

## FOOD SECURITY OR THE RECONFIGURATION OF INDIGENOUS LIVING SPACE? A MULTI-LEVEL PERSPECTIVE ON THE FOOD ESTATE PROJECT IN SOUTH PAPUA

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### Abstract

This study examines the Food Estate project in South Papua, Indonesia, as a contested development intervention in Indigenous territories through the Multi-Level Perspective (MLP) framework. Although officially promoted as a response to global food insecurity and national self-sufficiency, the project has generated persistent social, ecological, and political conflicts with Indigenous communities. Using a qualitative case study approach based on document analysis and secondary literature, the research analyzes interactions across landscape, regime, and niche levels. The findings show that global food crisis narratives and climate uncertainty legitimize large-scale state intervention, while centralized, corporate-driven governance marginalizes Indigenous food systems rooted in sago forests, wetlands, and agroforestry. Rather than enabling a sustainable transition, these interactions intensify structural conflict, environmental degradation, and the erosion of Indigenous food sovereignty. The study concludes that the Food Estate represents a reorganization of Indigenous living space and calls for more plural, justice-based, and ecologically embedded food governance.

**Keywords:** *Indigenous peoples, Food Estate, agrarian conflict, Multi-Level Perspective, Papua*

### Introduction

The structural conflicts concerning the governance of natural resources in Indonesia occur because of power relations involving the state, capital, and local people, and are not simply governance failures. Numerous scholars and studies have demonstrated how the various conflicts are linked to the colonial legacies of land control, state control of the territories, and centralized control of resources, which have continued to characterize postcolonial governance arrangements (McCarthy, 2010; Peluso, 1992; Peluso & Vandergeest, 2001). The colonial governance system, which mapped, classified and ecologically simplified territories to render the environment legible for administrative control, still exists in contemporary development systems (Peluso & Vandergeest, 2001; Robbins, 2020). Contemporary governance systems continue to marginalize local socioecological systems and socioecological systems, creating a formal governance system and traditional/customary land governance system. Post-independence development policies in Indonesia do not dismantled these governance logics but rather reconfigured them within a framework of growth and modernization. Many of large-scale development studies justify such processes as positive for 'efficiency, productivity and the national interest' while development state projects target for state-led transformation 'remote', 'empty', 'underdeveloped' and even 'underutilized' regions (Hall et al., 2011; Kelly & Peluso, 2015; Li, 2014).

Such spatial descriptions of the land assume a vacuum and homogeneity of the resource, situated without consideration of the relational and historical social fabric of the resource. This results in agrarian and environmental conflicts as systemic outcomes of development processes based on the control of capital and the dominant appropriation of the territory over social justice and ecological justice (Akram-Lodhi & Kay, 2012; Borras Jr & Franco, 2012). These dynamics significantly illustrate the agricultural development approaches prioritizing large-scale, capital-intensive production, and integration into global value chains. Defying strategies, in comparative literature, from the Global South, these approaches tend to undermine local food systems, aggravate the concentration of land, and erode informal land tenure systems (De Schutter 2011; Keeley et al. 2009; Zoomers 2010). In Indonesia, agribusiness industry growth has consistently been linked to land dispossession, livelihood insecurity, and ecological degradation, especially in frontier areas (Brad et al. 2015; McCarthy 2010). In principle, these processes are expected

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to deliver inclusive development; however, in reality, they often produce what has been termed adverse incorporation, whereby local populations are incorporated into agrarian economies and markets under conditions of gross inequality and extreme precariousness (Hickey & Du Toit 2007; McCarthy 2010). The Food Estate Project in Merauke, South Papua, now recognized as a National Strategic Project (PSN), serves as a prime example of recent projects undertaken in this region. The state has characterized the initiative as a means of addressing international food shortages, climate change, and the need for the nation to achieve self-sufficiency in food production. The latter provides credibility to the recent global trend in food governance that has been characterized as securitized: the cross-border production and distribution of food as a means of obtaining and/or maintaining geopolitical stability, crisis control, and economic competitiveness (Clapp, 2014; McMichael, 2009).

