



'Women's Dependency Rate on the Kerinci Seblat National Park Area in Fulfilling Their Basic Needs

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Abstract

Kerinci Seblat National Park experienced an encroachment rate during 1990-2014 of 2,737 ha/year or 52.6% of the highest encroachment area in the Tropical Rainforest Heritage of Sumatera. Dependence on forests is done to meet basic needs such as food and animal feed. A study was required to determine the level of women's dependence on Kerinci Seblat National Park through the fulfillment of basic needs. The data collection methods used were a literature study, field observation, and an in-depth interview. Ranking the level of dependence of women in the Kerinci Seblat National Park conservation area through the fulfillment of basic needs based on the Indonesian High Conservation Value Toolkit Revision Consortium (2008). The existing land in Pal VIII Village is mainly agricultural land, namely coffee plantations. The research results through in-depth interviews showed that women in Pal VIII Village fulfill their needs for food, energy sources, and medicines, many of which are obtained from outside the area. Cultivation was carried out on their private land and utilized in their yard. Women's use of forest resources in the area was low because women met their basic needs from outside the Kerinci Seblat area. The characteristics of fulfilling women's basic needs were mostly met in several ways, namely cultivation, buying, and taking from private gardens. Thus, the level of dependence of Pal VIII Village women to fulfill their basic needs in the Kerinci Seblat National Park area was low.

Keywords: Basic Needs; Forest Encroachment; National Park; Women's Dependency

Introduction

Forest resources have played a significant role in facilitating Indonesia's economic development for more than five decades (Nugroho *et al.*, 2022). The diversity of tropical forest flora and fauna in Indonesia is very considerable (Purba *et al.*, 2014), and it grows naturally in various forest locations in Indonesia, including national parks. In 2004, UNESCO identified Kerinci Seblat National Park, Bukit Barisan Selatan National Park, and Gunung Leuser National Park as part of Sumatra's Tropical Rainforest Heritage (STRH), and the World Heritage Committee designated them as world heritage sites (Purwanto, 2016). The status was chosen by considering the high diversity of flora and fauna that must be preserved (Malik *et al.*, 2020). The World Heritage Committee listed Kerinci Seblat as a world heritage site in risk at 2011 due to the area's high level of forest encroachment. Kerinci Seblat experienced encroachment at a rate of 2,737 ha/year from 1990 to 2014, accounting for 52.6% of the

maximum overall encroachment area in STRH (Purwanto, 2016). People convert land for a variety of reasons and functions (Triatmojo *et al.*, 2020; Yurike *et al.*, 2015). One of the causes of forest encroachment was the narrow and limited area of community property around the national park that could be used to cultivate. Fazriyas *et al.*, (2021) highlighted how economic considerations influence people's decisions to transform land. According to Sawitri & Bismark (2013), population growth and a lack of education are the primary causes of people cutting forests. According to Amil & Rachman (2019), poor forest management and law enforcement are also motivators for many people to trespass on forests. Arifandy & Sihaloho (2015) show how forest destruction occurred because of conflicts for forest resources.

Forest villages have a close interaction with forest areas, particularly in terms of economics, health (medicine), and food (Birgantoro & Nurrochmat, 2007). There are many ways that forest ecosystem services support rural livelihoods (Ahammad *et al.*, 2019). Households in the low-income group depended more on forest resources (Mendako *et al.*, 2022) Communities living near forests rely heavily on forest resources (Munawaroh *et al.*, 2011). This is because the forest provides basic needs like food and animal feed (Haryani & Rijanta, 2019). For timber forest products, Non-Timber Forest Products (NTFPs), and wildlife, the community is largely dependent on forests. (Nurrani & Tabbal, 2013). Communities use NTFPs goods for semi-commercial and subsistence purposes (Iqbal & Septina, 2018). In Myanmar, several tree species were identified as being mostly used by the local communities (Hlaing *et al.*, 2017a).

Women's ability to meet basic needs for their family and themselves is likewise closely related to their high dependency. Children's mothers need to provide regular stimulation to their child as well as a more varied diet to support optimal development and growth (Nindyaningrum *et al.*, 2023). Women have complete power over domestic issues (Tuwu, 2018). However, women's participation in forest concessions such as forestry spatial planning remains limited (Nurdin, 2015). Meeting these basic needs is not without challenges (Asaf, 2020). Women who live near forests recognize and consider the potential damage caused by forest expansion and the use of forest resources beyond the threshold. This is because they can immediately feel the effects of forest destruction and are more sensitive to the altered natural balance (Agarwal, 2009).

