

## Economic and socio-cultural transformation of communities through the implementation of village forest policy in Sigi regency

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**Abstract:** This study explores the socio-economic and cultural transformation of forest-adjacent communities in Namo and Lonca Villages, Sigi Regency, Central Sulawesi, through the implementation of Indonesia's village forest (Hutan Desa) policy. Anchored in the Regulation of the Minister of Forestry P.89/Menhut-II/2014, the policy grants legal forest management rights to communities, aiming to improve livelihoods while promoting sustainable forest use. Using a qualitative approach, the research reveals that village forest management has generated tangible economic benefits—such as increased household income and employment opportunities—mainly through the development of Non-Timber Forest Products (NTFPs) like rattan, bamboo, and forest honey. Socially and culturally, the policy has revived traditional wisdom and empowered local governance structures (LPHDs), though limitations persist due to institutional capacity and government support gaps. The study concludes that village forests hold strong potential as a model for inclusive, sustainable development, but success hinges on capacity building, inter-institutional collaboration, and continuous policy support.

**Keywords:** *Community-based forest management, Non-timber forest Products, Sigi regency, Socio-economic Transformation, Sustainable development, Traditional wisdom, Village forest policy.*

### 1. Introduction

The establishment of village forests, a community-based forest management approach, is hoped to provide a means for communities to alleviate poverty. The village forest policy is also intended to ensure the sustainability and facilitate the economic and cultural transformation of these communities. This can be achieved through diverse distribution and access frameworks for communities regarding forests, enabling forest-owning communities to directly participate in management, a process legally recognized by the Regulation of the Minister of Forestry [1] concerning Village Forests, which legitimizes community-based forest management.

The forest area in Central Sulawesi Province spans 4,272,093 hectares, according to the Decree of the Minister of Environment and Forestry Number: SK.22/Menlhk/Setjen/PLA.0/1/2017 [2] concerning the Indicative Map and Social Forestry Area (PIAPS). This decree allocates approximately 346,778 hectares for social forestry within the province. Ideally, the issuance of this Ministerial Decree is expected to serve as a momentum for utilizing and managing forests to improve the welfare of village communities possessing forest resources. Furthermore, given the extensive allocation of social forestry areas in Central Sulawesi Province, opportunities exist for other villages to propose changes in forest status to village forests or other social forestry schemes to participate in managing and conserving community-based forests.

Village forests in Central Sulawesi Province are also located in Sigi Regency, specifically in Kulawi Subdistrict. Sigi Regency, established by Law Number 27 of 2008 as a separation from Donggala Regency in Central Sulawesi, predominantly comprises plains, hills, and mountains, situated at an altitude of 200-700 meters above sea level, covering an area of 5,275.13 km<sup>2</sup>. The regency has a population of 239,421 with a density of 46 people/km<sup>2</sup> and a population growth rate of 1.07% [3].

Within Sigi Regency, village forests exist in Namo and Lonca Villages, Kulawi Subdistrict. These protection forests are managed by Village Forest Management Institutions (LPHD) and can be utilized for the welfare of the residents in these two villages. Village autonomy has empowered the communities in Namo and Lonca to develop initiatives, take proactive steps, and actively participate in development and fulfilling their needs based on available village potential, including their village forests.

The diverse potential of the village forests in these two villages can be sustainably managed, utilized, and developed by the Village Governments to improve community living standards. The previously lengthy bureaucratic processes required for these two villages to gain legal recognition as village forests—including securing forest area status, resolving overlaps and claims, clarifying boundaries with plantations and forest concessions, and conducting socialization and securing funding—should serve as motivation for the communities to optimally manage their village forests. However, current realities in Sigi Regency, particularly in Namo and Lonca Villages, reveal obstacles in implementing village forest management policies, such as the limited capacity of the Village Forest Management Institutions (LPHD), especially those directly managed by villages through village regulations.

The challenges faced by LPHDs include a lack of understanding regarding village forest operational procedures and governance, hindering the development of collaboration and mutual understanding among managers and open communication between the community and LPHD in village forest management. Insufficient support from the Regional Government, which should include oversight, facilitation, and guidance to Village Governments regarding LPHD in village forest management (a duty of the Central Sulawesi Provincial Forestry Office and the Sigi Regency Forestry Office as technical agencies responsible for assistance), is not adequately provided due to resource limitations. Consequently, this has resulted in a lack of complete trust between the Regional Government and the community in implementing village forest policies.

## 2. Theoretical Review

Policy implementation studies analyze the execution process of policies, often complex and politically charged due to diverse interest interventions. Implementation studies examine how change occurs and how it can be initiated, focusing on the microstructures of political life: how organizations within and outside the political system operate and interact, their motivations, and potential alternative actions [4]. Policy implementation is a practical stage distinct from theoretical policy formulation. Dwijowijoto [5] states that policy implementation is fundamentally the means by which a policy achieves its goals, involving direct implementation through programs or the formulation of derivative policies. The assumption that implementation is a straightforward sequence of daily decisions and interactions, often overlooked by political scientists, is misleading [6].

