



## CENTRAL ASIAN JOURNAL OF LITERATURE, PHILOSOPHY AND CULTURE

Volume: 02 Issue: 07 | July 2021

### Existence and Role of Local Communities in Preserving Biodiversity in West Sumatra Nagari Forest Management

**Dwi Marsiska Driptufany**

*Department of Geodetic Engineering – Padang Institute of Technology & Doctoral Program of  
Environmental Science, Postgraduate - Universitas Negeri Padang, Indonesia*

**Eri Barlian**

*Department of Coaching, Faculty of Sports Science,  
Universitas Negeri Padang, Indonesia*

**Siti Fatimah**

*Department of History Education, Faculty of Social Sciences,  
Universitas Negeri Padang, Indonesia*

**Heldi**

*Department of Fine Arts, Faculty of Language and Art,  
Universitas Negeri Padang, Indonesia*

**Iswandi Umar**

*Department of Geography, Faculty of Social Sciences,  
Universitas Negeri Padang, Indonesia*

*Received 21<sup>st</sup> May 2022, Accepted 14<sup>th</sup> June 2021, Online 7<sup>th</sup> July 2021*

**Abstract:** West Sumatra is one of the provinces that is rich in various elements of customs and local wisdom. West Sumatra implements Community-Based Forest Management in the form of a village forest called Hutan Nagari. The Minang Kabau people, especially those who still live in forest areas, rely on forest products to acquire traditional knowledge related to the use of biodiversity. Nagari Forest Management is intended to provide access to the community with participatory principles to manage forests and utilize biodiversity in a sustainable manner that has not been implemented optimally in West Sumatra. This paper aims to describe the existence and role of local communities in preserving biodiversity in Nagari Forest management in West Sumatra. This paper uses a

literature and literature study method, namely reviewing literature related to biodiversity conservation in local community-based forest management. The existence and role of local communities in matters related to the management and utilization of Nagari forest biodiversity in West Sumatra is the key in preserving forest and biodiversity around the forest. The role and existence of local communities can be implemented with community involvement in every forest management activity either institutionally, activities from government support or local communities self-help.

**Keywords:** local communities, local wisdom, ecosystem, forest management, biodiversity

## Introduction

Biodiversity has become a global problem with the implementation of various global conventions and programs that discuss biodiversity [1]. Biodiversity has an ecological function for local people who live by utilizing the forest. For this reason, there needs to be collaboration in forest management between local communities and the state to maintain biodiversity sustainability [2]. However, the cooperation between local communities and the state that occurs in Indonesia is often irrelevant in the case of forest management. In the coming years, the mechanism for separating forest management between the state and local communities will remain unclear. The process of transformation from communal property rights to private or corporate property rights is one of the reasons why the destruction of forests and ecosystems in Indonesia is so massive. On the other hand, the disclosure of biodiversity must be done because it has the potential to be used sustainably, before it is completely extinct.

Local communities, especially those still living in forest areas, rely on forest products to acquire their traditional knowledge related to the use of biodiversity. In addition, local communities still hold ritual traditions where the sacred value of the forest is a very important thing to consider.

West Sumatra is one of the provinces that is rich in various elements of customs and local wisdom [3]. West Sumatra Province has local wisdom in managing forest resources because it is one of the provinces that is known to be wise in managing natural sustainability and is a province that still has natural forests that are preserved.

Government programs related to community empowerment issues in forest management are contained in Government Regulation No.7/2007 concerning Empowerment of Local Communities in forest utilization. In the Government Regulation, forest management consists of three schemes, namely Village Forest, Community Forest and Partnership. Then the policy of community forest management was perfected with the ratification of the Minister of Forestry Regulation No. P.52/Menhut-II/2011 and Village Forest

Management by Regulation of the Minister of Forestry No.P.53/Menhut-II/2011.

CBFM is a forest management system within the territory of local communities and state forests in the form of collaborative management [4, 5]. The essence of the Community Based Forest Management (CBFM) program is community participation or involvement in the use of forest resources and participation in their safety and protection to achieve forest sustainability and community welfare [6, 7]. These positive impacts can be in the form of increasing community income, increasing forest environmental sustainability, reducing illegal logging cases, and reducing vacant land due to the active role of the community in cultivating land and carrying out reforestation [8-10]. However, it is still found that implementation has not been optimal due to the low level of community empowerment and participation in management activities. The level of community participation in forest management is still relatively low due to the low level of accountability and the suboptimal level of community ability around the forest in managing and utilizing forest products [11, 10].

