah dan lombok timur kabupaten lombok utara, lombok tengah dan lombok timur provinsi nusa tenggara barat periode 2022-203. Mataram. https://www.rinjaninationalpark.id/ebook/310ed160-b702-11ed-8962-bf3a6966bb1a/download

Lamsal S. 2012. The park-people conflict in the Chitwan National Park with reference to the Asiatic one-horned rhinoceros (Rhinoceros unicornis). [place unknown]: Norwegian University of Science and Technology Department.

Lele S, Wilshusen P, Brockington D, Seidler R, Bawa K. 2010. Beyond exclusion: Alternative approaches to biodiversity conservation in the developing tropics. Current Opinions in Environmental Sustainability 2(1-2):94-100. doi: 10.1016/j.cosust.2010.03.006

Lubis ZB, Hamonangan AG, Lubis MP, Kumar S, Gea R, Daeli DA. 2009. Kajian konflik komunitas lokal. Medan.

Manolache S, Nita A, Ciocanea CM, Popescu VD, Rozylowicz L. 2018. Power, influence and structure in Natura 2000 governance networks. A comparative analysis of two protected areas in Romania. J Environ Manage [Internet]. 212(2018):54-64. doi: 10.1016/j.jenvman.2018.01.076

Nawir A. 2005. Mutually beneficial company-community partnerships in plantation development: Emerging lessons from Indonesia. International Forestry Review 7(3):177-187. doi: 10.1505/ifor.2005.7.3.177

Nepal SK, Weber KE. 1995. Managing protected areas under conditions of conflict: selected case studies from china, mynmar, nepal, philippines and thailand. Bangkok.

Nindyatmoko A, Setyowati K, Haryanti RH. 2022. Collaboration after Conflict: A Lesson from Collaborative Action in Customary Land Tenure Conflicts in Lombok, Indonesia. Forest and Society 6(1):294-310. doi: 10.24259/fs.v6i1.14005

Nyirarwasa A, Han F, Pan X, Mind'je R, Maniraho AP, Gasirabo A, Udahogora M, Mtewele ZF, Umwali ED. 2020. Evaluating the Relationship between National Park Management and Local Communities' Perceptions Based on Survey, a Case of Nyungwe National Park, Rwanda. Journal of Geoscince and Environmental Protection 08(12):108-126. doi: 10.4236/gep.2020.812007

Okthalamo V, Iskandar DA, Masturiatna A. 2022. Implementasi Program Kemitraan Konservasi Di Taman Nasional Bukit Barisan Selatan. J Penelit Ekosist Dipterokarpa [Internet]. 8:111-124. doi: http://doi.org/10.20886/jped.2022.8.2.111-124

Ota M. 2019. From joint forest management to more smallholder-based community forestry: prospects and challenges in Java, Indonesia. Journal of Forestry Research 24(6):371-375. doi: 10.1080/13416979.2019.1685063

Ota T, Kusin K, Kilonzi FM, Usup A, Moji K, Kobayashi S. 2020. Sustainable Financing for Payment for Ecosystem Services (PES) to Conserve Peat Swamp Forest Through Enterprises Based on Swiftlets' Nests: An Awareness Survey in Central Kalimantan, Indonesia. Small-scale For. 19(4):521-539. doi: 10.1007/s11842-020-09452-7

Pagdee A, Kim YS, Daugherty PJ. 2006. What makes community forest management successful: A meta-study from community forests throughout the world. Society and Natural Resources 19(1):33-52. doi: 10.1080/08941920500323260

Palomo I, Martı´n-Lo´pez B, Potschin M, Haines-Young R, Montes C. 2012. National Parks, buffer zones and surrounding lands: Mapping ecosystem service flow. Ecosystem Services. doi: http://dx.doi.org/10.1016/j.ecoser.2012.09.001

Pamungkas W, Jones TE. 2021. Indonesia's Mountainous Protected Areas: National Parks and Nature-Based Tourism. Nature-Based Tour Asia's Mt Protected Areas.(September):111-131. doi: 10.1007/978-3-030-76833-1_6

Pangestu D. 2017. Masterplan Pengelolaan Sampah Taman Nasional Gunung Rinjani 2018-2038. Mataram: Taman Nasional Gunung Rinjani.