Women should play a significant part in the management and preservation of natural resources. However, research on the fulfillment of basic requirements by women living near Kerinci Seblat remains quite sparse. As a result, a study was required to determine the level of women's dependence on Kerinci Seblat National Park through the fulfillment of basic needs.

Research Methods

Biosurfactants Location and Time of Research

The study was conducted at Pal VIII Village, Bermani Ulu Raya Sub-district, Rejang Lebong Regency, Bengkulu Province, which was right near Kerinci Seblat National Park. Data was collected from June to July 2017.

Research Procedure

The study employed a mixed-method approach, combining quantitative and qualitative methodologies to obtain more comprehensive, valid, reliable, and objective data (Sugiyono, 2016). Data was gathered through in-depth interviews, field observations, and literature reviews. Forest resource data gathered from in-depth interviews was further classified according to women's basic daily needs (Table 1).

Respondents were chosen using the purposive sample method, which involves selecting people based on specific factors or criteria. The total number of respondents was 43, with 39 of them being Pal VIII Village women, the Head of Pal VIII Village, who was also a woman, and three Kerinci Seblat managers. The characteristics of the selected respondents were:

1. Characteristics include age, education, occupation, and land ownership status.

2. Women with farms near the Kerinci seblat.
3. Village officials and Kerinci Seblat management.

Table 1. Women's Basic Needs

No	Group	Sub-group
1.	Food	Carbohydrates (rice, corn, etc.) Animal protein (meat and fish) Fruits and vegetables
2.	Energy Source	Home Furniture Household appliances Firewood and others
3.	Medicines	Natural medicines
4.	Water	Drinking water, cooking, and washing needs
5.	Animal feed	Grasses
6.	Cash income	Game animals, timber, non-timber, fruits, etc.

Source: (Konsorsium Revisi HCV Toolkit Indonesia, 2008)

Data Analysis

The research data was analyzed using the Concurrent Embedded Strategy method, which combines quantitative and qualitative research methods with different weights. In this model, there is a primary method to obtain the main data and a secondary method to obtain supporting data for the primary method. In this case, facts gathered in the field serve as more of a guide for qualitative research when developing new hypotheses or theories (Purwanza *et al.*, 2022).

Forest resource utilization data was analyzed by scoring the fulfillment of women's basic needs based on the source. The percentage of needs that forests or other sources can satisfy can show the level of utilization of forest resources by women (Table 2). Based on the forest resources, each group of women's basic needs was grouped into sub-groups of cultivation, purchase, assistance, and others. Furthermore, each sub-group of basic needs sources was given a score. The Indonesian High Conservation Value (HCV) Toolkit Revision Consortium 2008 gives a score (level) to show how well women in the Kerinci Seblat conservation area meet their basic needs (Table 2).

Table 2. Percentage of forest resource utilization level of women's dependency on Kerinci Seblat.

Percentage (%)	Description	Score
100	If all needs are met by one source, the source is considered very important	4
50-99	If most of the needs are met by one source and rarely by other sources, the source is considered quite important.	3
25-49	If the need is met by several sources that are each below 50%, the source is considered important.	2
10-24	If the need is met by a large number of other sources, the source is considered less important.	1
0-9	If the need is no longer met by forests or other natural ecosystems, the source is considered unimportant..	0

Source: Indonesian HCV Toolkit Revision Consortium (2008).

The research study is approved and permitted by Head of Pal VIII Village vide ref number 145/170205/2017 dated 17th July, 2017.

Results and Discussion

Characteristics of Respondents

Respondent characteristics are an important component of a study to determine the respondent's condition. The qualities of respondents will influence how fundamental requirements are addressed. Pal VIII Village's selected ladies were married on average.