West Sumatra implements Community-Based Forest Management in the form of a village forest called Hutan Nagari. Nagari is a term that describes a community that is organized into a unitary unit of indigenous peoples in West Sumatra. One of the roles of the nagari in forest management was confirmed in Local Regulation No.10 on Land Ulayat and Regional Regulation No. 2/2007 concerning the Principles of Nagari Governance.

The Minang Kabau people, especially those who still live in forest areas, rely on forest products to obtain traditional knowledge related to the use of biodiversity [10]. Nagari Forest Management is intended to provide access to the community with participatory principles to manage forests and utilize biodiversity in a sustainable manner that has not been implemented optimally in West Sumatra.

The implementation of Nagari Forest Management aims to provide access to Nagari through Nagari institutions in managing forest resources sustainably with participatory principles in community

empowerment activities, so that community participation is needed to achieve these goals. The lack of community participation in the implementation of forest management programs causes the implementation to be less than optimal [12]. This shows that without community participation in the implementation of management in every Nagari Forest activity it will not be carried out properly, so that the ultimate goal of managing Nagari Forest as part of sustainable development is in other words community empowerment, especially communities around the forest will not occur. This paper aims to describe the existence and role of local communities in preserving biodiversity in Nagari Forest management in West Sumatra.

## METHODS

This paper uses a literature and literature study method, namely reviewing literature related to biodiversity conservation in local community-based forest management. The information collected will be analyzed selectively and only data related to the research focus will be analyzed through data interpretation and narrative writing. Data analysis also performs classification based on certain integrated models, categories, or themes and then interprets them using complex and interrelated patterns, narratives.

## RESULTS AND DISCUSSION

### Local community-based forest management in West Sumatra

The forest of West Sumatra is one of the natural resources that is very important for local communities or customary law communities because forest resources have various benefits and functions to meet the social, economic and ecological needs of the community. Communities living in and around forests are highly dependent on forest products. Many social, economic, religious, spiritual, educational and public health activities around the forest are related to the forest.

Most of the villages (nagari) in West Sumatra are in forest areas. A total of 950 nagari or around 81.97% of the total villages/nagari in West Sumatra are in and around the forest [13]. Almost all villages/nagari located in and around the forest area are rural areas.

Based on data from the Central Statistics Agency for West Sumatra 2020 the number of poor people in rural areas is more than the poor in urban areas. In 2019, around 65.15% of the poor population in West Sumatra were in rural areas. This means that it is possible for poor people in rural areas of West Sumatra to depend economically on forest products from surrounding forest areas. If we examine the characteristics of poor households in rural areas, about 42.14% of poor people in rural areas are not working [14].

Based on the facts above, the Provincial Government of West Sumatra encourages the expansion of forms or schemes of Social Forestry (SF) which are the "spirit" of the Community-Based Forest Management (CBFM) innovation. In accordance with the Strategic Plan of the Forestry Service of West Sumatra Province for 2016-2021, the target for the expansion of the area of Social Forestry or CBFM is 250,000 hectares or about 20% of the protected forest and production forest under the authority of the Provincial Government of West Sumatra. Social Forestry is the basis for improving the economy of rural/nagari communities around forest areas, especially to alleviate poverty and unemployment. The West Sumatra Provincial Government has developed a Nagari Forest (NF), Community Forest, Community Plantation Forest (CPF), Customary Forest (CF) and Forestry Partnership (FP) schemes. Based on data from the Forestry Service of West Sumatra Province in 2020, the achievement of the Social Forestry Management area or CBFM is 227,871.80 hectares involving around 4,830 households living around forest areas. CBFM has also developed the advantages of the West Sumatran social system in managing forest resources, as part of social reform [15, 16]

### Local wisdom of the west sumatran community regarding forest utilization and biodiversity

The people of West Sumatra are known to have local wisdom related to the management of natural resources such as *rimbo larangan*, *parak*, *lubuak larangan*, and others. Local wisdom practices have also been symbolized in stories, tambo, languages, musical instruments, songs, dances, poetry, customary rules, and physical structures such as

those in *petatah-petitih* “*nan lereang jadikan parak, nan bancah jadikan sawah, ka rimbo babungo kayu, ka sawah babungo ampiang (yang lereng jadikan kebun, yang datar jadikan sawah, ke hutan berbunga kayu, ke sawah berbunga padi)*”. This has become the strength of social capital and cultural capital in the management of natural resources, including forests and biodiversity, which are the strengths of the people of West Sumatra to expand CBFM.