Empirical evidence demonstrates that, of the various 'crisis' narratives that are used to justify state deviations from the rule of law, climate-related food scarcity has and continues to be a pervasive justification for extreme state interventions in land governance and/or the relaxation of land use regulations (Fairhead *et al.*, 2012). Within this discourse, large-scale agricultural production is the preferred and most dominant means of addressing food vulnerability, while the prevailing system of food production and distribution (Bernstein, 2010; Friedmann, 2016), which is also within this food security paradigm, is characterized inefficiently, backward, and as unproductive. This approach has been criticized for its short-sighted focus relegating the longer-term larger metrics of ecological, social (in)stability, and the resilience (Holt-Giménez *et al.*, 2012). The region's ecological diversity and the importance of land to Indigenous social structures exacerbate these challenges in Papua.

Increasing ethnographic and agroecological research illustrates that Indigenous Papuan peoples, including the Malind, Yei, Maklew, and Khimaima, have flexible food systems focused on sago forest wetlands and diversified agroforestry. These systems have low external inputs, high variability and strong resilience to surprise changes in systems (Dove, 2011; Powell *et al.*, 2015). It should be emphasized that the Indigenous food systems in Papua are integrated with cultural identity, social reproduction, and with the systems of spirituality of and through the land. Dispossession of the land is a multidimensional loss that is more than the economic loss of sustaining a livelihood (Myers *et al.*, 2018; Thorburn, 2015). In spite of the large volume of documented land grabbing and agrarian conflict, and dispossession of Indigenous peoples in the large scale agricultural projects in Indonesia, the studies are still piecing these processes together with a great deal of fragmentation. The political economy is primarily focusing on the (absence of) capital and the state-corporate relationship (Borras Jr & Franco, 2012; Li, 2014), the deforestation and carbon loss in environmental studies (Austin *et al.*, 2019; Carlson *et al.*, 2018), and the human rights research tends to focus on the absence of procedural justice and the violation of consent. Nonetheless, there is a significant lack of attention to the ways in which these aspects relate to one another, reproducing conflict in a temporal sense.

In the particular framework integrating global food security discourses, national institutional food systems, and Indigenous food systems, there remains a scarcity of literature. The sustainability transitions scholarship has developed robust tools for analyzing socio-technical change. However, it has been rarely applied to agrarian conflict and Indigenous land struggles in the Global South (Köhler *et al.*, 2019; Smith & Stirling, 2010). On the other hand, political ecology research has been a bit slow in dealing with transition theories that explicitly incorporate multi-scalar and stability of the regime. To fill this void, this paper utilizes the Multi-Level Perspective (MLP) analytical framework to examine the Food Estate Project in Merauke as a socio-technical contested transition. The MLP perspective considers landscape dominance (global food crises, and climate-induced uncertainty), and the regime (the state, the legal, and the corporate ecosystem) and the sea (alternative or excluded systems) as dominant geo-systems of the inter-system change (Geels, 2002). MLP provides the analytical tools for examining the case of Merauke in the relational sense, how Indigenous food systems operate as socio-technical resilient niches, and how a centralized industrial food regime systematically undermines them.

This study has two primary objectives. First, it intends to examine the nature of landscape-level pressures, regime-level governance structures, and the niches of Indigenous food systems, pertain to the emergence and persistence of conflict in the Merauke Food Estate. Second, it aims to demonstrate that the Merauke Food Estate is not merely an agricultural intervention; rather, the Merauke Food Estate is a project that constitutes a significant reconfiguration of the Indigenous living space that erodes food sovereignty and ecological sustenance. This research combines the theories of sustainability transitions, and political ecology and Indigenous studies, aims to address the interdisciplinary nexus of food security, development, and environmental justice.

## Methods

This research utilizes a qualitative single-case study methodology to understand the tensions between the state, private sectors, and Indigenous People within the Food Estate Project in Merauke, South Papua. Taking into account the agrarian conflict, development-induced displacement and Indigenous knowledge systems, qualitative

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methodology is deemed fit due to the social phenomena being constructed within systems of power, historical epochs/discourses and competing narratives, which are beyond the scope of a quantitative approach (Cleaver, 2017; Hall et al., 2011). Further, qualitative research facilitates understanding the construction of meanings, ideologies, and institutional frameworks that shape the development of interventions within the Indigenous geographies (Creswell, 2014). The choice of the case study method is also a reflection of the need for in-depth contextual, holistic exploration of an issue of interest that is contemporary, within a real-world case and the phenomenon and context are inseparable (Yin, 2018). The Food Estate Project in Merauke represents a critical case of a phenomenon that has the potential to uncover the underlining issues of large scale agricultural encroachment, resource appropriation and state sponsored development in Papua and other Southeast Asian Indigenous peripheries (McCarthy, 2010; Paprocki, 2018). While context-specific, the case offers analytical insights into structural dynamics of land control, food governance, and sustainability transitions beyond the study area.

