

## Empty, Dry, and Infertile Forests: Women's Perceptions of Deforestation in Meru Betiri National Park

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### **Abstract**

*Illegal logging has damaged the ecosystem of Meru Betiri National Park (henceforth defined as TNBM), as indicated by the loss of water sources and the destruction of the forest. As citizens around the forest, hardly can women do anything to address the problem, except see the ongoing forest destruction. This study scrutinizes women's perceptions of deforestation in Meru Betiri National Park. Women have limited access to TNMB management, making women the most disadvantaged due to forest destruction. This research aims to investigate women's perceptions of deforestation in the national park through a phenomenological approach. Documentation and interviews were involved in data collection. The collected data were analyzed and interpreted descriptively. This study found that pessimism and powerlessness colored women's perception of the forest. Empty and infertile, without water sources and animals represent ironic women's subjective perception. The dominant patriarchal structure, corrupt forest management, and the view of illegal logging as a way of survival have reflected women's perceptions of TNMB deforestation.*

**Keywords:** forest management, deforestation, women's perception, meru betiri national park

**Paper type:** Research paper

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Submitted: 2022-02-24; Accepted in revised from: 2022-04-27; Published: 2022-04-29;  
Available online: 30 April 2022

**Cite this document:** Jannah, Raudlatul. dkk. (2022). Empty, Dry, and Infertile Forests: Women's Perceptions of Deforestation in Meru Betiri National Park. *The Journal of Society and Media*, 6(1), 121-138. DOI: 10.26740/jsm.v6n1.p121-138

## INTRODUCTION

Based on National Disaster Management Authority (NDMA) in Jember Regency as of February 2021, at least three floods occurred. The flood was caused by high rainfall and erosion in several upstream areas, one of which is Meru Betiri National Park. At least three villages are located near the national park, namely, Wonoasri, Curahnongko, and Andongrejo. Wonoasri village is a part of the national park and the closest to the Meru Mountains. As a result of the flood, the people in Wonoasri village experienced substantial loss, which seriously disrupted the community's economy.

**Table 1.**  
**Flood Events 2012 – 2021**

<b>No</b>	<b>Date of occurrence</b>	<b>Effects of the incident</b>
1.	January 5, 2012	Flood inundation caused 425 families and 1275 people to be evacuated.
2.	March 8, 2012	Flood inundation caused 1301 families and 3500 people to be evacuated, with estimated loss at IDR 200 million.
3.	January 8, 2013	Flood inundation in Wonoasri village with a height of 30-40 cm. Inundated settlements and agricultural land. A total of 655 families in Curah Lele hamlet and 634 families in Kraton hamlet were evacuated.
4.	January 30, 2013	Heavy rains caused flooding and destroyed the bridge in the hamlet of Curah Lele, which disrupted residents' access. Losses were estimated at IDR 50 million.
5.	December 6, 2014	Continuous rains caused river water to overflow and caused 20 residents' houses to be submerged in knee-deep water and 30 hectares of rice fields. Losses were estimated at IDR 45 million.
6.	January 14, 2021	The flood submerged thousands of houses until January 16 <sup>th</sup> , 2021. It was the most disastrous flood in the last 20 years.
7.	January 16, 2021	Subsequent flooding.
8.	January 19, 2021	On Tuesday at 03.00 am, a flood hit Kraton hamlet, Wonoasri village, Tempurejo district, with a water level of about 30-50 cm.

Massive forest destruction and increasingly drastic climate change have forced countries in the world to conserve their forests. Indonesia is no exception,

in that forest management policies become widely discussed, debated, and even politicized (Nuggehalli and Prokopy 2009); (Killian and Hyle 2020). Since the establishment of social forestry by the government in 2016, local communities have taken more active roles to protect forests. However, public participation in forest preservation is challenging, especially for women (Killian and Hyle 2020)(Gautier 2014). According to Jannah et al. (2019) women have limited knowledge about environmental sustainability. This is understandable because the construction of this knowledge is based on women's daily experiences. Women need to have a model of environmental conservation in their daily lives to construct their knowledge about ecological sustainability. Women's lack of knowledge about nature and the environment can weaken their capacity to adapt to environment conservation.