Nature with all its dynamics and forms is very meaningful to the Minangkabau people. Because it is so meaningful, the Minangkabau people call their ancestral lands with nature, namely *Alam Minangkabau*. Nature for the Minangkabau people contains infinite meanings. Nature is everything, not only as a place of birth and death, a place to live and develop, but also has a deep philosophical meaning, namely *Alam takambang jadi guru* (developed nature becomes a teacher). Therefore, their teachings and views of life that are configured in proverbs, *petitih*, *pituah*, poem, and others always take parables to nature [17, 18]. *Petatah* is the standard of customary law which is the source of the regulations governing all relations in Minangkabau society. *Petatah* regulates the relationship between humans, between humans and nature, and between humans and their social environment. *Petatah* can be concluded as the basic law or main guideline in Minangkabau society. *Petitih* is a rule that regulates the implementation of customs carefully. *Petitih* are operational regulations, implementation and regulatory limits in society. So, *petatah* is a guideline for customary law, while *petitih* functions as an implementing regulation [19, 20]

This Minang proverb implies that the land on the edge, near the slope must be protected from landslides and collapses. One way is to plant plants with strong roots so that the soil does not easily collapse and landslide due to erosion and erosion [21]. In addition to planting sugar cane, soil-retaining plants that can also be used are *aur* or bamboo. Minangkabau local wisdom can be observed in its implementation from the rules and norms that still apply in the area. The application of customary values and local wisdom, imposed by the *penghulu* on the community, is to preserve the forest and the

biodiversity in it. The role of the *penghulu* in applying traditional values, local wisdom, and *petatah* *petitih* to the community can be felt directly by the community both in utilizing the environment, maintaining natural sustainability, as well as growing awareness to appreciate traditional values passed down from generation to generation.

The problem of changes that occur can be traced to the reasons by making direct observations in the field, because in fact the people who live around the forest can be a pillar for the creation of sustainable forest use because they have local Minangkabau traditional wisdom. The behavior of local communities in utilizing the forest is the most important component in conserving the forest. Good community behavior (fully implementing existing local wisdom) in interacting with the environment will lead to the creation of sustainable forest conditions. Meanwhile, bad behavior (not fully implementing existing local wisdom) will lead to the creation of irresponsible exploitation and use of forests that lead to forest ecological damage.

#### **Existence of local communities in biodiversity conservation in forest management**

The need for land as space in the development process continues to increase in order to improve people's welfare [22, 23] including the use of forests and biodiversity. However, development often leads to exploitation of natural resources and biodiversity. This condition is further exacerbated if exploitation is carried out without considering carrying capacity and ecological functions wisely. This environmental problem also occurs in the use of forest resources by communities living around the forest to meet their daily needs. In local community-based forest management, there needs to be collaboration from 3 parties involved, namely the community, government and private sector. Local communities are not only resource users, but must be placed as resource managers who have the capacity to plan, utilize, and control their forest resources. In protecting local/customary communities, the state does not need to spend money, they only need recognition so that their rights are guaranteed and continue to carry out their social life in harmony with nature [24-26].



Based on data from the Forestry Service of West Sumatra Province which was updated in December 2020, the achievement of permits or rights to manage Social Forestry in West Sumatra has reached 227,871.80 hectares. Management permits or rights obtained by communities around forest areas in collaboration with the government through the CBFM program are able to develop public awareness to manage forest resources sustainably and encourage the development of economic business units [16]. The uniqueness of biodiversity and human resources in managing biodiversity in West Sumatra is an asset in the development of local products and can be an identity or an identity for West Sumatra. The forms of economic business run by the community by utilizing the biodiversity of forest products are: 1. Utilization of non-timber forest products such as pine resin, honey, sugar palm, rattan, and so on. 2. Utilization of environmental services such as water utilization, micro hydro energy development, ecotourism development, and so on. 3. Development of non-forestry productive economic businesses such as cattle, compost, biogas, household crafts, and so on. Developing economic business units have produced forestry and non forestry based products [27, 28]