Conceptually, the research uses the Multi-Level Perspective (MLP) framework to understand how conflicts arise through the landscape, regime, and niche levels (Geels, 2002, 2011). At the landscape level, the study analyzes macro-level pressures, including global narratives of food insecurity, climate change, and geopolitics that justify the need for large-scale agrarian interventions. At the regime level, the focus is on the dominant institutional arrangements comprised of the state, corporates, law, and technocratic governance that sustain the industrial food systems. At the niche level, the study analyzes Indigenous food systems, especially the sago-based agroecology and wetlands management, as a localized socio-technical system with alternative constructs of sustainability and resilience (Béné et al., 2020; Rockström et al., 2009). The MLP framework is particularly useful for explaining how dominant regimes silence alternative systems and reproduce structural conflict rather than enabling transformative transitions (Smith et al., 2010).

The analysis of qualitative documents and the systematic analysis of secondary sources comprise the main components of the research methodology. In terms of document analysis, the author collected national and regional policies covering National Strategic Projects, food security, spatial planning, land governance, and environmental governance, along with other documents, such as documents produced by investigative journalists, civil society organizations, Indigenous peoples community archives, and publicly available maps of Indigenous peoples' constitutively claimed territories. Document analysis is one of the qualitative approaches used by scholars to understand the policies, lexicon, priorities, and power distributions of the authors of government documents (Bowen, 2009; Prior, 2008). Simultaneously, the literature review examines agrarian conflict, political ecology, large-scale land deals, Indigenous food sovereignty, and sustainability transitions in the Global South (Dell'Angelo et al., 2017; Scoones, 2016). Thematic analysis is used to describe the findings of the research, and this involves using an iterative, reflexive, and explanatory coding system. The author examines the documents and isolates particular words and phrases to create the initial open codes. Thereafter, these codes are classified and subsumed within the broader themes of the analysis, such as narratives of food security, state control of land, expansion of corporate agri-food, development militarization, Indigenous ecological wisdom, and other forms of resistance. Thematic analysis is appropriate for pattern recognition and building connections between empirical and theoretical components across various qualitative data sources (Braun & Clarke, 2013).

The constructed themes are then aligned with the MLP framework to demonstrate how landscape level pressures reinforce the stability of the regime while also eroding the Indigenous niches. In the interest of credibility and rigor, the analysis incorporates source triangulation and cross references policy papers, scholarly work, media articles, and documents from the realm of civil society. In qualitative research, triangulation is used to substantiate findings by minimizing the dependence on one source of data and providing a basis for the confirmation of assertions across multiple pieces of evidence (Carter et al., 2014). Furthermore, from the start of the research, reflexivity has also been taken into consideration to demonstrate the self-imposed constraints of the researcher, and the care that needs to be taken to regard Indigenous groups as historical and politically relevant subjects, rather than mere beneficiaries of development (Hanson, 2012).