Table 3. Characteristics of respondents

No	Description	Category	Amount (Person)	Percentage (%)
1	Age	<30	5	11.63
		30-39	9	20.93
		40-49	17	39.53
		50-59	10	23.25
		>60	2	4.65
2	Education	No formal education	4	9.30
		Primary	19	44.19
		Secondary	5	11.63
		Higher secondary	14	32.56
		Graduate and above	1	2.32
3	Occupation	Farmer	27	62.79
		Farm laborer	5	11.63
		Entrepreneurs	3	6.98
		Housewife	3	6.98
		Teacher	1	2.32
		Pine tapper	1	2.32
		Civil servant	3	6.98
4	Land ownership	Privately owned	30	70.81
		Not owned	13	26.19

Age

Age is related to a person's productivity in meeting everyday demands. Women in Pal VIII Village vary in age, but on average, they were still active in meeting basic home needs (Table 3). According to the findings of in-depth interviews, women have fully managed home issues since marriage. One of the features of respondents is their age, which refers to the amount of work, energy, and ways in which they meet basic needs. On average, the selected respondents were married, therefore they have expertise meeting household demands. Age is one of the characteristics of respondents, which is a reference to the effort, energy and ways respondents fulfill basic needs. On average, the selected respondents were married, so they have experience in fulfilling household needs. Respondents over the age of 40 had the highest response rate because they had more knowledge and experience satisfying basic needs. Women over the age of 40 can already experience the changes that occurred before and after widespread forest encroachment and the extraction of forest resources above the threshold, which resulted in climate change and had an impact on coffee yields. Women in the Kerinci Seblat community understood that wood can have ecological benefits.

Education

Education and training are critical components in the development of human resources. Education and training will provide women with greater information and working skills, thereby increasing production. Table 3 shows that most respondents had completed primary school. Other respondents were able to complete their schooling until the senior high school level. The respondents ranged in age from 30-39 years to under 30 years. Respondents who did not attend school were older than 60. Despite their low level of knowledge, respondents recognized the relevance of the Kerinci Seblat area, even if it did not bring immediate economic value. Women who were able to complete their high school education and even an undergraduate degree were particularly cognizant of the need to protect the Kerinci-Seblat area.

Occupation

The respondent's occupation can influence their knowledge, experience, and how they meet their basic requirements. Women in Pal VIII Village work in a variety of jobs, including farm laborers, farmers, entrepreneurs, housewives, tappers, teachers, and civil servants. This suggests that there are enough job opportunities. The bulk of the respondents chose to work as farmers because coffee farmers make up most of the Pal VIII Village community. Coffee is the primary source of income for Pal VIII Village women, hence the community's reliance on the Kerinci Seblat area for economic sources is minimal. The ordinary Pal VIII Village population is made up of coffee farmers who depend on rising and falling coffee prices. The respondents are employed as both coffee and vegetable farmers. There wasn't much interaction between Pal VIII Village's locals and the Kerinci Seblat conservation area. Women who tap pine trees in the Mahogany Damar Pine Forest (MADAPI) had a high degree of reliance.

Land Ownership

It is essential to consider if the respondents own private land while examining their connection with the Kerinci Seblat area. Because the land already meets their basic needs, respondents who own private land will have little interest in forest encroachment. As a result, women rely less on the Kerinci Seblat area to meet their basic needs. Private land ownership will allow for less direct engagement with the forest, reducing the amount of forest encroachments. Most of the land in Pal VIII Village was utilized for agriculture, specifically coffee plantations, with a tiny portion used for rice fields and vegetable production. Respondents who are not farmers, such as traders and instructors, own coffee plantations. Most of the selected respondents own their own land (Table 3). Most responders who do not own private land are migrants who have only recently moved to Pal VIII Village, where they worked as agricultural laborers and tend to other people's coffee farms.

Characteristics of Basic Need Fulfillment

Women meet basic family needs because they regulate domestic matters. Women, who are the primary food providers at home, show a stronger willingness to sustain local food sources (Wan *et al.*, 2011). Women have an indirect advantage over men in preserving these resources due to their great desire. The fulfillment of women's basic needs in Pal VIII Village for the present and future may be observed in the characteristics of meeting their current needs, which are reasonably like those of households in general. The aspects of meeting these needs are seen in terms of how women access the resources they need and where they do so in the community. If women's needs are met outside of the area, it indicates that they realize the importance of Kerinci Seblat in their lives. Otherwise, there should be a particular program for women to utilize forest resources.