Poudel HK. 2019. Park People Conflict Management and its Control Measures in Chitwan National Park, Nepal. International Journal of Food Science and Agriculture 3(3). doi: 10.26855/ijfsa.2019.09.005

Race D, Suka AP, Irawati S, Surati, Oktalina SN, Bisjoe ARH, Muin N, Purwanti P, Sumirat B. 2019. Smallholder Forestry: The Role of Commercial Forestry in Rural Livelihoods in Indonesia. International Forestry Review 21(2):225-237. doi: 10.1505/146554819826606568

Rahmawati R, Pratidina G, Muarif. 2011. Model Adaptasi Ekologis Dan Strategi Nafkah Pada Masyarakat Sekitar Taman Nasional Gunung Halimun Salak. J Sos Hum. 2(2):112-121.

Risdiana 2017. Perlindungan hukum bagi hak atas tanah hutan yang dikelola masyarakat adat legal. J IUS Kaji Huk dan Keadilan 5(2):338-352. doi: 10.29303/ius.v5i2.463

Ritter E, Dauksta D. 2013. Human-forest relationships: Ancient values in modern perspectives. Environment Development and Sustainability 15(3):645-662. doi: 10.1007/s10668-012-9398-9

Rukminda GM, Soekmadi R, Adiwibowo S. 2020. Perspektif Masyarakat Terhadap Program Kemitraan Kehutanan Sebagai Solusi Konflik Tenurial Di Kesatuan Pengelolaan Hutan Lindung Rinjani Barat. Media Konservasi 25(1):17-25. doi: 10.29244/medkon.25.1.17-25

Ruschkowski E Von. 2009. Causes and Potential Solutions for Conflicts between Protected Area Management and Local People in Germany. Proceedings 2009 Georg Wright Society Conference [Internet]. 2(March 2009):240-244. http://www.georgewright.org/0943vonruschkowski.pdf

Ruschkowski E Von, Mayer M. 2011. From Conflict to Partnership? Interactions between Protected Areas, Local Communities and Operators of Tourism Enterprises in Two German National Park Regions. Journal of Tourism and Leisure Studies 2:147-181. doi: 10.6267/JTLS.2011.17(2)3

Sabar A, Maulany RI, Yusran, Kurniawan A, Rahmatullah RA, Syam MA, Syawal MA, Halis A, Rafiadi MT. 2023. Stakeholder and social networks analysis of conservation partnership in Bantimurung Bulusaraung National Park, South Sulawesi, Indonesia. Biodiversitas. 24(2):1017-1024. doi: 10.13057/biodiv/d240242

Salfutra RD. 2016. Perlindungan Taman Nasional Kerinci Seblat Dalam Kaitannya Dengan Pembangunan Berkelanjutan. PROGRESIF Jurnal Hukum X(2):1728-1739. doi: 10.33019/progresif.v10i2.188

Santika T, Wilson KA, Budiharta S, Kusworo A, Meijaard E, Law EA, Friedman R, Hutabarat JA, Indrawan TP, St. John FA V., Struebig MJ. 2019. Heterogeneous impacts of community forestry on forest conservation and poverty alleviation: Evidence from Indonesia. People and Nature 1(2):204-219. doi: 10.1002/pan3.25

Sembiring E, Basuni S, Soekmadi R. 2010. Resolusi Konflik Pengelolaan Taman Nasional Teluk Cenderawasih di Kabupaten Teluk Wondama. Jurnal Manaj Hutan Trop XVI(2):84-91.