## Results and Discussions

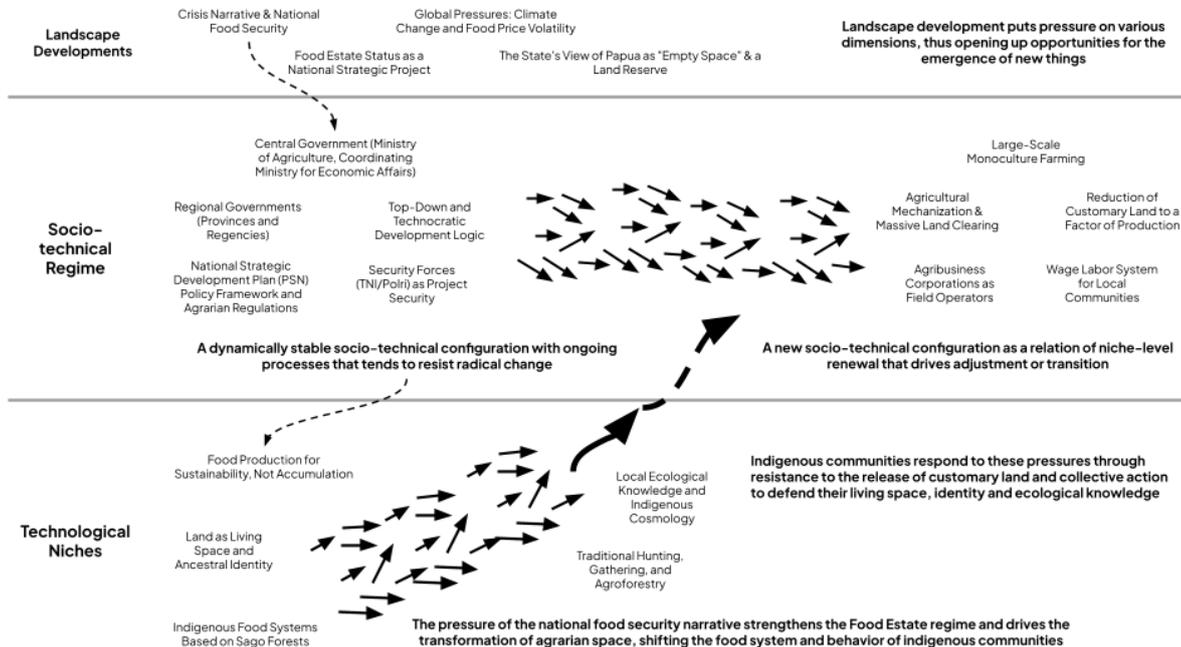
### Situating the Food Estate Conflict within a Multi-Level Perspective Framework

The Merauke Papua Selatan Food Estate Project issue cannot be attributed to one thing like policy failure, insufficient consultation, or environmental mismanagement. It shows an internal deep structural systemic struggle of competing socio-technical systems. Geels' Multi-Level Perspective (MLP) theory provides an understanding of how macro-level pressures, dominant institutional regimes, and marginalized local practices produce systemic persistence and change (conflict) (Geels, 2002, 2005). For Papua, Food Estate represents more than an agricultural initiative. It signifies the establishment of a new socio-technical system to reconfigure land, labor, knowledge, and 'the elements

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of nature' domestically and under a national food security regime. The MLP Framework focuses on the transformation of the three levels assigned to the case at hand. 'Landscape' refers to Global and national pressures, including climate anxiety, food price volatility, geopolitical insecurities, and developmentalist imaginaries. 'Socio-technical regime' encompasses state institutions, corporations, security apparatus, lines of legality, and dominant agrarian paradigms that promote large-scale singular production systems. 'Technological niches' refers to the prevailing, but highly marginalized indigenous food systems, ecological knowledge, and land-embedded relations. The Food Estate conflict emerges precisely from the violent encounter between a stabilized regime and resilient niches, catalyzed by landscape-level pressures that legitimize exceptional state intervention.



**Figure 1.** Multilevel Perspective on the Case of Indigenous Communities regarding the Transfer of Customary Land to Food Estates (Analysis Results with Framework, 2025)

## Landscape Level: Global Food Crisis, National Food Security Narratives, and the Politics of State Space

At the landscape level, the Food Estate conflict in Merauke is shaped by long-term, macro-structural pressures that lie beyond the control of local actors. These pressures create the political and ideological conditions that enable large-scale state intervention into Indigenous territories while simultaneously legitimizing such interventions. Within the Multi-Level Perspective (MLP), the landscape represents relatively stable but powerful exogenous forces that frame and constrain socio-technical change (Geels, 2002, 2005). The dominant landscape pressure in this case is the global food security crisis narrative. This narrative gained renewed momentum following the COVID-19 pandemic, which disrupted global supply chains, restricted food exports, and exposed national vulnerabilities in food provisioning systems. In response, the Indonesian state articulated food security as a matter of national survival and sovereignty. As McMichael argues, this reflects the consolidation of a food security regime, in which food is treated not merely as a basic human need but as a strategic geopolitical asset tied to national stability (McMichael, 2009).