Policy implementation is a series of activities following policy enactment, playing a crucial role in public policy. Without implementation, policies remain unrealized and meaningless. It allows for monitoring execution and assessing the impacts of enacted policies, providing feedback on policy implementation by detecting activity alignment and potential negative consequences. Nugroho [7] defines policy implementation as fundamentally the means for a policy to achieve its objectives, involving direct implementation through programs or the formulation of derivative policies.

Policy implementation employs a top-down logic, translating abstract or macro alternatives into concrete or micro ones. Conversely, policy formulation uses a bottom-up logic, starting with mapping public needs or accommodating environmental demands, followed by identifying and selecting problem-

solving alternatives for proposal and enactment. Administrative processes at all government levels align with established policy types.

Forestry policy is central to and guides forest management in Indonesia, underpinning all forest management actions and often involving complex interrelationships that contribute to persistent forestry issues. Village forest policy is regulated by the Regulation of the Minister of Forestry of the Republic of Indonesia P.89/Menhut-II/2014. Village Forest Management Permit holders are management institutions established through Village Regulations (Perdes). Management permits can include Area Utilization Permits (IUPK), Environmental Service Utilization Permits (IUPJL), Non-Timber Forest Product Utilization Permits (IUPHHBK), and Non-Timber Forest Product Harvesting Permits (IPHHK). In this research, village forests represent a potential long-term funding source for village autonomy, aiming to balance socio-economic, ecological, and equity aspects. Commodity choices within village forest business units require careful consideration, encompassing both short-term household economic scales and long-term effects, necessitating economic valuation through equitable benefit sharing.

### 3. Research Method

This research employs a qualitative approach, chosen for its ability to explore, understand, explain, and describe social and public phenomena. The study is located in Sigi Regency, with research sites in Namo and Lonca Villages, Kulawi Subdistrict. The selection of this location and these sites was purposive, based on Sigi Regency's significant forest cover (74% of its 5,196 km<sup>2</sup> area, compared to only 26% for cultivation, settlements, agriculture, livestock, and plantations), making it highly relevant for potential village forest designation.

Sigi Regency includes village forests such as the 490 Ha forest in Namo Village, Kulawi Subdistrict, designated as a Protection Forest under the Village Forest Management Right Decree (HPHD) Number: 522/59/DISHUTDA-G-ST/2013, dated January 25, 2013. Additionally, the 685 Ha Lonca Village Forest in Kulawi Subdistrict is also a Protection Forest under the Village Forest Management Right Decree (HPHD) Number: 522/112/DISHUTDA-G-ST/2015, dated February 20, 2015.

To obtain accurate, current, and comprehensive data relevant to the research problems and focus, the data collection process utilized qualitative methods including qualitative observation, qualitative interviews, qualitative documents, and qualitative audio and visual materials [8]. Data analysis in this study will employ the interactive model proposed by Miles, Huberman, and Saldaña. Qualitative data analysis activities are conducted interactively and continuously until data saturation is reached. This interactive model comprises: Data Collection, Data Condensation, Data Display, and Conclusions drawing/verifying.

### 4. Result and Discussion

Regulations governing forest management, including the pivotal Regulation of the Minister of Forestry Number P.89/Menhut-II/2014 concerning Village Forests, empower village communities to manage forests. This regulation substantively ensures legal certainty for community forest management rights, outlining specific criteria and requirements. While village forest management rights do not constitute ownership of the forest area and prohibit transfer, mortgaging, or altering the forest area's status and function, these rights must be exercised according to sustainable forest management principles and solely for purposes outlined in the forest management plan. Nevertheless, this Ministerial Regulation provides communities with guaranteed forest management under the designation of village forests. Geographically, Namo and Lonca Villages in Kulawi Subdistrict are characterized by a collaboration of forests, valleys, and hills. Situated in highlands and coexisting directly with forests for generations, these communities necessitate involvement in forest management based on the understanding that community participation can preserve forest sustainability, enhance economic income, and ultimately improve community welfare.

The village forest in Namo Village, Kulawi Subdistrict, designated with an area of 490 Ha within a Protection Forest zone under the Village Forest Management Right Decree (HPHD) Number: 522/59/DISHUTDA-G-ST/2013, dated January 25, 2013, was initially based on the earlier Regulation of the Minister of Forestry Number P.49/Menhut-II/2008 concerning Village Forests. Conversely, the village forest in Lonca Village, Kulawi Subdistrict, designated with an area of 685 Ha within a Protection Forest zone under the Village Forest Management Right Decree (HPHD) Number: 522/112/DISHUTDA-G-ST/2015, dated February 20, 2015, was based on the current Regulation of the Minister of Forestry Number P.89/Menhut-II/2014 concerning Village Forests. This designation signifies the government's trust in the communities of these two villages for forest management, a long-sought aspiration. Broadly, the benefits of forest designation under this Ministerial Regulation are outlined in Part Two concerning Principles and Functions, Article 2, paragraph 1.a, which states economic and cultural benefits and sustainability.