Food Ingredients

Food is an essential need that cannot be substituted. Foodstuffs consist of staple meals, beverages, seasonings, and spices. Many sorts of forest resources, particularly plants, can be used to provide for the community's food requirements. Women in Pal VIII Village met their food demands, particularly those for carbs, by purchasing and getting help based on the results of in-depth interviews. This differs from most rural households collecting wild foods and most collecting at least four different types of wild food. Our results clearly demonstrate the widespread importance of forests in providing food in Zambia (Steel *et al.*, 2022). In addition to buying, some residents produce rice in their fields. Although some women engage in animal husbandry, most of their animal protein needs are met through purchasing. They also rear goats, although they were never consumed for personal sustenance, but rather sold. Women produced fruits in their private gardens, such as durian, avocado, guava, and mango, while other fruits are purchased. Most vegetable requirements were supplied by purchasing and cultivating in a garden or field, as well as using the yard. Purchases are made from village traders or at Pal VIII Village's weekly market (Table 4). This differs with this empirical study from Laos has shown that forest food is important for the diet quality of local people as 71% of the respondents consumed forest foods over the past seven days (Jendresen & Rasmussen, 2022).

Table 4. Characteristics of basic needs fulfillment by women in Pal VIII Village

No	Type of Basic Needs	How to Get	Location
1	Food		
	a. Carbohydrates	Purchased, cultivated	Market, stalls, private fields
	b. Protein	Buying, farming	Stalls, markets, chicken farming
	c. Fruit, vegetable	Purchased, cultivated	Private farm, market
2	Energy source		
	a. Home Furniture	Purchased, cultivated	Privately owned garden
	b. Household appliances	Purchased, self-made	Market, supermarket, Kerinci Seblat area
	c. Fuel (Firewood, pine scroll, and others)	Take from garden, buy	Privately owned garden, residents who sell and MADAPI forest in Kerinci Seblat.
3	Medicines	Buying, going to midwives, cultivation	Village clinic, private garden, yard.
4	Water	Well, Air Nipis Municipal Water works, Air Municipal Waterworks, Kampung Melayu Municipal Waterworks and Terangsats Municipal Waterworks	House, Pal VIII Village
	a. Drinking Water		
	b. Cooking Needs		
	c. Washing		
5	Livestock Feed	Taking from gardens, edges of other people's gardens, edges, and forest areas	Privately owned gardens, other people's gardens within, and outside the Kerinci Seblat area
6	Cash Income	Selling coffee, selling chickens, making ginjar, tapping pine	Private garden, other people's garden, chicken farming

Energy Sources

Overall, energy sources such as building materials and household appliances are obtained through purchase (Table 4). In-depth interviews with respondents revealed that materials for building shelters in the garden were sourced directly from the garden. Pal VIII Village residents mostly cook with firewood, particularly in the garden. Firewood is sourced partly from the Kerinci Seblat area, but primarily from privately held gardens. Some cooking fuel requirements are satisfied by using LPG gas. Women in Pal VIII Village nearly exclusively used pine scrolls from the Kerinci Seblat area, specifically pine trees, for firewood.

Medicines

Herbal medicine promotion stands out as a key route for improving health care access and supporting sustainable livelihoods in tropical forest regions (Lindberg *et al.*, 2023). Women of Pal VIII Village only employed medicinal plants to meet their own medical requirements. They did not trade the therapeutic plants they collect from Kerinci Seblat or private land. The intensity of collecting and utilization is low. When people are feeling somewhat unwell, they employ medicinal plants. In-depth interviews with other respondents revealed that they use a variety of medicinal plants, including Chinese celery to treat lung diseases, curcuma to treat stomach ulcers, Kalanchoe pinnata leaves to treat fever and increase blood and appetite, daffodils to treat sprains, and ginger to heat the body. Most of them opt to take chemical remedies offered at stalls or go to village clinic. Many people do this as part of the government's health insurance program.

Water

Drinking, cooking, bathing, washing, and using latrines all require water. There is much untapped potential for forest conservation by focusing on their role in providing quality drinking water (Huizenga *et al.*, 2022). In addition, the community uses water for livestock and crop irrigation. Women in Pal VIII Village get their water from wells and use municipal waterworks services such as Kampung Melayu and Terangsats (Table 3). This demonstrates that women meet their water needs from outside the Kerinci Seblat area. However, the forest still serves an indirect purpose in ensuring the availability of the municipal waterworks.

Animal Feed

Plants are also utilized as animal feed, specifically by clipping the leaves and branches of plants and giving them to livestock kept in cages or herds. Some sections of the plant are weathered before or after being clipped and fed to domesticated livestock. Women generally keep livestock in cages, so they must supply nutrition for their animals. Fodder is primarily obtained from places on the outskirts of forests, along roads, and on the outskirts of residential gardens (Table 3). Animal feed taken from the Kerinci Seblat area is wild grass, which does not cause significant damage to forest biodiversity.