In addition, men have dominated forest management, making it difficult for women to engage in forest management, especially in social forestry programs. Previous studies have acknowledged that the involvement of women and men in forest management has shown significant changes in increasing forest sustainability, but women's participation in local governance is weak (Agarwal 2001); (Agarwal 2009); (Agarwal 2010); (Brown, H. C., & Lassoie 2010); (Djoudi, H., & Brockhaus 2011) (Lewark, S., George, L., & Karmann 2011); (Mai, Y. H., Mwangi, E., & Wan 2011) (Hajjar, Kozak, and Innes 2012). Therefore, gender equity in forest management seems to be a serious concern.

Shimako Takahashi (2008) who conducted a study on forest management in Indonesia presents case studies of CBFM-certified villages in Indonesia and discusses how CBFM is exercised in diverse social contexts, in relation to certification schemes. Deforestation in PPMU occurs rapidly because the community does not consider the forest as important for their life. Instead, people prefer to plant rubber and oil palm (A Mutolib, Yonariza 2017). There are limited opportunities for women and the poor to voice their concerns and influence financial management (Atmadja et al. 2020). Research programs at MRF can have a much greater impact when Sustainable Forest Management and livelihoods enhancements are incorporated into planning and decision-making processes at all levels, not only in Malinau district but also at national and global levels. (Santosa,

Kresno Dwi, Bruce M. Campbell, Hari Priyadi, Patrice Levang, Douglas Sheil 2007). Historically, sustainable forest management cannot be actuated in elitist forest management, if local communities are expected to take part. As such, collaborative programs play fundamental roles to make that shared management possible (Yokota, Y., Harada, K., Rohman, Silvi, N. O. 2016). (Royer, S. & Van Noordwijk, Meine & Roshetko 2018). The existing literature has demonstrated women's perceptions of forest destruction is under-explored.

Although there have been many studies on women's participation in forest management (Killian and Hyle 2020) (Agarwal 2010) (Gautier 2014) (Djoudi, H., & Brockhaus 2011), none has specifically examined women's perceptions of deforestation. The strength of this research is its narrative nature which explains deforestation from a women's perspective. In fact, women are rarely asked what they think, feel and experience as a result of deforestation. This study is part of understanding environmental damage from the women's point of view. It is important because women have only been considered as an unimportant part of forest management. This paper focuses on women's perceptions of deforestation in Meru Betiri National Park. The paper is divided into four sections, including the introduction, the research site and methods, the research result, and the conclusion.

## **METHOD**

### **Research Design**

This study employed a phenomenological method that involved describing, interpreting, and explaining the situation of the research subjects. Being vulnerable, women who lacked access to the involvement in forest management were disadvantaged due to forest destruction. This paper lensed the perception of women as citizens who were supposed to have the same rights and obligations towards environmental reservation by using the theory of ecological citizenship. This study was grounded within the concept of ecological citizenship (ecological citizenship) as discussed in some of the previous works (Dobson, Andrew 2005), (Latta and Garside 2015), (Hayward 2015). The idea of ecological citizenship is forming a unique citizens' identity who assume ecological responsibilities as individual and community responsibilities. The essence of an ecological civilization is also significantly influenced by views on the environmental crisis.

This concept is also closely related to the idea of the future and the responsibility for environmental sustainability.

### **Research Procedure**

The research steps were as follows. First, the researcher engaged with the target community to establish a close relationship with the informants. This included taking part in their daily routines, such as getting involved in casual chats and observing the atmosphere in the village. Second, through informal spaces, the researchers conducted discussions and collected data about the meaning of forests for women. Third, in addition to conducting in-depth interviews, the researchers also performed observations. The researchers also observed TNMB rehabilitation, the informants' gardens in the forest, and rivers. . On this occasion, the researchers also confirmed the sound of chainsaws that researchers continuously heard from the forest and saw the movements and ways of women responding to the situation. Fourth, the researchers conducted the data verification. The researchers triangulated the data by ensuring that the data obtained had been confirmed. Finally, concluding was underway, where the researcher constructed the understanding of women's perspectives about the meaning of the forest for them.

