

Food Insecurity and Agribusiness Expansion in Papua, Indonesia A Developmental Paradox

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ABSTRACT

Indonesia's Papua region has experienced rapid economic development in the last decade through massive investment in the agricultural sector and infrastructure development. Although the industrial agri-food has expanded in the region, Papua has the highest rank of food insecurity at the national level. This paper intends to describe a paradox in an agribusiness frontier where (food) commodity production creates food insecurity at the local level. The agribusiness development has rearranged the natural resources governance and labour relations, which, in turn, limits local communities' access to food sources and compels them to enter commodity relations in providing food. Penetration of market relations does not resolve existing food insecurity. On the contrary, it creates a new kind of food vulnerability. The analysis presented here is based on a literature review on agricultural development and primary data gathered from ethnographic fieldwork in West Papua Province in 2017.

Keywords: *food insecurity, agribusiness expansion, development, West Papua*

1. INTRODUCTION

The framing of Papua in the Indonesian agri-food development policies presents a paradoxical picture. On the one hand, as noted in the 2020-2024 National Medium-Term Development Plan, Papua has been considered a region of food insecurity, being prone to hunger and stunting, and being a poor and underdeveloped region [1]. On the other hand, Papua is projected to become a national food barn (*lumbung pangan*) through agri-food development projects such as the Food Estate [2], [3]. The framing of Papua in development policies desired to quicken from a 'minus' (food insecure) to a 'surplus' (food barn) condition thus legitimizes that "acceleration of welfare development" is needed for this region, as shown in Presidential Instruction No. 9/2017 [4].

It is important to note that food policy in Indonesia is generally constructed in the abstract image of the "nation", which places national interests as a priority [5] but often neglects the concrete dimensions of the right to food at the individual and household levels [6]. At the same time, the state-centric tendency in agri-food policy

choices has implications for relations over land, labour, and livelihoods at the local level. A policy choice has consequences for its impact on food vulnerabilities and problems in the local context [7]. Therefore, it is essential to highlight how agri-food development oriented towards national or global interests and markets relates to fulfilling the right to food locally, especially for indigenous Papuan (Orang Asli Papua).

This article questions why, despite the extensive agri-food development in the last decade, this does not significantly affect the improvement of food insecurity in Papua? Following McCharty and Obidzinski [7], we argue that comprehending this asymmetry requires observing the consequences of development practices on relations over land, labour, and markets at the local level where a project is implemented. Food insecurity is an excess of these consequences. The analysis presented here utilizes data from previous studies and primary data from the first author's fieldwork in South Sorong, West Papua, in 2017.

2. FOOD INSECURITY IN PAPUA

According to FAO, *food insecurity* is defined as a "lack of regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. This may be due to unavailability of food and/or lack of resources to obtain food" [8]. Within the normative framework of the right to food, this definition emphasizes the aspect of *availability* and *affordability* as the cause of food insecurity [9]. In other words, food insecurity occurs when 1) there is not enough quantity and quality of food available to meet the individual's culturally acceptable dietary needs, and 2) there are few or no economic means to obtain food.

Papua (which comprises West Papua Province and Papua Province) was classified as a "red zone" regarding food security. Food insecurity dominates all districts in the province, presenting a contrast to other Indonesian regions, as shown in the Food Security and Vulnerabilities Atlas of Indonesia (FSVA). Food vulnerability is also acute when viewed diachronically. Whether the food security situation in 2009 [10], 2015 [11], and 2020 [12] shows an improvement of status in several districts, the Food Security Index in 2020 lists the Papua and West Papua Provinces as two of the five provinces with the lowest index scores, with all districts with the lowest scores being entirely in the Province of Papua. This fact should ideally be considered for any developmental planning in Papua to improve food security [13].

Food insecurity, in its most extreme form, hunger, must be understood as a complex interplay of context-specific factors and reflects structural problems [14]. The case of Merauke can serve as a good example. Merauke's food security has improved over the last decade on a macro level. Merauke is also experienced extensive agricultural development through the Merauke Integrated Food Energy and Estate (MIFEE) project, which started in 2010. However, empirical observations show that implementing MIFEE through opening a new rice field, which aims to increase rice productivity, can lead to food insecurity for particular social groups [15].

This project has forced the Marind Anim, originally hunters and gatherers, to become lowland rice farmers and paved the way for land privatization, resulting in the emergence of differentiation in access to resources. Social groups who are not part of the clan of the land-owning class do not have rights to productive resources (land) or yield. If their access to wage labour is disrupted, this can seriously impact household food availability. This illustration shows that understanding food vulnerability requires observations at the micro-level regarding the realization of the right to food rather than just relying on general statistical figures [15].