This crisis narrative is further reinforced by climate change discourse and global food volatility. Climate uncertainty is mobilized to justify the expansion of agricultural frontiers into territories perceived as ecologically abundant and underutilized. South Papua is thus framed as a “new food barn” for the nation, capable of compensating for declining agricultural productivity elsewhere. In this framing, crisis becomes not only a threat but also an opportunity for spatial expansion and state consolidation. However, as Scott demonstrates, crisis narratives often function as entry points for high-modernist development ideology, where complex socio-ecological realities are simplified into legible, technocratic objects of state planning (Scott, 1998). Papua is discursively constructed as “empty,” “idle,” or “unproductive land,” despite the long-standing presence of Indigenous socio-ecological systems. This abstraction erases Indigenous land-use practices and legitimizes state-led reorganization of space through large-scale projects.

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The landscape is also shaped by colonial and postcolonial development trajectories. Historically, Papua has been treated as a frontier zone for extraction, experimentation, and integration into the national economy. The Food Estate project reproduces this trajectory, positioning development as a civilizing mission aimed at modernizing both land and people. As a result, Indigenous territories become sites of intervention rather than spaces of autonomous governance. Taken together, these landscape pressures construct food security as an unquestionable national imperative. Within this framework, opposition to the Food Estate project is easily framed as anti-development or anti-national. Thus, the landscape operates as an ideological structure that narrows political debate and normalizes state appropriation of Indigenous living space.

## **Regime Level: Consolidation of the State Food Regime and Socio-Technical Control**

At the regime level, the Food Estate conflict materializes through a relatively stable configuration of dominant actors, institutions, regulations, and technologies. This configuration constitutes a state-led food production regime that prioritizes large-scale, corporate-driven, and mechanized agriculture as the primary solution to food insecurity. Key regime actors include the central government, particularly the Ministry of Agriculture, the Ministry of Investment, and coordinating ministries responsible for economic and food affairs. The designation of the Food Estate as a National Strategic Project (PSN) grants extraordinary political and legal authority to accelerate land acquisition, bypass participatory procedures, and realign spatial planning frameworks.

Notably, the involvement of the military (TNI) in land clearing and project security reveals how food production is securitized and treated as an extension of national defense. Indigenous testimonies indicate that heavy machinery operated under military escort, even in cases where communities erected blockades to resist land clearing. This reflects the militarization of development, where coercive power becomes embedded in ostensibly civilian development projects. The regime operates through a top-down, technocratic logic. Food insecurity is framed as a technical problem of insufficient production, inefficient land use, and inadequate infrastructure. Accordingly, solutions focus on land expansion, monoculture crops, mechanization, and external inputs. This approach exemplifies what Li describes as rendering technical: political issues such as land dispossession, Indigenous rights, and power asymmetries are transformed into technical challenges to be managed by experts and bureaucrats (Li, 2014).

Legal and regulatory frameworks further stabilize the regime. Policies associated with PSN status and the Omnibus Law on Job Creation facilitate land conversion and weaken safeguards for Indigenous land rights. In practice, law functions less as a mechanism of protection than as a tool of legitimation for state control. This aligns with Peluso and Lund's concept of the politics of access, whereby the state secures resource control through law, discourse, and coercive authority (Peluso & Lund, 2011). Corporate agribusiness actors serve as field operators within this regime, managing land clearing, cultivation, and production. Indigenous communities are repositioned as wage laborers or compensation recipients. Compensation rates reported at approximately IDR 300,000 per hectare highlight the profound imbalance of power and value between the regime and Indigenous landholders. Promises of employment and plasma schemes are often undocumented and unrealized, reinforcing structural insecurity.

Socio-technically, the regime promotes large-scale monoculture farming systems dependent on chemical inputs, heavy machinery, and standardized crop varieties. This model disregards Papua's ecological diversity and generates new vulnerabilities, including deforestation and carbon emissions. Forest Watch Indonesia reports that deforestation in South Papua more than doubled during the Food Estate expansion, reaching approximately 190,000 hectares, with significant carbon emissions that contradict Indonesia's climate commitments. Although the regime adapts rhetorically through symbolic harvests or pilot plots it remains structurally resistant to fundamental change. Criticism is addressed through narrative adjustments rather than transformation of the underlying development logic. As such, the state food regime maintains hegemony by controlling institutions, knowledge, and discourse.