### **Research Participants and Setting**

The informants in this study were women who lived in Wonoasri Village. All respondents were married. They understood social forestry and lived around the national park. Data collection was over when the data was saturated. After conducting observations and interviews with women, the data has been obtained and considered to meet this study's needs and objectives. This research was carried out by a research group named WEST (Women, Ecology, and Sustainability) in Wonosari village, Tempurejo district, Jember regency from June to October 2021.

## **RESULTS AND DISCUSSION**

Women and the forest have such a close bond (Gautier 2014) (Hautdidier B 2005). Some remote tribes in Indonesia call the forest their mother, as we call

mother earth. The Papuan people, for example, are accustomed to referring to the forest as a mama. This terminology comes up with a unique reason. The indigenous people see the forest as a mother, as it also cares for, feeds, provides food for children, and becomes a place of shelter. Unfortunately, since the forest has become the target of large-scale forest exploitation, these roles are no longer salient as they were years ago. As a mother, the forest today is a sick mother. The following are some of the meanings of the forest by women who live around the national park.

### **The Forest Is Empty**

Understanding local people's perspectives on forests is not easy. Especially if this is related to the problem of poverty and lack of knowledge. This dilemma arises when women are asked to define their forest. Many of them regret the destruction of the forest., as stated in the following quote.

The forest is now bare, and there are no trees, too bad. The forest was damaged. What will happen to our children and grandchildren? They can no longer enjoy the lush forest. (Interview with Mrs. M (52 years)).

The awareness of forest destruction has lingered in their mind. The sadness of losing the lush forests and the future of their children and grandchildren are omnipresent. Mrs. L conveyed the same opinion.

If you look at the forest from the front, it seems like there are still many trees, but actually, empty trees inside. In my opinion, about 70% of the area has been damaged. (Interview with Mrs. L (43 years)).

The awareness of the forest degradation also points to who is responsible for illegal logging that has made the forest denuded. This is documented in the following excerpt.

Many can benefit from illegal logging. Yes, from the employees too, the forestry employees. Sometimes illegal loggers are given money, but in the end, they keep quiet. For example, Mr. K is now booming. He bribed everyone, from top to bottom. So far, it's been a bit of a fortune. So the forest was damaged because he was too selfish. He didn't think about the consequences. So yes, it is clear that those who destroy the forest live here too. (Interview with Mrs. P (54 years)).

We can see that women can be critical entities and care about their environment. Still, the social structure in society does not afford an equal role in

forest preservation. This discriminatory practice is exemplified by the practice of seizing forest resources, especially timber. However, women can critically assess the situation and the conspiracy surrounding forest destruction. The following excerpt evinces women's views on the conspiracy.

Illegal loggers are not arrested because officers may "come into the game." The staff also benefits. People here don't know about it. (Officers also assist the entry of unscrupulous forest looters by providing a fee whose transaction is impeccable). (interview with Mrs. M (52 years)).

However, what is interesting is that not all women have a critical view of the causes of deforestation. On the contrary, some informants see deforestation as an opportunity to plant in the national park, as reported in the following responses.

Since illegal loggers cut down the tree, all that was left was a small plant, but yes, it is even better now because villagers can plant it with corn and rice. So now it's good because you have your harvest. (Interview with Mrs. N (45 years)).

Other informants also conveyed the same opinion.

"Yes, I think it's better because we can use it to plant staple crops such as rice, corn, and others" (Interview with Mrs. W (50)).

The authors' observation also coheres with the informants' responses. When the authors conducted the interview, a chainsaw is heard in the forest. Then the authors asked if anyone was doing illegal logging. Ms. M answered yes, then Mrs. N immediately replied, saying, "Yes, it's okay, they make a living too." We then realized that women's views on deforested forests are multifaceted as many factors, especially poverty, were also at play.

### **The Forest Is Dry**

Women's lack of access to forests is not a new problem. Vandana Shiva, regarding ecofeminism, once said that women and nature are parallel. Both experience oppression by patriarchy. Nature is damaged, while women experience poverty and suffering.

Yes, look at the bare forest now, sad, restless, feel lost. But I can only complain. We are nobody. But what can we do with their links? Behind the chain is a green hat/green beret. (Interview with Mrs. P (54 years)).