3. AGRIBUSINESS EXPANSION IN PAPUA

The goal of food security is frequently used to justify the development of a large-scale, corporate-driven agribusiness. As we have seen in the previous section, it is questioned whether the condition of food vulnerability in Papua has become an essential reference in the practice of agri-food development in Papua? It is essential to mention that the pace of deforestation in Papua in the last decade is caused by road development correlated with the expansion of mining sites and agribusiness, particularly the establishment of oil palm plantations [16]. Concerning these findings, we view that the development of agri-food in Papua in the last decade is more determined by market interests rather than resolving the concrete situation of food insecurity in the local context. This section briefly describes three types of agribusiness development in Papua to show how these models create food insecurity in the local context (described in chapter 4).

3.1. Plantation

Our focus on the plantation model is specifically on the oil palm. Papua is a new frontier for oil palm expansion, after Sumatra, Kalimantan, and Sulawesi islands. The establishment of oil palm plantations in Papua began in the mid-1980s. For two decades, the growth has been slow but has increased rapidly since 2008. In fact, in 2012, there were applications for plantation opening of 1.5 million ha [17]. Currently, the area of oil palm plantations in Papua amounts to nearly 1.6 million ha. In West Papua Province, the total area is recorded at 576,090 ha located in South Sorong, Manokwari, South Manokwari, Teluk Wondama, Teluk Bintuni, Maybrat, and Fakfak districts which are controlled by a total of 24 companies [18]. Meanwhile, in Papua Province, the total area is 958,094.2 ha spread over Nabire, Jayapura, Merauke, Keerom, Mappi, and Boven Digul districts controlled by 79 companies [19].

The expansion of oil palm plantations has transformed the natural forest landscape of Papua, which is claimed as the last tropical forest frontier in South East Asia, into monoculture plantations [16], [20]. Profits from high-value timber obtained during the land-clearing process have attracted investors to open plantations in Papua. However, for indigenous Papuans whose lives are very dependent on natural ecosystems and forests became a source of food, this has eliminated access to hunting grounds or gathering food and seriously impacted household food security [21].

The fact seems to be a common symptom in oil palm plantations. As Sinaga noted based on a study in Riau, local communities around plantations find it challenging to grow food crops and can no longer rely on

subsistence agriculture, forcing them to buy food from the market. While for local communities, food expenditures have increased, for plantation workers, low wages and poor working conditions make it difficult for them to access sufficient food [22]. Such circumstances reflect that involvement in commodity production and global markets does not guarantee the right to food in the local context.

3.2. Food Estate

The use of the term "food estate" in agricultural policy started since the government of Susilo Bambang Yudhoyono (second period, 2009 – 2014) within the national development agenda (Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia/MP3EI). However, a similar practice was implemented during the president Soeharto era. During the Soeharto's New Order, *Proyek Lahan Gambut Sejuta Hektar* was launched in 1995 to increase national rice production. This project converted peatland into large-scale rice fields and became one of the most significant causes of environmental disasters in Indonesia's history. It caused widespread peatland fires and failed to produce rice as expected initially [23]. During the presidency of Susilo Bambang Yudhoyono, Food Estate was implemented in two locations, North Kalimantan (Ketapang Food Estate) in 2011 [24] dan and Merauke Papua (Merauke Integrated Food and Energy Estate/MIFEE) in 2010. Implementation of this project in Papua converted almost 2 million ha of natural forest into monoculture food estate [25], [26].

According to the Agricultural Ministry of Indonesia, *food estate* is defined as "a large-scale, modern agricultural area with the concept of agriculture as an industrial system based on science and technology, capital, organization and modern management as well as promoting local wisdom in the field of environmental management and agricultural cultivation techniques" [24]. This definition appeared in the MP3EI document plan, but the term was used earlier in 2006 when President Susilo Bambang Yudhoyono attended the national rice harvest in Merauke. The MIFEE project originally came from the Merauke Integrated Rice Estate (MIRE) proposal submitted by the governor of Merauke Johannes Gluba Gebze in 2007 and then accommodated as a national program in MP3EI as MIFEE on Aug. 11 2010. The inauguration of MIFEE was associated with the government's response to the 2007-2008 global food crisis, where the crisis was perceived as a business opportunity. Mentioning President Susilo Bambang Yudhoyono's statement about MIFEE: to "feed Indonesia, feed the world" [27].