Cash Income

Most Pal VIII Village women are farmers, particularly coffee farmers, and their primary source of income is the sale of coffee harvests (Table 4). Working in the fields, wage labor, trading, and teaching provide additional monetary revenue (Table 4). Women who work as agricultural laborers typically work during the coffee harvest or vegetable cultivation season. Farm laborers in Pal VIII Village do not own their own farms, but rather look after the farms of others. They are newbies to Pal VIII Village. In-depth interviews with respondents who had only been in Pal VIII Village for a year revealed that they worked as farm laborers since they couldn't afford to buy a garden, and their cash income was solely derived from agricultural labor. Almost all the respondents' cash income originates outside of the Kerinci Seblat area. Cash income is generated within the Kerinci Seblat area by producing ginjars, which are used as coffee containers during the harvest season. Ginjars are constructed from rattan found in the Kerinci Seblat area. Because the customer who wants to make a ginjar (a typical Rejang Lebong handicraft used to hold coffee) provides the rattan, they do not transport it directly into the area. Women who engage in pine tapping are very dependent on the Kerinci Seblat area because their primary source of income is pine resin, which is found in the MADAPI forest area. The share of forest-related income was higher in the low-income group than in other terciles and decreased monotonically as the average income increased (Mendako *et al.*, 2022).

Women in Pal VIII Village Depend on the Kerinci Seblat Area.

The use of forest resources in Kerinci Seblat by village women around the forest is a result of the community's socioeconomic interaction to meet its requirements. Forest resource use interactions occur through forest product collection operations that produce food, firewood, house and construction materials, animal feed, medicines, and other sorts of forest services. This is consistent with Agarwal (2018) conclusion that women engage in more resource-intensive activities to address family needs. Abundant forest resources are frequently used to address basic community requirements. The people of Pal VIII Village, who have gotten some counseling on rules and regulations, have grasped the function of the Kerinci Seblat as a conservation area.

Outside the Kerinci Seblat Area

In-depth interviews revealed that women in Pal VIII Village acquire their food, energy, and medicines primarily from outside the Kerinci Seblat area. These needs were met by purchasing from local sellers. Cultivation was done on their private property and in their own yard. Raising livestock provides food, particularly protein, although more was purchased. Women buy medicines from stalls or markets and go to village clinics to fulfill their needs. Every citizen has public health insurance. Some ladies in Pal VIII Village employed natural medicinal plants produced in their private gardens or yards. Firewood was obtained by purchasing and taking it from their own gardens, and rarely from within the Kerinci Seblat area.

Women were afraid to collect firewood from the area, even though branches from mahogany, resin, and other plants were dispersed. This is because of Kerinci Seblat managers socializing with their husbands about the purpose of conservation areas. Water came from outside the neighborhood, specifically wells and municipal waterworks. Animal feed was sourced from outside the region, such as the edges of other people's yards, roadside private gardens, and the Kerinci Seblat area itself. Women's primary source of income was the sale of coffee harvests, along with farm work and other jobs.

Table 5. Level of dependence of Pal VIII Village women on resources obtained from the area around the Kerinci Seblat Area.

Type of Basic Needs	Source (Score)				
	Kerinci Seblat Area	Outside the Kerinci Seblat Area			
		Cultivate	Purchase	Assistance	Others
Food					
a. Carbohydrates	0	1	3	1	0
b. Protein	0	0	4	0	0
c. Fruit, vegetable	0	3	2	0	0
Energy source					
a. Home furniture	0	1	3	1	0
b. Household appliances	1		3	0	0
c. Fuel (Firewood, pine scroll and others)	1	3	1	0	0
Medicines	0	1	3	0	0
Water					
a. Drinking Water	0	0	0	0	4
b. Cooking Needs					
c. Washing					
Livestock Feed	2	0	0	0	2
Cash Income	1	1	0	0	3

Women's dependence on Kerinci Seblat for basic needs is low (Table 5). That differ from the various families in Cat Tien National Park, who had a high or a relatively high dependence on the NTFPs and tended to shift from self-consumption to cash income (Dinh & Van Pham, 2023). Women in Pal VIII Village meet their basic needs from beyond the Kerinci Seblat area. This differs from Hlaing *et al.*, (2017) research, which found that the results of the study have shown that the natural forest in the Katha District plays a significant role in rural people's livelihood, serving as the main source of primary and secondary income for rural households. In-depth interviews revealed that respondents understand the value of Kerinci Seblat benefits and are highly motivated to contribute to their preservation.