This practice of patriarchal domination makes women even more miserable. Mrs. P's statement "we are nobody" explains how women are at the peripherality of forest management. As citizens, women should have rights, and as ecological citizens, women have the same obligations as men to keep forests sustainable.

Unfortunately, not all women are aware of their importance. Once we asked whether they were sad when the forest was destroyed, some women did not show any concern at all. They were happy because the forest was bare, so they could have land to plant corn and rice. Surprisingly, when the researchers asked about water availability, they answered that rivers and wells were dry during the dry season. When we said that the soil did not absorb water because there were no trees, Mrs. N said:

"Yes, there will be more water once they plant fruit".

This drought is getting worse, as reported by the following informants.

Since the forest has been damaged, rivers have dried up, and people's wells have dried up. My well used to have water, and now it's dry in the dry season. When it rains, it often floods. The water is muddy (Interview with Ms. M).

Women faced a dilemma. Poverty drove them to use the forest for farming and they eventually saw damaged forests as opportunities. On the other hand, they suffered from a lack of clean water during the dry season since the forest was damaged and there were not enough trees to store water.

### **Forests are not Fertile**

Although the community has the access to plants on the rehabilitated land, farmers have experienced losses and reduced yields. It has prevailed for the last five years. The sudden flood also worried them while farming in the forest. Since the forest has experienced massive exploitation due to illegal logging and land conversion into industrial areas, the damage to forest land cover has been exacerbated. The loss also caused the loss of water sources that used to be sustainable. Finally, when it rained, flooding and avalanches occurred. The fertile



soil layer was dragged into the sea. When it rained, floods came, and during the dry season, people faced serious droughts.

It's difficult to plant in the forest. When it rains, our plants often bring flooding, so all the plants are damaged. Besides that, landslides often occurred so that our plants died. (Interview with Mrs. M).

The forest, which is being fought over to be utilized as an agricultural area, is now infertile. This was voiced by several women who complained about the decline in their fruit yields in the forest. The women also complained about their rotten or dried plants, which was highly unusual.

Yes, I have plants. I used to grow avocados in the forest. But in the last two years, I always failed to plant fruits yesterday. The avocado seeds did not grow, and nor did the bananas. In the past, I planted much fruit. The only available plants are black plum, mango, dawung, football fruit, and candlenut. Because of the erratic weather, the plants are damaged, so we often fail to produce fruit. I also wonder why my fruits suddenly become so dry. Football fruit, Jackfruit and bitter bean plants also die. In the past, avocados were so abundant, that I could sell 1 million avocados per tree, and I had five trees, so the results were pretty profitable. Unfortunately, now it does not produce much fruit. (Interview with Mrs. L).

### **Forests without a Future: The Challenges of the Climate Crisis**

In general, we can feel how women are so much dependent on their nature, especially the woods. This impression appears so strongly when women describe how they were in the past when the forest was not as damaged as it is today. For example, Mrs. M said,

When I was a kid, I rode my bicycle to the next village. I saw many butterflies, dragonflies, and even monkeys on the way. It used to be fun, beautiful, and pleasing to the eyes. Now it's gone, I never found them anymore. Now it has been replaced with sugar cane plantations. Now sometimes, the monkey goes down into the house. Yesterday the monkey entered my kitchen. I wanted to get rid of it, but I was afraid it would harm me, so I finally left the kitchen. (interview with Mrs. M).

Beautiful memories of sustainable forests clearly left wonderful stories to all of these women. The past has gone, and it will not come back. There is a sense

of loss when women have to describe it, as a lost paradise. It is just too impossible to bring back all of those joyous moments in the forests, as retold in the following voice.

Yes, I am unfortunate. Who is the cause of the forest destruction? Those who cut down the trees should stop and look for other jobs. They cut down a big tree while the tree grows for years. I have not grown yet, and there is already a tree. (Interview with Mrs. P).

Women regretted it but were also helpless. The illegal logging that remains prevalent to this day seems beyond the reach of women. The local community structure only provides women with domestic space, while public areas are only limited to a spiritual function where women pray together. The women have no room to reflect on their situation, so the desire to rise and fight against the conspiracy has never come to the surface. At the same time, women can only grieve and regret.