Legally, local communities around the forest have already obtained a permit to manage the nagari forest area. However, capacity in utilization planning and control still needs to be improved so that operationalization of assistance is still needed, both by the government and NGOs. In addition, the strong commitment built by the community needs to be appreciated by allocating adequate resources to achieve the ideals of increasing community welfare. For this reason, the role of the central government, provincial governments, and district governments is very much needed, especially in ensuring access to production and marketing as well as infrastructure support. Another form of commitment from the people of West Sumatra in preserving forest resources and the biodiversity in it is by encouraging the establishment of the Nagari Forest Management Agency (LPHN). It is hoped that LPHN as part of the nagari and jorong apparatus cannot be separated from the role of KAN as the highest customary

institution in the region. LPHN is a community institution established by Nagari Regulations whose task is to manage Nagari Forests which are functionally within the Nagari organization and are responsible to the Village Head (in West Sumatra it is called Wali Nagari) [24].

The existence and role of local communities in matters related to the management and utilization of Nagari forest biodiversity in West Sumatra is the key in preserving forest and biodiversity around the forest. The role and existence of local communities can be implemented with community involvement in every forest management activity either institutionally, activities from government support or local communities self-help.

### CONCLUSION

In local community-based forest management, there needs to be collaboration from 3 parties involved, namely the community, government and private sector. The existence and role of local communities in matters related to the management and utilization of Nagari forest biodiversity in West Sumatra is the key in preserving forest and biodiversity around the forest. The role and existence of local communities can be implemented with community involvement in every forest management activity either institutionally, activities from government support or local communities self-help.

### ACKNOWLEDGMENT

This paper is the study of human ecological changes to the surrounding environment, resulting from theoretical lectures on the Capita Selecta and human ecology course in the Doctoral Program (S3) in Environmental Sciences, Postgraduate – Universitas Negeri Padang (UNP).

### REFERENCES

1. United Nations. 2015. Sustainable Development Goals. [Internet]. [https://sustainabledevelopment.un.org/topics].
2. Setiaji, A., Ashari, H., Dharmawan, M., & Sasongko, A. B. 2017. Manajemen Hutan Lestari: Situs Keramat Alami dan Peran Masyarakat Lokal dalam Upaya Konservasi Keanekaragaman Hayati. Yogyakarta: UGM.

