

The Concept of Food and Energy Sovereignty in the Film "Pesta Babi" Regarding the Rate of Deforestation in Papua's Forests and Ecological Implications

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Abstract: *This study analyzes Papua's deforestation rate and its ecological implications by using the documentary "Pesta Babi" as a medium of ecological representation and critique, arguing that massive forest conversion for food estates, oil palm, and mining threatens indigenous communities' food and energy sovereignty. Through a qualitative approach combining media text analysis and systematic literature review, the authors find that forced forest conversion eliminates traditional biomass-based food and energy sources, marginalizes local people, triggers biodiversity loss, and contributes to the global climate crisis, concluding that forest management policies must recognize local communities as rights-holders to curb deforestation and prevent "natural colonialism."*

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Introduction

Indonesia's forests are often referred to as the lungs of the world, contributing oxygen to the survival of living things. They can absorb carbon dioxide, a harmful gas, and produce oxygen needed by humans (Shafitri, Prasetyo, & Haniah, 2018). Indonesia has the third-largest tropical forest area in the world after Brazil and the Democratic Republic of Congo, with a forest area reaching approximately 95.6 million hectares in 2022 (KLHK, 2022).

Papua is the only island in Indonesia with intact natural forests and is the second-

largest forested island in the world after Greenland. Papua is also Indonesia's last bastion in the face of the climate crisis, but the phenomenon of large-scale forest exploitation in Papua highlights a serious tension between the national development agenda and the protection of indigenous peoples' rights. The Indonesian part of Papua has experienced the world's largest deforestation project. The Indonesian government is clearing more than 2.5 million hectares of forest in southern Papua for rice, sugarcane, oil palm, and livestock farming, a so-called National Strategic Project for food and energy production. The largest portion of this region, 1.3 million hectares, is used for rice paddies, and 560,000 hectares for sugarcane plantations for sugar and bioethanol.

The documentary "Pig Party: Colonialism in Our Time" has been in the public spotlight and even under the shadow of censorship. The film depicts the largest deforestation in modern history and depicts the nature of state colonialism that has seized Papuans' living space in the name of development. "Pig Party" also demonstrates the politics of space for the exploitation of natural resources (nature colonialism) into monoculture plantations, which threatens the survival of local communities.

The Central Statistics Agency (2025) noted that of the total 84,139 villages, approximately 3,038 are located within forest area claims and 20,732 villages are located near forest area claims. The population of forest villages reaches 48.8 million, of which 12 million depend on forest resources for their livelihoods.

Theoretical basis

1. Documentary Film as an Ecological Medium

Documentary films have long been recognized as an effective instrument in communicating environmental issues to the wider public.

The use of ecocritical approaches in film analysis has grown in popularity over the past two decades. Garrard (2004) and Buell (2005) assert that ecocriticism is the study of the relationship between literature, art, and the natural environment, encompassing the analysis of representations of nature in cultural works and their implications for environmental attitudes and policies. In the context of film, ecocriticism allows us to examine how cinematic texts represent, construct, or challenge dominant ideologies about nature and society (Murray & Heumann, 2009).

The film "Pesta Babi" (The Pig Party) is part of a long tradition of ethnographic documentaries documenting the cultural practices of indigenous Papuan communities. Since Robert Flaherty's work in "Nanook of the North" (1922), ethnographic documentary has been an important medium for documenting traditional knowledge threatened by modernization and globalization (Ruby, 2000). However, in contrast to classical ethnographic approaches that tend toward exoticization and objectification of subjects, contemporary films about indigenous communities increasingly employ participatory and collaborative approaches (Smith, 2012).

2. Food Sovereignty: Theoretical and Empirical Perspectives

The concept of food sovereignty was first introduced by La Via Campesina at the FAO World Food Conference in Rome in 1996 as a response to the dominance of the industrial agricultural model promoted by international financial institutions (Patel, 2009).

In the context of indigenous communities, food sovereignty has a deeper and more holistic dimension. In Papua, traditional food systems encompass a combination of shifting cultivation, forest gathering, hunting, and traditional pig farming. Pigs are not simply a source of protein, but also a medium of social exchange, a status symbol, and an instrument of customary practices that bind communities to their land and forests (Healey, 1990).