In my opinion, the forest should be planted again. But what about the destruction of the woods? Too many woods have been cut down. There is a prohibition to cut trees. But in fact, illegal logging does not seem to cease. The loggers are fully aware of it. "Oh now there is an operation, don't go into the forest". It will not stop. I often hear that. I wonder. Maybe there was an "insider" they bribed to leak this information. It worries me because they don't feel our loss because of the flood. (Interview with Mrs. M).

These women have a fair understanding of what is going on in the forest. The informants knew about the rumors about illegal logging. They found that the issue of forest management was not that easy to solve. The terms "insiders" and "leakage of information about illegal timber operations" clearly explained their attitudes and positions towards forest management. In the end, women can only complain as they have not been able to change the situation.

The meaning of women in the forest is complex and is deeply characterized by worries, suspicions, and disappointments that the actual rules are not being enforced. This kind of understanding can give birth to the awareness to struggle. As a mother, women have the instinct to serve and preserve. These stories and perceptions of forest management highlight the need for equality and public interests in how forest management should be underway.

### **Equality in Forest Management**

Since regulated in the regulation of Ministry of Environment and Forestry P.83/MENLHK/SEKJEN/KUM.1/10/2016, social forestry has been officially launched as part of sustainable forest management. The program has gone through a lengthy debate on forest rights between the state and the community (Fisher, M R, M Moeliono, A Mulyana, E L Yuliani, A Adriadi D, Kamaluddin, J Judda, M A K Sahide 2018). The parties involved in social forestry include the village forest management institute, farmer groups, customary law communities, and village forest community institutions. Unfortunately, women find it difficult to engage in forest management since patriarchal principles are still deeply rooted.

Community involvement in forest management is expected to maintain forest sustainability. However, it has yet to come true. Community involvement is still a problem from several perspectives. First, based on the interviews with informants, the local community has not been able to prevent "outsiders" from carrying out illegal logging. The distribution of forest land is not free from power relations. In practice, residents outside the local community can gain shares over the forest because of their status or position. Second, even when local communities carry out forest management, the participation of women is limited. In the end, community-based forest management as an innovation to revolutionize forest governance often does not change power inequality at the grassroots level (Moeliono, Moira, Pham Thu Thuy, Indah Waty Bong, Grace Yee Wong 2017).

This lack of access to forest management and utilization also creates a feeling of powerlessness in women. This enigma has prevailed since women are unable to do anything when illegal logging occurs. For example, Informant P said that the forest is now damaged, bare, and vulnerable to flooding with huge impacts in residential areas, but then Mrs. P said, "But we are nothing."

Forest management is kept beyond women's reach. It is in line with the findings of (CIFOR-ICRAF 2021), which states that women have been under-represented and less influential in public decision-making and leadership positions in government institutions related to forestry. Women also lack access to

technology and information about forests and agroforestry. Women are also excluded from forest highly valued commodities.

Woman's discrimination in forest management is intertwined with many factors, including social and cultural factors. Social factors emerge as the impact of a strongly patriarchal culture, where women are considered to have no capacity in managing organizations. Generally, women in rural areas experience difficulties accessing education. Low education and lack of organizational experience make it challenging to involve them in the community decision-making process.

In the cultural factors, women are considered second-class citizens, whose capacity is only limited to domestic space. This has adversely affected their role in the public sphere. Women are deliberately blocked for any reason to take part in the elite circle of decision-makers. The exclusion from forest management has contributed to worsening the accountability of community forest management so far. Social norms often prevent women from getting involved because forest management is considered to fall under male authority (Royer, S. & Van Noordwijk, Meine & Roshetko 2018), (Agarwal 2010).

### **Discussion: Women and the Future of Forest Management?**

Social forestry aims to improve welfare, environmental sustainability, and local community participation, which encourages socio-political dynamics in the village. The existence of local community demands for the right to manage the forest should be accompanied by a commitment to protect the forest. In the same vein, all indigenous peoples have a conservation vision for managing natural resources (Dove 2006).