## **Niche Level: Indigenous Food Systems as Marginalized Socio-Technical Alternatives**

At the niche level, the Food Estate conflict involves Indigenous food systems practiced by the Malind, Yei, Maklew, and Khimaima peoples. These systems represent alternative socio-technical configurations that are historically resilient yet systematically marginalized by the dominant regime. Indigenous food systems in South Papua are based on sago forests, wetlands, hunting, gathering, and agroforestry. Food production is oriented toward subsistence, reciprocity, and ecological balance rather than surplus accumulation. Land is understood as a living entity an ancestral body that sustains social identity, cosmology, and intergenerational knowledge. Tsing conceptualizes such relations as more-than-human assemblages, where human and non-human actors are mutually constitutive (Tsing, 2024).

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Within the MLP framework, these Indigenous systems constitute niches with transformative potential. They offer models of food provisioning that are adaptive, low-carbon, and ecologically embedded. However, the state does not recognize these systems as legitimate or productive. They are labeled “traditional,” “backward,” or “inefficient,” and are excluded from policy support, legal protection, and epistemic recognition. Regime pressures severely erode these niches. Large-scale land clearing destroys the material foundations of Indigenous food systems forests, wetlands, and water sources. Socially, communities are forced into wage labor and market dependence. Indigenous testimonies reveal that communities now must purchase water and food that were previously freely available from their environment. Yet niches are not passive victims. Regime pressure has catalyzed collective resistance. Indigenous communities have organized road blockades, demonstrations, petitions, and trans-local alliances such as Solidaritas Merauke. These acts demonstrate that niches are not merely sites of technical alternatives but also spaces of political agency. Indigenous food systems thus function as both material and symbolic foundations for resistance against state-led spatial reorganization.

## Cross-Level Dynamics and a Conflictual Socio-Technical Transition

The interaction between landscape, regime, and niche levels in the Merauke Food Estate case does not produce a progressive socio-technical transition. Instead, it generates structural and prolonged conflict. Landscape pressures strengthen the state food regime, while the regime suppresses and displaces Indigenous niches. In classical MLP theory, transitions occur when niche innovations align with landscape pressures and destabilize dominant regimes (Geels, 2005). In this case, however, landscape pressures are mobilized to reinforce the regime rather than open space for alternatives. The resulting transition is coercive, exclusionary, and socially destructive.

The Food Estate project thus represents not a technical solution to food insecurity but a reorganization of living space. It embodies a clash between two fundamentally different ontologies of land and food. The state regime conceptualizes land as a production factor and food as a strategic commodity, while Indigenous communities understand land as a living space and food as an expression of ecological and cultural relations. Through the MLP lens, the Food Estate conflict in South Papua emerges as a struggle between competing socio-technical systems. As long as the state continues to strengthen a monoculture-based food regime while marginalizing Indigenous niches, conflict, ecological degradation, and social fragmentation will persist.

## Discussion: Rethinking Development through the MLP Lens

The Multi-Level Perspective analysis of the Food Estate project in South Papua reveals that the conflict is not merely a problem of poor implementation or insufficient consultation, but rather a structural contradiction embedded in Indonesia’s dominant development paradigm. The project exemplifies how state-led development initiatives, when grounded in technocratic and securitized logics, can systematically undermine Indigenous socio-ecological systems while claiming to serve national interests.

From a development studies perspective, the Food Estate project reflects a persistent modernization bias, where large-scale, capital-intensive, and standardized production systems are assumed to be inherently superior to localized and relational forms of livelihood. This bias echoes earlier development trajectories, such as the Green Revolution, which increased aggregate production while simultaneously generating ecological degradation, social inequality, and farmer dependency (Li, 2014; McMichael, 2009). The MLP analysis demonstrates that this bias is reproduced through the regime level, which remains structurally resistant to alternative development pathways.

The landscape-level crisis narrative particularly global food insecurity and climate volatility plays a crucial role in depoliticizing development choices. By framing food security as an emergency, the state narrows the range of acceptable solutions and legitimizes extraordinary interventions into Indigenous territories. As Scott argues, such crisis-driven governance often leads to simplification of complex social realities and the imposition of uniform solutions that fail to account for local contexts (Scott, 1998). In South Papua, this has resulted in the erasure of Indigenous land-use systems that have historically ensured food sufficiency without ecological collapse.