3. Energy Sovereignty in a Local Context

Energy sovereignty as an academic concept is relatively new compared to food sovereignty, but its relevance is increasingly prominent in the discourse of sustainable development. Szulecki (2018) defines energy sovereignty as the normative claim that communities have the right to determine their own energy choices, including the type of energy used, how it is produced, and who controls it. In the context of indigenous communities, energy sovereignty means the right to access and manage energy sources—whether biomass, water, wind, or fossil fuels—located within their customary territories.

In Papua, biomass energy from forests (firewood, charcoal, and agricultural residues) is the primary energy source for most indigenous communities. However, a development paradox is that Papua's fossil fuel resources (oil and natural gas) are being extracted for national and global interests, while local communities remain without adequate energy access (Verbruggen & Lauber, 2012).

Within a green economy framework, community-based renewable energy development offers a more equitable alternative. However, realizing this vision in Papua requires recognition of customary rights to areas containing renewable energy potential.

4. Deforestation in Papua: Context and Causes

Hansen et al.'s (2013) research using Landsat data found that Papua's forests experienced an average of 95,000 hectares of deforestation per year between 2001 and 2012.

The main causes of deforestation in Papua can be categorized into several factors. First, the massive expansion of oil palm plantations. Second, mining activities that permanently alter the forest landscape. Third, infrastructure development within regional expansion and transmigration programs that open access to previously isolated forest areas (Kartodihardjo & Supriono, 2000).

Institutional factors also play a significant role in Papua's deforestation. Weak forest governance, corruption in permit issuance, and unclear customary land boundaries create loopholes exploited by economic actors to exploit forest resources (Barr et al., 2010).

5. Ecological Implications of Deforestation

Tropical deforestation has broad and profound ecological implications at various scales, from local to global. At the local scale, deforestation causes soil degradation, erosion, river sedimentation, and the loss of clean water sources on which indigenous communities depend (Bruijnzeel, 2004). At the regional scale, deforestation affects the hydrological cycle and regional climate, increasing the frequency and intensity of floods and droughts (Lawrence & Vandecar, 2015). At the global scale, deforestation of tropical forests such as Papua contributes significantly to greenhouse gas emissions, with Papua's forests estimated to store approximately 10 gigatons of carbon (Saatchi et al., 2011).

For indigenous Papuans, the ecological implications of deforestation directly impact their food and energy sovereignty systems. Loss of forest cover means the loss of forest food sources (fruit, tubers, and game), agricultural land degradation due to the loss

of forest hydrological functions, and a reduction in biomass sources for domestic energy. Research by Colchester et al. (2006) shows that oil palm expansion in Kalimantan and Papua has threatened the food security of indigenous communities by destroying their traditional food sources.

Research Methods

Using a qualitative approach with media text analysis combined with a systematic literature review. This qualitative approach was chosen because of its relevance to examining meaning, representation, and ideological construction in cultural products such as films (Creswell, 2014). This approach allows researchers to explore the layers of meaning hidden behind the images, narratives, and visual symbols in films.

The film analysis was conducted using the cinematic semiotic analysis framework developed by Metz (1974) and combined with the cinema ecocriticism approach of Willoquet-Maricondi (2010). The analysis includes three levels: formal analysis, narrative analysis, and ideological analysis.

The literature review was conducted systematically referring to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines adapted for social and environmental science studies.

The analytical framework used in this paper integrates three main theoretical perspectives: ecocriticism, food-energy sovereignty theory and political ecology. These three perspectives complement each other and allow for a comprehensive analysis of the complexity of the relationship between film, indigenous peoples and the forest environment.

Results and Discussion

The film "Pesta Babi" (Paris Pig) details the traditional Papuan pig farming practices, which are central to the indigenous food and economic system. In the film, pigs are not simply livestock, but serve as a medium of social exchange, a glue for inter-community ties, and a symbol of prosperity offered in traditional life cycle ceremonies.

Food sovereignty in the context of this film is manifested in the full control of indigenous communities over their food production cycle: from selecting pig seeds, managing the pen, to determining the time of slaughter according to the traditional calendar and ecological cycle.

One of the most powerful representations in the film "Pesta Babi" is the forest's role as a multifunctional food barn. Scenes depicting hunting, gathering forest products, and gathering fuelwood demonstrate how the Papuan forest functions as a natural supermarket, providing the community with various necessities.