So far, social forestry cannot be separated from the practice of power relations and its various impacts. According to (Wulandari Christine., Inoue Makoto. 2018), effective engagement should ideally encourage participation, such as facilitation by external parties, an egalitarian atmosphere, and regular meetings. Villages with higher community involvement in their forest management can lead to a more positive impact on people's livelihoods (Wulandari Christine., Inoue Makoto. 2018); (Dipokusumo 2011). For indigenous peoples, social forestry is the basis for recognizing their rights to forests so that indigenous peoples can always maintain traditional practices and values in forest management (Boedhihartono

2017). It is a shame that the social forestry practices in TNMB do not provide space for women involvement.

Based on of WRI's report (2020), certain groups often have difficulty participating in forest management. In Jambi and West Borneo, participation was limited to the village elites and forest management groups. These groups ignore the aspirations of other community members, including women, for example, by not inviting them to socialization events and not opening up the access to information on social forestry (Royer, S. & Van Noordwijk, Meine & Roshetko 2018). This inequality can result in an unequal distribution of benefits for community members (Maryudi, Ahmad, Rosan R. Devkota, Carsten Schusser, Cornelius Yufanyi, Manjola Salla, Helene Aurenhammer, Ratchanath Rotchanaphatharawit 2012), (Moeliono, Moira, Pham Thu Thuy, Indah Waty Bong, Grace Yee Wong 2017). In addition, the distribution of risk is also unbalanced. Women and local people who do not get access to benefits from the forest have the highest potential for losses from forest destruction. This includes both the loss of water sources and the potential for floods from the mountains around the forest. The social forestry program certainly needs to pay attention to social justice (Royer, S. & Van Noordwijk, Meine & Roshetko 2018).

This research contributes to the literature on gender and forest management. This study also aims to explain a narrative of woman's perceptions of deforestation in their villages. At least this study can highlight some important findings. First, in terms of forest management, one that concerns the fate of local communities is the issue of environmental conservation. The occurrence of floods due to damaged lands, infertile soil, plants carried by water, and floods as well as droughts are indications of poor forest management. Meanwhile, women were never involved in decision-making.

Second, the informants' voices describing their views of the existing forest as dry, infertile, and even threatening because of fear of flooding seem to explain the ambivalence of women as part of the local community. Forest management that should favor public interests has yet to rise.

Third, for women, TNMB is currently controlled by the authorities who are interested in enriching themselves. The phrases "insider" and "green beret"

explain that women view forest tenure as a complex and corrupt power relationship. Although some informants understand illegal logging as a way for people to survive or earn a living, some other informants see this as a form of conspiracy that only benefits the rich. On the other hand, the lower class people suffer from negative consequences of forest destruction, such as floods and loss of water sources.

Fourth, women can only understand, evaluate, and explain what is happening in the forest behind their house. These women realized that something had changed in their environment. Their forest used to be calm, beautiful, and lush, while now it was hot, dry, and barren. Today's women are still marginalized because of the domination of nature by the patriarchal elite. Even if women can conserve forests and wildlife for their children and grandchildren, women must face the challenge of discrimination in forest management. This fact is what underlies women's meaning of the forest. Today, women's views of the forest are colored by sadness and helplessness. Although sometimes they accept that nature has changed and the forest is getting damaged, the women's hearts are crying because the forest as mothers is being destroyed. Even worse, no one knows when this destruction will cease.

## **CONCLUSION**

This study fills a gap in the literature on women and forest management, particularly women's views on forest destruction. The qualitative nature of this study has made it possible to unravel the complexities of women's perceptions of forests. Women are aware of the deforestation in TNMB, but they are powerless. This study highlights three important findings. First, in the view of women, TNMB is currently under the control of a strong group, namely outside businessmen who conspired with the military authorities (green beret). Second, the practice of illegal logging is part of forest destruction which is understandable because some of the illegal loggers are local people who need to make a living. Third, women around TNMB have not been able to penetrate the dominant patriarchal structure so they are unable to actively contribute to stopping deforestation. This finding indicates that the corrupt external structure has exacerbated the lack of awareness and participation of women in sustainable forest management. Therefore, in the future, it is necessary to conduct research on

how to change women's perceptions about forests, as the departure to increasing women's participation in sustainable forest management in TNMB. Sustainable forest management based on gender equity needs to be continuously encouraged to create ecological citizenship. Every human being has a direct obligation to protect the nature they inhabit.

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