### 5. Economic Benefits

Forests provide essential economic benefits by supplying food, medicine, drinking water, fiber, timber, and other forest products crucial for livelihoods and income. These direct benefits enhance community welfare and economic growth. Village forest areas represent a potential socio-economic lifeline for communities, offering opportunities for new businesses and increased economic income. Community activities related to village forests in Namo and Lonca Villages involve two main aspects: utilizing forest areas for farming/gardening and collecting forest products. The yield from farming/gardening is largely for direct consumption, with some sold raw or processed. Non-Timber Forest Products (NTFPs) are typically managed by Village Government-established Forest Management Groups and used for household crafts (e.g., rattan) or sold directly to companies collaborating with the LPHD.

Recognizing these community forest utilization activities, the enactment of this Ministerial Regulation is expected to create new economic opportunities in Namo and Lonca Villages. In Namo Village, for instance, the Sustainable Forest Management Group (ROLES) was formed to sustainably manage rattan resources and promote rattan craft production, contributing to community economic improvement. Besides ROLES, Namo Village has Social Forestry Business Groups (KUPS) like the Orchid Cultivation KUPS (Decree No. 03/2018) and the Bamboo Craft KUPS Warior Bambu (Decree No. 247/400/setdes). Furthermore, the management and utilization of the Namo Village forest have led to cooperation agreements for Non-Timber Forest Products (NTFPs), specifically rattan, with PT. Bumi Indah Rotan (signed January 12, 2021, No. 522/01.68/KPH-KLW/2021) and UD Tritunggal Perkasa (signed January 29, 2021, No. 522.22/06.05/KPH-KLW/2021).

In contrast, Lonca Village has not yet formally established Social Forestry Business Groups (KUPS). The LPHD directly handles village forest management and utilization. A cooperation agreement for forest honey cultivation in Lonca Village was signed with PT Hong Thai Internasional on June 3, 2020 (No. 522.22/11.21/KPH-KLW/2020) for the Non-Timber Forest Product (NTFP) of pine resin.

Village forests can function as drivers of community economic income, defined as the production value of goods and services within a regional economy over a specific period. Similarly, forests contribute to increased community income through versatile products like timber, essential for various industries, and Non-Timber Forest Products (NTFPs) such as rattan, damar resin, and honey. The presence of village forests in Namo and Lonca Villages can also stimulate job creation and serve as an alternative income source for communities. The forestry sector offers diverse employment opportunities in planting, maintaining, and protecting forests, as well as in harvesting forest products with varied economic value encompassing material outputs, environmental services, and social benefits for the community – all potential income streams.

The relationship between the community and village forests in both villages is deeply intertwined, indicating a significant dependence, particularly for residents near forest areas. Increased income

through economic activities, food security, and healthcare needs are key linkages between forests and the community. Primarily, forests directly fulfill various household necessities for daily life. Economically, forests can provide added value to surrounding communities by utilizing and selling Non-Timber Forest Products. Therefore, enhancing the value of forests heavily relies on the capacity to manage forest resources, from production to marketing, aiming to increase economic added value. The benefits of forests extend beyond local communities within and around the forest to include businesses and individuals outside these two villages, encompassing diverse economic advantages such as job creation and income generation through NTFPs and timber products like wood and rattan sold as community income sources.

**Table 1.**

Village Forest Resource Wealth in the Form of Timber in Namo Village and Lonca Village.

No	Type of Timber	No	Type of Timber
1	Kanari	21	Lolia
2	Leutu	22	Vonce
3	Cempaka	23	Bayur
4	Maranu Taipa	24	Tea
5	Bunga-Bunga	25	Bakangkuni
6	Siuri	26	Lonca Ibo
7	Palapi	27	Taiti
8	Tao	28	Mapaloga
9	Benoa	29	Kume
10	Damar	30	Ngkarahihi
11	Pava	31	Lekatu
12	Lengaru	32	Marantavi
13	Luluna	33	Palili
14	Dongi	34	Nantu
15	Kalae	35	Mpomaria
16	Ngkera	36	Lamoangi
17	Balolo	37	Pangi
18	Tirontasi	38	Polohu
19	Lebanu	39	Baka
20	Palio	40	Durian

Source: KPH Kulawi, 2021

The entire working area of the village forests in Namo and Lonca Villages falls within Protection Forest and Lore Lindu National Park areas, which were previously under full state control. Consequently, their timber potential cannot be harvested despite their village forest status. The Non-Timber Forest Product (NTFP) potential within the village forest working areas consists of:

**Table 2.**

Non-Timber Forest Product (NTFP) Potential in the Village Forest Working Area of Namo and Lonca Villages.