The dimension of energy sovereignty in the film "Pesta Babi" emerges implicitly through the depiction of forest biomass as a primary energy source. Fire, central to social and ritual activities—for cooking, warmth, and lighting—reflects both the Papuan people's dependence on and energy sovereignty over forest biomass resources. From Szulecki's (2018) perspective, this energy sovereignty manifests in the community's ability to independently access, manage, and determine the use of energy sources.

However, the film also indirectly highlights the contradiction between local energy sovereignty and the national energy development agenda. While expanding the electricity

grid to remote areas of Papua brings the benefits of modern energy access, it often displaces community-based energy management systems that have been operating independently.

Deforestation in Papua's forests over the past two decades has been dominated by the massive expansion of oil palm plantations. Research by Obidzinski et al. (2012) shows that by 2010, oil palm concession permits in Papua covered approximately 2 million hectares, with the rate of expansion continuing to increase. This expansion has largely occurred on land that was previously customary forest, without adequate consultation.

Mining activities in Papua, particularly the gold and copper mine in the Grasberg area operated by PT Freeport Indonesia, have caused tremendous ecological damage. Ballard and Banks (2003) documented that the dumping of mine waste (tailings) into the Ajkwa River and surrounding areas has polluted and destroyed thousands of hectares of forest and wetlands. These impacts are not only ecological but also destroy the food and water sources on which the Amungme and Kamoro indigenous communities depend.

In the context of energy sovereignty, mining in Papua reflects a development model that extracts natural resources for the benefit of global markets without considering the rights and needs of local communities. The energy contained in Papua's mineral resources flows out of the region in the form of commodity exports, while local communities remain trapped in energy and food poverty (Barr et al., 2010).

Papuan forests, which have lost their vegetation cover due to deforestation, have experienced a dramatic decline in biodiversity and ecosystem function. Laurance et al. (2012) showed that tropical forest fragmentation causes "edge effects" that degrade habitat quality even in remaining forest areas.

The loss of ecosystem services due to deforestation directly impacts the capacity of Papuan communities to maintain their food and energy sovereignty. Research by Bruijnzeel (2004) shows that deforestation leads to a decline in water quality and quantity in river basins, which impacts agricultural productivity and drinking water availability. In Papua, major rivers such as the Mamberamo, Digul, and Fly are vital sources of water and fish protein for millions of people; watershed degradation due to deforestation directly threatens the food security of communities dependent on riverine fisheries resources.

At the local level, climate change caused by deforestation in Papua is impacting indigenous agricultural systems, which are highly sensitive to weather and seasonal changes. Lawrence and Vandecar (2015) show that large-scale tropical deforestation can alter regional rainfall patterns, increase the frequency of extreme climate events, and disrupt the seasonal cycles that guide traditional agricultural calendars. These changes directly threaten the productivity of subsistence agriculture in indigenous Papuan communities.

The socio-ecological implications of deforestation cannot be separated from its political and economic dimensions. Deforestation in Papua, driven by plantation and mining expansion, has led to the displacement and marginalization of indigenous communities from forest areas they have managed for centuries.

The loss of traditional ecological knowledge (TEK) has often overlooked yet significant ecological implications. Berkes (2008) argues that indigenous peoples' TEK contains ecological information about biodiversity, ecosystem change, and adaptation strategies that modern science lacks. When indigenous Papuan communities lose access to their forest areas due to deforestation, this knowledge accumulated over thousands of years is at risk of being lost without being documented or utilized.

Beyond its function as cultural documentation, the film "Pesta Babi" can be read as a political statement about the rights of indigenous peoples to land, forests, and natural

resources. Within the framework of ecocriticism, the film operates on two levels simultaneously: as a visual archive of cultural practices that express the harmonious relationship between humans and nature, and as an implicit critique of the development model that threatens this relationship.

As an advocacy instrument, this film has the potential to raise public awareness about the threats facing Papua's indigenous peoples and the forests they protect. In the context of social movements fighting for indigenous rights and environmental justice, documentaries like this serve as effective mobilization tools to build solidarity and push for policy change (Nichols, 2010).

Efforts that can be made to reduce deforestation include reforestation, the implementation of a selective logging system, and the implementation of the REDD+ program which encourages forest conservation through economic incentives.

Conclusion

Deforestation in Indonesia remains a serious problem that requires attention from various parties. The primary cause stems from unsustainable human activities, while the impacts on the environment are far-reaching. Stronger policies, increased public awareness, and optimized forest management programs are needed to address this issue.

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