MIFEE is an example where arrangements to facilitate investment and land provided for the development of

large-scale agricultural industries are implemented but, on the other hand, causing misery for indigenous peoples whose lives depend on forests. The 'debottlenecking' policy was launched to facilitate the administration process of the investment where 44 transnational and national companies then obtained land concessions with a total area of 2,144,650.99 ha. The company cultivates various commodities such as rice, corn, sugar cane, palm oil, peanuts, soybeans, and livestock. However, the most significant investment recorded was oil palm [27]. Letsoin et al. study showed a reduction in the area of primary forest and an increase in the area of non-forest in Merauke [20]. This project has drawn much criticism from various discourses [28] because it has destroyed the natural forest ecosystems that are home to indigenous communities [29], created food insecurity [30] and produced a new kind of hunger for the indigenous community [31].

3.3. Industrialization

In addition to the expansion of oil palm plantations and large-scale food estate, the expansion of agribusiness is currently targeting the endemic plant of Papua, namely sago (*Metroxylon sagu* ROTTBOEL). The industrialization of sago dry starch production was established in the late 1980s but had no progress. Currently, amid the threat of a food crisis and the urgency of climate change, the government and the private sector are giving attention to the development of sago, considering its enormous resource and prospects in realizing sustainable agriculture [32].

Sago is a multi-functional plant, especially as a staple food for indigenous Papuan who live in swampy peatland areas. Sago trees can produce starch from their pith as a source of carbohydrates with the highest productivity compared to rice, corn, and cassava [33]. Papua's natural sago forest is the largest in the world at 1.25 million ha [34]. Its location on peatlands has a vital role in the climate change mitigation process [35]. The traditional use of sago only covers a small portion of the existing potential resources. Thus, the industrial processing of sago is considered to increase the production of sago starch to meet the national and global market demands [36].

With this potential, the central government supports the sago development. In 2010 the Ministry of Forestry granted a Izin Usaha Pemanfaatan Hasil Hutan Bukan Kayu (IUPHHBK) or business permit to utilize non-timber forest products to PT. Austindo Nusantara Jaya with a concession in the natural sago forest area of South Sorong Regency (West Papua Province), covering an area of 40,000 ha. Furthermore, in 2012 the government assigned the state-owned company Perhutani to develop a modern sago starch processing factory and a 16,000 ha concession in the same district.

Various studies to support the industrialization of sago have been conducted, including the strategy for accelerating the sago industry [33] and the mapping of commodities product resources and potential [37]–[39]. At the regulatory level, the government has launched Ministry of Agriculture No. 94 of 2013 to facilitate the development of the sago agro-industry. Private sectors perceive that this vibrant potential of sago should not be wasted [36]. The government has opened for investment to develop the sago industry, which President Joko Widodo believes will contribute to national food sovereignty [40].

Despite its potential as a model of sustainable agriculture, several studies have found that sago industrialization in Papua has impacted indigenous peoples' tenure relations [41], the potential for tenurial conflicts among indigenous peoples over sago resources [42], differentiated access to sago along the gender lines [43], and indications of food insecurity a result of the industrial labour process [44]. These findings show that even if industrialization does not change endemic crops and involves local communities in the labour process, the emergence of conflicts over resources and food insecurity caused by the process is inevitable.

4. DEVELOPMENTAL PARADOX

This section describes how agro-industrial processes produce food insecurity at the local level, illustrated from two cases, food estate (MIFEE) and sago industrialization. The illustration reveals two ways of producing food insecurity, namely the process of exclusion and inclusion. Through this example, we seek to show that an industrial scale and market-oriented food production arrangement in the name of food security in practice produces food insecurity at the local level, precisely at the site where industrial food (commodity) production is operated. The developmental paradox occurs when agricultural development based on abstract assumptions to feed the nation ignores the realization of the right to food of local communities.

4.1. Exclusion

The case of MIFEE demonstrates how the exclusion process causes food insecurity in local communities. In this context, the exclusion is understood as the removal of one party (local community) from a resource or land, which is also a source of food, by another party (a state-supported food corporation). As previously mentioned, the MIFEE project has transformed natural forest landscapes into large-scale monoculture food estates controlled by corporations. The MIFEE implementation and implications described are derived from Savitri's study [30].

Land grabbing is the primary channel to implement the realization of large-scale agribusiness projects. The state provides policies to legitimize the process and release concessions to investors. Land deals between local communities and corporations were conducted via legal-formal and customary (adat) processes. In addition, the companies exercise various actions that provide no choice but to hand over the land, such as giving development promises or stigmatizing the separatist movement to those who resist. Indigenous peoples delivered meagre compensation for the plants on their customary lands and low wages for their involvement in the land clearing process. After the forest is cleared, people lose or are further away from their food sources.