Importantly, the MLP analysis challenges the assumption that socio-technical transitions are inherently progressive. In the Merauke case, the interaction between landscape and regime does not destabilize the dominant system but instead reinforces it, producing what can be described as a regime lock-in. Rather than opening space for Indigenous niches to scale up or gain recognition, landscape pressures are mobilized to justify their displacement. This finding complicates optimistic readings of sustainability transitions and underscores the need to foreground power, coercion, and colonial legacies in transition studies.

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## Development Implications: From Food Security to the Appropriation of Living Space

The findings of this study suggest that the Food Estate project represents a shift from development as welfare enhancement to development as spatial appropriation. While officially framed as a food security initiative, the project functions in practice as a mechanism for reorganizing land, labor, and ecological relations in ways that favor state and corporate interests.

First, the project exposes the limits of production-centric development indicators. State claims of success are largely measured through hectares cleared, machinery deployed, or symbolic harvests, rather than long-term food availability, nutritional outcomes, or community well-being. This reinforces what critical development scholars describe as “growth fetishism,” where quantitative outputs obscure qualitative losses, particularly for marginalized populations (Escobar, 2012).

Second, the Food Estate case highlights the contradiction between national food security and local food sovereignty. Indigenous food systems in Papua have historically ensured stable access to diverse and nutritious food through sago forests, hunting, fishing, and agroforestry. By undermining these systems, the state paradoxically increases local food insecurity while claiming to enhance national resilience. This aligns with global findings that large-scale agribusiness projects often displace more food than they produce for local populations (McMichael, 2009).

Third, the development model underpinning the Food Estate project generates social differentiation and conflict. Compensation schemes, land release agreements, and employment promises have fractured Indigenous communities, producing horizontal conflicts between clans and families. Such dynamics reflect what Borras and Franco describe as “land-based accumulation through dispossession,” where development proceeds by redistributing risks and losses downward (Borras Jr & Franco, 2012). From a broader development perspective, these outcomes suggest that Indonesia’s pursuit of food self-sufficiency through mega-projects risks reproducing a form of internal colonialism, where peripheral regions are sacrificed for national goals. This raises fundamental questions about whose development is prioritized, who bears the costs, and whose knowledge counts.

## Implications for Environmental Governance: Deforestation, Carbon, and Knowledge Exclusion

The environmental implications of the Food Estate project are profound and reveal systemic weaknesses in Indonesia’s environmental governance framework. Despite official commitments to climate mitigation and biodiversity protection, the project has contributed to rapid deforestation, ecosystem fragmentation, and carbon emissions in one of the country’s most ecologically significant regions. The MLP analysis shows that environmental governance is subordinated to the regime’s production imperatives. Environmental impact assessments (AMDAL), spatial planning regulations, and conservation commitments are either bypassed or treated as procedural formalities. This reflects a governance model in which environmental protection is conditional rather than foundational.

Deforestation in South Papua reported to have reached approximately 190,000 hectares during the Food Estate expansion illustrates how climate governance goals are overridden by food security narratives. This contradiction undermines Indonesia’s commitments to Net Zero Emissions and exposes the fragmentation between sectoral policies. Food policy, climate policy, and Indigenous rights operate in parallel rather than in an integrated manner. Moreover, the project demonstrates a persistent epistemic exclusion in environmental governance. Indigenous ecological knowledge particularly regarding wetland management, sago forest regeneration, and biodiversity conservation is not recognized as valid expertise within the regime. As a result, governance decisions are based on external technical models that are poorly adapted to Papua’s ecological conditions. This exclusion not only weakens environmental outcomes but also violates principles of procedural environmental justice. The militarization of land clearing further exacerbates governance failures. When environmental transformation is enforced through coercion, affected communities lose access to grievance mechanisms and meaningful participation. This undermines the legitimacy of environmental governance institutions and contributes to long-term distrust between the state and Indigenous populations.

## Toward Alternative Pathways: Governance Implications from an MLP Perspective

From an MLP standpoint, the persistence of conflict in the Food Estate project indicates that sustainable development and environmental governance cannot be achieved without reconfiguring the dominant regime. Technical fixes or improved implementation are insufficient as long as the underlying logic of large-scale, monocultural, and centralized control remains intact.