3. Halim, A., & Pahrudin, H. M. 2019. The Role of Local Wisdom as Religious Conflict Resolution in Jambi Indonesia. *Walisono: Jurnal Penelitian Sosial Keagamaan*, 27, 353-74.
4. Wiersum, K. F. 2004. Social and community forestry. In J. Burley, J. Evans, & Youngquist (Eds.), *Encyclopedia of Forest Sciences* (pp. 1136–1143). Oxford: Elsevier Ltd.
5. 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 Society*, 3(1), 77-96.
6. Gunawan, K. S., Barkey, R. A., & Hajar, M. A. I. 2012. Implementasi Program Pengelolaan Sumber Daya Hutan Bersama Masyarakat Dalam Perspektif Pemberdayaan Masyarakat Desa Hutan. *Artikel*, (6), 1-15.
7. Asmin, F., Darusman, D., Ichwandi, I., & Suharjito, D. 2016. Local ecological knowledge on forest clearing: A case study of parak and rimbo practices in Simancuang Community, Indonesia. *Komunitas: International Journal of Indonesian Society and Culture*, 8(2), 208-220
8. Damayatanti, P. T. 2011. Upaya Pelestarian Hutan Melalui Pengelolaan Sumberdaya Hutan Bersama Masyarakat. *KOMUNITAS: International Journal of Indonesian Society and Culture*, 3(1).
9. Ngabdani, M., Muryani, C., & Sudaryanto, R. 2015. Partisipasi Masyarakat dalam Pelaksanaan Program Pengelolaan Hutan Bersama Masyarakat (PHBM) di Desa Girimulyo Kecamatan Jogorogo Kabupaten Ngawi. *GeoEco*, 1(1).
10. Tanjung, N. S., Sadono, D., & Wibowo, C. T. 2017. Tingkat partisipasi masyarakat dalam pengelolaan Hutan Nagari di Sumatera Barat. *Jurnal Penyuluhan*, 13(1), 14-30.
11. Suprayitno AR. 2011. Model Peningkatan Partisipasi Petani Sekitar Hutan dalam Mengelola Hutan Kemiri Rakyat (Kasus Pengelolaan Hutan Kemiri Kawasan Pegunungan Bulusarung Kabupaten Maros Provinsi Sulawesi Selatan). [disertasi]. Bogor (ID): IPB.
12. Wilujeng E. 2015. Implementation of Community Based Forest Management (CBFM) in the Context of Forest Preservation in KPH Blora. *Journal of Public Policy and Management* 3 (1) : 1-10.
13. BPS Sumbar. 2020. Identifikasi dan Analisis Desa di Sekitar Kawasan Hutan Berbasis Spasial Tahun 2019. Jakarta. BPS.
14. BPS Sumbar. 2020. Indikator Kesejahteraan Rakyat Provinsi Sumatera Barat 2019/2020. Padang. BPS Sumbar.
15. Agustini, S., Dharmawan, A. H., & Putri, E. I. K. 2017. The Contribution of Community Based Forest Management to Livelihood and Rural Economy: The Case of Hutan Nagari Sungai Buluh in Padang Pariaman. *Sodality: Jurnal Sosiologi Pedesaan*, 5(2).
16. Asmin, F. 2021. PERKEMBANGAN PENGELOLAAN HUTAN BERBASIS MASYARAKAT DI SUMATERA BARAT. Dinas Kehutanan Provinsi Sumatera Barat
17. Gani, E., 2009. Kajian Terhadap Landasan Filosofi Pantun Minangkabau. *Jurnal Bahasa & Seni*, 10 (1): 1-10.
18. SUMARMI, S. B., MUTIA, T., YUSTESIA, A., FATHONI, M. N., MUTHI, M. A., & NURAINI, S. G. 2020. The Deep Ecology Persepective Of Awig-Awig: Local Tribal Forest Preservation Laws In Tenganan Cultural Village, Indonesia. *Journal Of Sustainability Science And Management*, 15(8), 102-113.
19. Rahayu, E., A. Amir, dan Hamidin, 2013. Petatah Petitih Masyarakat Minangkabau Di Nagari Kota Baru Kecamatan Kubung Kabupaten Solok. *Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 1 (2): 17-24.

20. Munir, M., & Pandin, M. G. R. 2018. The Local Genius Values of Minangkabau Society. In *Proceedings of the International Conference of Communication Science Research (ICCSR 2018)* (pp. 302-306).
21. Barlian, E. (2010). Pelaksanaan Pepatah Petiti Adat Minangkabau oleh Masyarakat dalam Melestarikan Alam Sekitar. *SARI Int. J. Malay World Civilis*, 28(1), 189-209.
22. Driptufany, D. M., Guvil, Q., Syafriani, D., & Arini, D. (2021). Flood Management Based on The Potential Urban Catchments Case Study Padang City. *Sumatra Journal of Disaster, Geography and Geography Education*, 5(1), 49-54.
23. Driptufany, D. M. 2021. Early detection of the distribution of heat stress hazards for sustainable land use planning In Padang City. In *IOP Conference Series: Earth and Environmental Science* (Vol. 708, No. 1, p. 012059). IOP Publishing.
24. Asmin, F. 2015. Pengelolaan hutan nagari di Sumatera Barat: Studi kasus areal kelola hutan nagari di Jorong Simancuang Provinsi Sumatera Barat. Prosiding.
25. Rangga, K. K., Helvi Yanfika, H. Y., Mutolib, A., & Mutolib, A. (2020). Perception, attitude, and motive of local community towards forest conversion to plantation in Dharma Raya District, West Sumatra, Indonesia. *Biodiversitas Journal of Biological Diversity*, 21(10), 4903-4910.
26. Christiawan, P. I. (2017). The role of local wisdom in controlling deforestation. *International Journal of Development and Sustainability*, 6(8), 876-888.
27. Tamalene, M. N., Al Muhdhar, M. H. I., Suarsini, E., & Rochman, F. (2014). The practice of local wisdom of Tobelo Dalam (Togutil) tribal community in forest conservation in Halmahera, Indonesia. *International journal of plant research*, 4(4A), 1-7.
28. Rahayuningsih, M., Utami, N. R., & Abdullah, M. (2017). Developing Local Wisdom to Integrate Ethnobiology and Biodiversity Conservation in Mount Ungaran, Central Java Indonesia. *International Journal of Environmental and Ecological Engineering*, 4(9).