The above process results in food insecurity situations that arise in many households and are followed by food-related health problems. Deforestation eliminates local people's access to healthy and natural food from the forest. Although there is still sago forest left, they are located far away, and because men are pulled to work in the company, the households no longer have enough labour to find food in a remote forest. Meanwhile, the marketplace (operated by migrants) provides food produced outside Papua (from Sulawesi or Java), such as eggs and rice with a relatively higher price, as well as manufacturer food (instant noodles, canned fish) that contains low nutrition.

When access to food sources in the remaining forests becomes increasingly difficult, households become very dependent on money to buy food, even though wages are low, and the quality of the food purchased is less-nutrition. As a result, women experience the most severe food insecurity due to behaviour in prioritization their husbands and children to eat first so that they only eat one meal a day. Many nursing mothers suffer from acute respiratory illnesses. Cases of malnutrition in children increased; even five children under five died due to malnutrition. Meanwhile, when men earn wages, they tend to buy non-food products such as cigarettes, causing tuberculosis cases to increase due to intensive consumption.

4.2. Inclusion

Contrary to the description above, the case of sago industrialization is an example of how food insecurity arises from the involvement of local communities in the process of extracting resources. The case shows that inclusive agribusiness processes do not guarantee food security for local communities. The description below is based on findings from several studies conducted in the sago concession area of South Sorong district [41]–[44], particularly the first author's study in the PT Perhutani concession where local communities (Kais people) were involved in the industrial labour process.

Even though the sago company has a concession permit, no land grabbing process eliminates local people's access to their customary lands. What happened was that every clan and family was drawn to be involved in the industrial process by becoming sago trunks supplier through a sell-and-buy scheme or becoming labour in the sago factory. Without the involvement of local communities, the factory will almost certainly stop operating because they did not hire non-managerial workers from outside Papua. The motivation of local people to be involved in industrial processes is driven by the desire to get cash income faster than producing commodities for sale in the city, which is located 4 hours drive by boat from the village.

The withdrawal of Kais men into the work process in the sago factory resulted in the loss of the role of men as suppliers of protein sources for household food [44]. It is essential to point out that the Kais people get their food from gathering, hunting and processing sago. Every day, the family goes to the sago forest to collect food consumed on the same day. They are not familiar with storing food stocks at home except for wet sago starch and a few bananas or sago grub for fishing. Males provide a protein source such as fish or pork, deer, cassowary, or birds from hunting. Meanwhile, women process sago, collect vegetables and shellfish. When the sago factory operated, fifty Kais men worked in the sago mill from 7 am to 5 pm 5 days a week, plus half-day work on Saturdays. Under these conditions, factory workers can no longer allocate their time to go hunting.

As a result, the supply of protein sources in their family's daily menu fell drastically. Sometimes even the wife and children eat only sago, leafy vegetables, and a little fish or shrimp. The level of this impact differs between households depending on the number of family's members. The wages received by the husband from the factory cannot be spent to replace protein sources as provided in the forest because the availability of side dishes in the marketplace is minimal, only eggs and canned fish. It was often wages are also spent on secondary consumption materials rather than food. If these circumstances continue, factory worker households will experience protein deficiency, leading to health problems in the long term. Moreover, it is essential to mention that the South Sorong district has a high prevalence of stunting [45]. In this context, it can be seen that the presence of regular wage income from industrial activities does not directly guarantee the availability of sufficient quantity and quality of food at the household level; instead, it creates a new form of food vulnerability.

5. CONCLUSION

The illustration above shows that agribusiness development has changed land and labour relations in

the local context. The transfer of customary land to the company resulted in clearing forests to build food estates, eliminating local people's access to forests as a source of food. Meanwhile, the sago industrialization process has pulled community members to become daily labourers, eliminating their role in traditional subsistence work as suppliers of protein sources for the daily diet of households.

In the remote interior of Papua, food availability in the marketplace mainly could not substitute the food available in the forest [46]. Consequently, the incorporation of local communities in commodity relations, through land deals or wage labour, does not provide commensurate and qualified reciprocity to ensure the fulfilment of the community's right to food. It means that the availability of money (received through land deals and wage labour), which can function as a means of accessing food, does not guarantee accessibility to decent food, thus guaranteeing household food security. It then explains why the expansion of agribusiness in Papua does not address the problem of food insecurity but instead plays a role in creating new forms of food vulnerability.

It is also important to underline that food (staple food, vegetables, and meat) is not a commodity in most interior places of Papua, which became a frontier of agribusiness expansion. The acquisition of land and labour by agro-industrial capital means the commodification of both has implications for the availability and accessibility of food when the community is compelled to enter market relations to access food.

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