Within the Kerinci Seblat Area

Women in the Kerinci Seblat area fulfill basic needs including fuel in the form of pine needles. Pine needles were collected sparingly and on a modest scale. Animal feed was collected in the Kerinci Seblat area by cattle and goat breeders, not by the woman herself, but by her husband. Women that depend heavily on the Kerinci Seblat area earn a living as pine resin tappers. These sources continue to use non-timber forest products that have no negative impact on forest resources. This dependency affected just a limited number of women in Pal VIII Village. In the Central Zagros forests, firewood for fuel and non-fuel uses, harvesting edible and medicinal plants, agriculture and horticulture crops and livestock grazing were the main forest livelihood activities of households (Mahmoudi *et al.*, 2023). Although women used forest resources, most of their basic needs were addressed outside of the Kerinci Seblat area. This differs with the results of the study show that the natural forest in the Katha District plays a significant role in rural people's livelihood, serving as the main source of primary and secondary income for rural households (Hlaing *et al.*, 2017). Other results provide some of the first insights into the food insecurity status and dietary diversity measures among communities adjoining forest concessions (Fungo *et al.*, 2023).

Conclusion

Women in Pal VIII Village depend minimally on others to meet their basic needs in the Kerinci Seblat area. Most of the basic needs are met outside of the Kerinci Seblat area in a variety of ways, including cultivation, purchasing, and harvesting from 'woman's own garden. This is because they have a strong understanding of Kerinci Seblat as forest conservation.

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Conflict of Interest

The authors declare no conflict of interest.

References

- Agarwal, B. (2009). Gender and forest conservation: The impact of 'women's participation in community forest governance. *Ecological Economics*, 68(11), 2785–2799. <https://doi.org/10.1016/j.ecolecon.2009.04.025>
- Agarwal, B. (2018). Gender equality, food security and the sustainable development goals. *Current Opinion in Environmental Sustainability*. <https://doi.org/10.1016/j.cosust.2018.07.002>
- Ahammad, R., Stacey, N., & Sunderland, T. C. H. (2019). Use and perceived importance of forest ecosystem services in rural livelihoods of Chittagong Hill Tracts, Bangladesh. *Ecosystem Services*, 35, 87–98. <https://doi.org/10.1016/j.ecoser.2018.11.009>
- Amil, A., & Rachman, T. (2019). Implementasi Undang-Undang No.18 Tahun 2013 Tentang Pencegahan Dan Pemberantasan Perusakan Hutan (Studi Kasus Tentang Faktor-Faktor Yang Mempengaruhi Masyarakat Melakukan Perambahan Hutan Di Desa Lunyuk Ode Kecamatan Lunyuk Kabupaten Sumbawa Besar). *JIAAP (Jurnal Ilmu Administrasi Publik)*, 6(2), 152. <https://doi.org/10.31764/jiap.v6i2.653>