No	Potential of Non-Timber Forest Products
1	Rattan
2	Bamboo
3	Orchid
4	Dracaena
5	Yellow Root

The production of Non-Timber Forest Products (NTFPs) by communities signifies their potential to become more productive and innovative when living near forests. Furthermore, granting legal access and management rights over land or forests provides communities with essential initial capital, requiring them to further develop their human resource capacity. The economic benefits derived from increased income should be considered a contribution to both village and regional economies. Despite

increasingly intensive community activities within the forest, reliance on timber resources, particularly in Village Forests, has begun to decrease, suggesting a growing awareness of sustainability following the establishment of the Village Forest Ministerial Regulation.

A key indicator of community economic conditions and welfare is the magnitude of income, whether monthly or annually. Higher community income generally reflects better economic conditions and welfare levels. The average monthly income in Namo Village is IDR 2,052,166.67, with a relatively even income distribution across different income brackets. To further enhance community economic income, village forest management is also collaboratively directed towards increasing community earnings.

## 6. Social and Cultural Benefits

Historically, a major challenge for communities in forest management was securing legal recognition. The enactment of the Regulation of the Minister of Forestry Number P.89/Menhut-II/2014 concerning Village Forests provided this guarantee to the communities of Namo and Lonca Villages. Chapter II, Article 5, outlines the criteria for forest areas suitable for designation and utilization, ensuring land security, particularly for the management spaces of communities residing in and around the forests. This addresses previous limitations imposed by sectoral interests that hindered community access to forest management rights. Further solidifying this, the Decree of the Governor of Central Sulawesi Province specifically designates the utilization areas for Namo Village (490 Ha in Protection Forest, Decree No. 522/59/DISHUTDA-G-ST/2013, January 25, 2013) and Lonca Village (685 Ha in Protection Forest, Decree No. 522/112/DISHUTDA-G-ST/2015, February 20, 2015).

These Gubernatorial Decrees legally acknowledge the economically utilizable areas that communities can manage and benefit from. The issuance of these decrees fulfills the long-standing aspiration of the Namo and Lonca communities to manage forests without fear of legal repercussions. Previously, as the forests were within state-controlled Protection Forest areas, communities lacked management authority. The Gubernatorial Decrees thus provide crucial legal affirmation of community sovereignty in managing and utilizing their now-designated village forests for economic purposes.

The existence of village forests in Namo and Lonca Villages provides significant social and cultural benefits, necessitating legal recognition from the state for community management. This recognition fosters a sense of security for the communities in managing their forests. Ultimately, legal recognition of village forest management for these communities leads to the acknowledged involvement of the Village Government through the LPHD, as well as the community, in forest management. Communities are expected to leverage this recognition responsibly by managing forests while maintaining their sustainability.

This recognition also contributes to cultural preservation. Historically, village forest management in Namo and Lonca Villages has been inseparable from local wisdom in forest management practices, including traditional utilization methods, land clearing for fields and gardens, timber management, hunting practices, fishing methods in forest rivers, benefit-sharing customs, and rattan harvesting techniques. Local wisdom encompasses guidelines and prohibitions in Village Forest management, such as protecting trees around water sources, not felling fruit-bearing trees, and allowing timber harvesting only for household needs (housing, construction, public facilities) with LPHD permission and coordination with protected forest managers. Specific regulations include prohibiting logging in water protection zones. New land clearing with timber harvesting is conditional, while unauthorized rattan collection and wildlife hunting are subject to customary law. Planting prohibited and environmentally damaging plants like marijuana and oil palm is forbidden, as is arrogance within the forest. Trees providing shelter or breeding grounds for animals cannot be disturbed or felled. Communities must not harm forest animals or release livestock into forest areas.

## 7. Conclusion

The implementation of the village forest policy in Namo and Lonca Villages has contributed significantly to both economic growth and the strengthening of cultural identity among forest-

dependent communities. Legal recognition through forestry regulations has enabled these communities to manage their forests sustainably, create income-generating initiatives, and preserve traditional forest-related knowledge and practices. Economically, the development of NTFPs such as rattan and honey, alongside community enterprises, has led to improved livelihoods and local business opportunities. Culturally, customary laws and indigenous wisdom have become embedded in forest governance, reinforcing community cohesion and sustainable use. However, the full potential of the village forest initiative is hindered by weak institutional capacities, limited government facilitation, and minimal technical support for LPHDs. Addressing these challenges through improved resource allocation, capacity development, and cross-sectoral collaboration is essential to ensure that village forests continue to serve as instruments of transformative, community-based forest management.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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