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First, environmental governance must move beyond sectoral silos and adopt an integrated socio-ecological approach. Food security, climate mitigation, and Indigenous rights should be treated as interdependent objectives rather than competing priorities. This requires institutional reforms that recognize Indigenous territories as governance units rather than development frontiers. Second, the analysis underscores the need to scale up Indigenous niches rather than eliminate them. Indigenous food systems should be recognized as legitimate socio-technical alternatives capable of contributing to national food resilience. This would entail legal recognition of customary land, targeted support for agroecological practices, and the inclusion of Indigenous institutions in decision-making processes. Third, development governance must shift from a security-oriented paradigm to a care-oriented paradigm, where the protection of living space, ecological integrity, and cultural continuity are central policy goals. Without such a shift, food security initiatives risk deepening ecological crises and social conflict. Finally, the Food Estate case suggests that sustainability transitions in postcolonial contexts are inherently political. Transitions cannot be understood solely as technological substitutions but must be analyzed as struggles over land, knowledge, and authority. Environmental governance frameworks that ignore these dimensions will continue to reproduce conflict rather than resolve it.

In sum, the Food Estate project in South Papua illustrates how development interventions framed as solutions to global crises can function as mechanisms of dispossession at the local level. The MLP analysis reveals that the conflict is rooted in a structural alignment between landscape pressures and a dominant regime that marginalizes Indigenous niches. For development policy, this implies the urgent need to rethink food security beyond production metrics and to recognize Indigenous living spaces as integral to sustainability. For environmental governance, it underscores that deforestation, emissions, and biodiversity loss are not accidental side effects but predictable outcomes of governance models that privilege control over care. Unless Indonesia fundamentally reorients its development and environmental governance frameworks toward pluralism, justice, and ecological relationality, projects like the Food Estate will continue to generate conflict transforming the promise of food security into the appropriation of living space.

## Conclusion

This study has examined the Food Estate project in South Papua through a Multi-Level Perspective framework to understand the structural roots of conflict between the Indonesian state, corporate actors, and Indigenous communities. By situating the project within interactions between landscape pressures, a dominant state food regime, and marginalized Indigenous food systems, the analysis demonstrates that the conflict is not an incidental outcome of weak governance or poor implementation. Rather, it is the predictable result of a development model that prioritizes technocratic control, territorial expansion, and production-oriented food security over social justice and ecological sustainability. At the landscape level, global food insecurity, climate uncertainty, and national security narratives have been mobilized to justify extraordinary state intervention into Indigenous territories. These narratives frame large-scale agricultural expansion as an inevitable response to crisis, thereby narrowing political debate and obscuring alternative pathways. At the regime level, the Food Estate project consolidates a centralized, corporate-driven food system supported by legal exceptionalism, bureaucratic authority, and militarized enforcement. This regime systematically depoliticizes land dispossession and marginalizes Indigenous rights through technical rationalities and development discourse. At the niche level, Indigenous food systems rooted in sago forests, wetlands, and agroforestry are rendered invisible despite their long-standing resilience, ecological compatibility, and capacity to sustain local food sovereignty.

The interaction between these levels produces a conflictual socio-technical transition. Instead of enabling transformation toward sustainability, landscape pressures reinforce the dominant regime, while Indigenous niches are displaced rather than scaled up. In this context, the Food Estate project functions less as a food security initiative and more as a mechanism for reorganizing living space, reshaping land relations, and asserting state control over Indigenous territories. The resulting outcomes deforestation, carbon emissions, social fragmentation, and loss of Indigenous livelihoods undermine both environmental governance and the very goal of food security the project claims to advance. This study contributes to the literature on sustainability transitions and development by demonstrating that transitions in postcolonial contexts cannot be understood as neutral or purely technical processes. They are deeply political, shaped by power asymmetries, historical legacies, and competing ontologies of land and food. The findings challenge the assumption that large-scale, industrial agriculture represents a universally superior pathway to food security and highlight the need to recognize Indigenous food systems as legitimate socio-technical alternatives.

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In conclusion, achieving sustainable development and effective environmental governance in Indonesia requires a fundamental reorientation of food policy. Rather than expanding agricultural frontiers through coercive and extractive models, the state must move toward governance frameworks that protect Indigenous living spaces, integrate ecological knowledge, and support locally rooted food systems. Without such a shift, food security initiatives risk reproducing conflict, ecological degradation, and social injustice transforming the promise of national resilience into the appropriation of Indigenous life worlds.

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