- Arifandy, M. I., & Sihaloho, M. (2015). Efektivitas pengelolaan hutan bersama masyarakat sebagai resolusi konflik sumber daya hutan. *Sodality: Jurnal Sosiologi Pedesaan*, 3(2), 147–158. <https://doi.org/10.22500/sodality.v3i2.11339>
- Asaf, A. S. (2020). Upaya pemenuhan kebutuhan dasar manusia. *Jurnal Ilmiah Cakrawarti*, 2(2), 26–31. <https://doi.org/10.47532/jic.v2i2.126>
- Birgantoro, B. A., & Nurrochmat, D. R. (2007). Pemanfaatan sumberdaya hutan oleh masyarakat di KPH Banyuwangi Utara. *Jurnal Manajemen Hutan Tropika*, 13(3), 172–181. <https://doi.org/https://journal.ipb.ac.id/index.php/jmht/article/view/2852>
- Dinh, T. S., & Van Pham, T. (2023). Non-timber forest products in Cat Tien: Local use and sustainable management. *Jurnal Manajemen Hutan Tropika*, 29(1), 79–87. <https://doi.org/10.7226/jtm.29.1.79>
- Fazriyas, Elvia, T., & Ahyauddin. (2021). Model analisis perilaku sosial ekonomi masyarakat desa penyangga dalam pemanfaatan lahan Taman Nasional Kerinci Seblat di Kecamatan Kayu Aro Barat. *Jurnal Silva Tropika*, 5(2), 433–447. <https://doi.org/10.22437/jsilvtrop.v5i2.16308>
- Fungo, R., Tieguhong, J. C., Iponga, D. M., Tchatat, M., Kahindo, J. M., Muyonga, J. H., Mikolo-Yobo, C., Donn, P., Tchingsabe, O., Kaaya, A. N., Ngondi, J. L., Tutu, S., Emeleme, R., Odjo, S., Loo, J., & Snook, L. (2023). Can wild forest foods contribute to food Security and Dietary Diversity of Rural Populations Adjoining Forest Concessions? Insights from Gabon, DR Congo and Cameroon. *International Forestry Review*, 25(sp1), 45–60. <https://doi.org/10.1505/146554823836902626>
- Haryani, R., & Rijanta, R. (2019). Ketergantungan masyarakat terhadap hutan lindung dalam program hutan kemasyarakatan. *Jurnal Litbang Sukowati: Media Penelitian Dan Pengembangan*, 2(2), 72–86. <https://doi.org/10.32630/sukowati.v2i2.70>
- Hlaing, Z. C., Kamiyama, C., & Saito, O. (2017). Interaction between rural people's basic needs and forest products: A case study of the Katha District of Myanmar. *International Journal of Forestry Research*, 2017, 1–18. <https://doi.org/10.1155/2017/2105012>
- Huizenga, E., Huff, E. S., Downtin, A. L., & Latimore, J. A. (2022). Untapped potential: Do stakeholders value forests for providing clean drinking water? *Journal of the American Water Resources Association*, 58(3), 420–434. <https://doi.org/10.1111/1752-1688.13002>
- Iqbal, M., & Septina, A. D. (2018). Utilization of Non-Timber Forest Products (NTFPs) by local people in Sanggau Regency West Kalimantan. *Jurnal Penelitian Ekosistem Dipterokarpa*, 4(1), 19–34. <https://doi.org/10.20886/jped.2018.4.1.19-34>
- Jendresen, M. N., & Rasmussen, L. V. (2022). The importance of forest foods for diet quality: A case study from Sangthong District, Laos. *Trees, Forests and People*, 7, 1–10. <https://doi.org/10.1016/j.tfp.2021.100166>
- Konsorsium Revisi HCV Toolkit Indonesia. (2008). Panduan identifikasi Kawasan Bernilai Konservasi Tinggi di Indonesia. Tropenbos International Indonesia Programme. <http://opac.lib.unlam.ac.id/opac/detail.php?q1=634.9&q2=Kon&q3=P&q4=978-979-18-3660-9>