Setyadi A, Wulandari C, Putro HR, Andayani S, Nugroho T, Susilo ZK. 2006. Kemitraan dalam pencelolaan taman nastonal : Pelajaran Untuk Transformasi Kebijakan Anung Setyadi. Jakarta.

Sikor T. 2006. Analyzing community-based forestry: Local, political and agrarian perspectives. For Policy and Economy 8(4):339-349. doi: 10.1016/j.forpol.2005.08.005

Subarudi S, Putri I. ASLP. 2006. Perambahan Hutan Di Taman Nasional Rawa Aopa Watumohai : Sebuah Pendekatan Sosiologis. Jurnal Penelitian Sosial dan Ekonomi Kehutanan [Internet]. 3(3):215-229. doi: 10.20886/jpsek.2006.3.3.215-229

Suhardjito D, Wulandari C. 2019. A reflection of social forestry in 2019: Towards inclusive and collaborative government approaches. Forests and Society 3(1):137-140. doi: 10.24259/fs.v3i1.6099

Sutomo, Van Etten E, Iryadi R. 2021. Short communication: Savanna-forest boundary on mount rinjani, lombok island, west nusa tenggara, indonesia. Biodiversitas 22(2):726-731. doi: 10.13057/biodiv/d220225

TNGR. 2022. Rekapitulasi Pengunjung Taman Nasional Gunung Rinjani Pintu Pendakian Tahun 2022 pada Aplikasi Gunung Rinjani. Mataram.

TNGR. 2023. Kemitraan Konservasi Taman Nasional Gunung Rinjani. Mataram.

Truong DD. 2022. Community awareness and participation in biodiversity conservation at Phong Nha-Ke Bang National Park, Vietnam. Biodiversitas 23(1):581-592. doi: 10.13057/biodiv/d230163

Utomo MMB, Siburian R, Hidayat H. 2023. Kemitraan Konservasi dalam FULO net Sink 2030. For Dig [Internet]. [accessed 2024 Jan 29]. https://www.forestdigest.com/detail/2288/kemitraan-konservasi-folu-net-sink

Wahyu A, Suharjito D, Darusman D, Syaufina L. 2020. The Development of Community-Based Forest Management in Indonesia and Its Contribution to Community Welfare and Forest Condition. IOP Conference Series on Earth and Environmental Science 528(1). doi: 10.1088/1755-1315/528/1/012037

Wakka AK, Purwanti R. 2013. Konflik Pada Kawasan Taman Nasional Bantimurung Bulusaraung Provinsi Sulawesi Selatan Dan Upaya Penyelesaiannya. Jurnal Penelitian Sosial dan Ekonomi Kehutanan 10(3):186-198. doi: 10.20886/jsek.2013.10.3.186-198

Weladji RB, Tchamba MN. 2003. Conflict between people and protected areas within the Bénoué Wildlife Conservation Area, North Cameroon. Oryx. 37(1):72-79. doi: 10.1017/S0030605303000140

Wianti KF. 2014. Land Tenure Conflict in the Middle of Africa van Java (Baluran National Park). Procedia of Environmental Science 20:459-467. doi: 10.1016/j.proenv.2014.03.058

Widman U. 2016. Protecting forests through partnerships [Internet]. http://umu.diva-portal.org/smash/get/diva2:1040585/FULLTEXT01.pdf

Yamni. 2015. Taman Suaka Marga Satwa Rinjani, Tanam Paksa Kopi, Taman Nasional Gunung Rinjani dan HGU: Negara(isasi) Tanah Masyarakat Adat Sembahulun dari Masa ke Masa. Bogor: Sajogyo Institute.

Yng TK, Hasan NNN. 2022. Human-Wildlife Conflicts and the Impact on Local Communities' Support for Khao Yai National Park, Thailand. Parks 28(1):61-70. doi: 10.2305/IUCN.CH.2022.PARKS-28-1TKY.en