- Lindberg, K., Martvall, A., Bastos Lima, M. G., & Franca, C. S. S. (2023). Herbal medicine promotion for a restorative bioeconomy in tropical forests: A reality check on the Brazilian Amazon. *Forest Policy and Economics*, 155(8), 103058. <https://doi.org/10.1016/j.forpol.2023.103058>
- Mahmoudi, B., Ng, E., Mafi-Gholami, D., & Eshaghi, F. (2023). Forest dwellers' dependence on forest resources in semi-arid environments. *Sustainability (Switzerland)*, 15(3), 1–13. <https://doi.org/10.3390/su15032689>
- Malik, A. A., Prayudha S, J., Anggreany, R., Sari, M. W., & Walid, A. (2020). Keanekaragaman hayati flora dan fauna di Kawasan Taman Nasional Bukit Barisan Selatan (TNBBS) Resort Merpas Bintuhan Kabupaten Kaur. *DIKSAINS : Jurnal Ilmiah Pendidikan Sains*, 1(1), 35–42. <https://doi.org/10.33369/diksains.v1i1.14702>
- Mendako, R. K., Tian, G., Ullah, S., Sagali, H. L., & Kipute, D. D. (2022). Assessing the economic contribution of forest use to rural livelihoods in the Rubi-Tele Hunting Domain, DR Congo. *Forests*, 13(1), 1–20. <https://doi.org/10.3390/f13010130>
- Munawaroh, E., Saparita, R., & Purwanto, Y. (2011). Ketergantungan masyarakat pada hasil hutan non kayu di Malinau, Kalimantan Timur: Suatu analisis etnobotani dan implikasinya bagi konservasi hutan. Berk. Penel. *Hayati Edisi Khusus*, 7(A), 51–58. <https://berkalahayati.org/files/journals/1/articles/196/submission/196-565-1-SM.pdf>
- Nindyaningrum, S. F., Muniroh, L., & Rifqi, M. A. (2023). Relationship of three basic needs by mother with growth and development of children age 3-5 years in Mulyorejo, Surabaya. *Indonesian Journal of Public Health*, 18(1), 93–105. <https://doi.org/10.20473/ijph.v18i1.2023.93-105>
- Nugroho, H. Y. S. H., Nurfatriani, F., Indrajaya, Y., Yuwati, T. W., Ekawati, S., Salminah, M., Gunawan, H., Subarudi, S., Sallata, M. K., Allo, M. K., Muin, N., Isnain, W., Putri, I. A. S. L. P., Prayudyaningsih, R., Ansari, F., Siarudin, M., Setiawan, O., & Baral, H. (2022). Mainstreaming Ecosystem Services from Indonesia's Remaining Forests. *Sustainability (Switzerland)*, 14(19), 1–9. <https://doi.org/10.3390/su141912124>
- Nurdin, E. (2015). Kebijakan tentang partisipasi perempuan dalam konsesi hutan. *Women Research Institute*, 1–2.
- Nurrani, L., & Tappa, S. (2013). Communities perception and reliances on natural resources of Aketajawe Lolobata National Park in North Maluku Province. *Penelitian Sosial Dan Ekonomi Kehutanan*, 10(1), 61–73. <http://simlit.puspajak.org/Myfront/unduhPenelitian/jurnal/lis.pdf>
- Purba, C. P. ., Nanggara, S. G., Ratriyono, M., Apriani, I., Rosalina, L., Sari, N. A., & Meridian, A. H. (2014). Potret Keadaan Hutan Indonesia Periode Tahun 2009-2013. Forest Watch Indonesia.
- Purwanto, E. (2016). Strategi Anti-Perambahan di Tropical Rainforest Heritage of Sumatra: Menuju Paradigma Baru. Bogor, Indonesia : UNESCO dan Tropenbos International Indonesia.
- Purwanza, S. W., Wardhana, A., Mufidah, A., Renggo, Y. R., Hudang, A. K., Setiawan, Darwin, Badi'ah, A., Sayekti, S. P., Fadlillah, M., Nugrohowardhani, R. L. K. R., Amruddin, Saloom, G., Hardiyani, T., Tondok, S. B., Priskusanti, R. D., & Rasinus. (2022). Metodologi Penelitian Kuantitatif, Kualitatif dan Kombinasi (Issue March). Bandung : CV. Media Sains Indonesia.
- Sawitri, R., & Bismark, M. (2013). Persepsi masyarakat terhadap restorasi zona rehabilitasi di Taman Nasional Gunung Gede Pangrango. *Forest Rehabilitation Journal*, 1(1), 91–111. <https://doi.org/10.9868/ifrj.1.1.91-112>
- Steel, E. A., Bwembelo, L., Mulani, A., Siamutondo, A. L. M., Banda, P., Gumbo, D., Moombe, K., & Ickowitz, A. (2022). Wild foods from forests Quantities collected across Zambia. *People and Nature*, 4(5). <https://doi.org/10.1002/pan3.10367>
- Sugiyono. (2016). Metode Penelitian Pendidikan : Pendekatan Kuantitatif, Kualitatif, dan R&D | Perpustakaan Universitas Negeri Makassar. *Afabeta*. <https://pustaka.unm.ac.id/opac/detail-opac?id=35458>
- Triatmojo, D. B., Atikah, W., & Fadhilah, N. L. (2020). Revisiting the land conversion of the protected forest for the mining industry in Tumpang Pitu, Banyuwangi. *Indonesian Journal of Law and Society*, 1(1), 37–56. <https://doi.org/10.19184/ijls.v1i1.16761>
- Tuwu, D. (2018). Peran pekerja perempuan dalam memenuhi ekonomi keluarga: Dari peran domestik menuju sektor publik. *Al-Izzah: Jurnal Hasil-Hasil Penelitian*, 13(1), 63–76. <https://doi.org/10.31332/ai.v13i1.872>
- Wan, M., Colfer, C. J. P., & Powell, B. (2011). Forests, women and health: Opportunities and challenges for conservation. *International Forestry Review*, 13(3), 369–387. <https://doi.org/10.1505/146554811798293854>
- Yurike, Yonariza, Febriamansyah, R., & Karimi, S. (2015). Land grabbing and deforestation: Community perception on forest land ownership in Dharmasraya District, West Sumatra, Indonesia. *International Academic Conference*, 58, 1–15. <http://rcsd.soc.cmu.ac.th>