



National Food Security and Local Sovereignty: Legal-Ecological Critique of Indonesia's Food Estate Policy

FIFIANA WISNAENI and AHMAD AINUN NAJIB*

Department of Law, Diponegoro University, Semarang, Indonesia.

Abstract

The food estate program in Indonesia, introduced as part of the National Strategic Projects, aims to bolster national food security through the development of large-scale agricultural zones outside Java. Central Kalimantan has become a key pilot area, selected for its perceived land availability and strategic potential. However, this top-down initiative has raised critical concerns related to ecological degradation, legal centralization, and the marginalization of indigenous communities. This study adopts a qualitative methodology that integrates doctrinal legal analysis with empirical research to assess the implementation and impacts of the food estate program in Central Kalimantan. Legal sources, environmental reports, field interviews, and NGO documentation provide the evidentiary basis for this inquiry. The findings reveal significant legal-ecological dissonance: the program undermines constitutional principles of environmental protection, regional autonomy, and indigenous land rights. Ecologically, the conversion of peatlands has accelerated deforestation and carbon emissions. Socially, it has disrupted traditional livelihoods, excluded local participation, and triggered land conflicts. Legally, the policy bypasses decentralization mandates and weakens the role of local governments. This article argues that the food estate program constitutes agrarian misgovernance, where national food ambitions compromise justice, sustainability, and legality. Its novelty lies in adopting a legal-empirical framework that bridges constitutional analysis with socio-environmental realities. By situating Indonesia's case within global debates on ecological justice and participatory governance, this study contributes to rethinking agrarian policy toward more democratic and sustainable models of food security.



Article History

Received: 06 July 2025
Accepted: 24 September 2025

Keywords

Ecological Justice;
Environmental;
Food Estate;
Indigenous Rights;
Legal Critique;
Sustainability Policy.

CONTACT Ahmad Ainun Najib ✉ najib1925@live.undip.ac.id 📍 Department of Law, Diponegoro University, Semarang, Indonesia.



© 2025 The Author(s). Published by Enviro Research Publishers.

This is an  Open Access article licensed under a Creative Commons license: Attribution 4.0 International (CC-BY).

Doi: <http://dx.doi.org/10.12944/CRNFSJ.13.3.22>

Abbreviation

PSN	National Strategic Projects
WALHI	Indonesian Forum for the Environment
AMAN	Indigenous Peoples Alliance of the Archipelago
FPIC	Free, Prior, and Informed Consent

Introduction

Global food security remains a pressing issue as the world grapples with population growth, climate change, land degradation, and supply chain disruptions. The COVID-19 pandemic and geopolitical instability have further exposed the fragility of global food systems, prompting many countries to pursue self-sufficiency through national agricultural reforms.¹ In this context, the Indonesian government launched the food estate program as part of its National Strategic Projects (PSN), aiming to secure long-term food resilience by developing large-scale agricultural areas outside Java, particularly in underutilized regions with abundant land resources.²

The main objective of the food estate initiative is to reduce Indonesia's dependency on imported staple foods while increasing domestic food production.³ It is also intended to serve as a response to declining agricultural land in Java, rapid urbanization, and projected food demand surges.⁴ By expanding agricultural frontiers into outer islands such as Kalimantan and Papua, the state seeks to harness what it perceives as idle land, improve national logistics, and modernize farming through mechanization and private sector investment. This agenda is framed as both an economic and strategic necessity, but it has also sparked critical debates over land rights, environmental sustainability, and governance models.⁵

Central Kalimantan was selected as one of the pilot provinces for the food estate project due to its vast land area, low population density, and perceived development potential. The region, however, is characterized by ecologically sensitive peatlands, high biodiversity, and frequent environmental hazards such as forest fires and seasonal flooding.⁶ Ecologically, the large-scale transformation of peatlands into monoculture farming zones threatens to accelerate greenhouse gas emissions, undermine carbon sinks, and disrupt fragile ecosystems that

are vital not only to Indonesia but to global climate stability.⁷

Socially, Central Kalimantan is home to diverse indigenous communities whose traditional livelihoods—such as shifting cultivation and forest-based economies—are deeply intertwined with local ecological systems. These communities possess rich environmental knowledge and have historically maintained a harmonious relationship with the land.⁸ Legally, Central Kalimantan operates within Indonesia's decentralized governance framework under Law No. 23/2014 on Regional Government, which affirms the authority of local governments to manage spatial planning and environmental resources. Nonetheless, in practice, the implementation of the food estate program has often marginalized local voices and bypassed regional regulations.⁹

This disconnect between the centralized design of the food estate policy and the diverse realities of local ecological, legal, and social contexts reveals a fundamental policy gap. While the state frames the program as a solution to national food insecurity, its top-down implementation neglects constitutional commitments to environmental protection (Article 28H and Article 33 of the 1945 Constitution), disregards the autonomy of local governments, and marginalizes indigenous peoples' rights.¹⁰ This policy mismatch not only hampers effectiveness but also increases the risk of long-term socio-ecological harm.

The implementation of the food estate program across various regions in Indonesia—including North Sumatra, East Nusa Tenggara, and especially Central Kalimantan—has revealed significant operational and conceptual shortcomings. Evaluations of these projects indicate that many have failed to meet their productivity targets, with some areas experiencing stagnant or declining yields despite extensive land clearing and investment.⁹ In Central Kalimantan,

for example, the food estate initiative has resulted in underutilized land, abandoned infrastructure, and inefficient resource allocation. Government audits and independent reports have pointed to a lack of ecological suitability assessments, inadequate stakeholder engagement, and top-heavy project management as contributing factors to these outcomes. Consequently, the program's overarching goal of strengthening national food self-sufficiency remains largely unfulfilled.

In response to these issues, numerous civil society organizations, environmental NGOs, and indigenous rights groups have expressed growing concern over the food estate's long-term implications. Organizations such as WALHI (Indonesian Forum for the Environment), AMAN (Indigenous Peoples Alliance of the Archipelago), and Greenpeace Indonesia have criticized the program for promoting ecological degradation, displacing indigenous communities, and facilitating land grabbing under the guise of national development. Protests, legal challenges, and policy critiques have emerged in several affected regions, with local communities decrying the lack of consultation, transparency, and legal safeguards. These reactions reflect a broader distrust of state-led agrarian transformation that disregards community-based land governance, and they underscore the urgent need for a more inclusive, rights-based approach to food policy in Indonesia.¹⁰

Indonesia's food estate program, launched under the National Strategic Projects, is designed to address national food insecurity through large-scale agricultural expansion in outer islands, including Central Kalimantan. Although the program is framed as a strategic solution to declining arable land and increasing food demand, its implementation has generated complex legal, ecological, and socio-political challenges. Central Kalimantan, as one of the primary pilot locations, presents a striking case where policy ambition collides with environmental fragility and decentralized governance. The program's top-down approach—marked by rapid land clearing, centralized decision-making, and weak local participation—raises concerns over its constitutional legitimacy and long-term sustainability.¹¹

Legally, the food estate initiative exposes a vertical inconsistency between Indonesia's decentralization framework and the centralized mechanisms of national development planning. Despite the constitutional and statutory recognition of regional autonomy, particularly through Law No. 23/2014 on Regional Government, local governments in Central Kalimantan have been sidelined in critical aspects of project implementation, including spatial planning and environmental licensing. This reassertion of executive power bypasses participatory legal processes and weakens the institutional role of subnational actors.¹² At the same time, the ecological conversion of peatlands into industrial farming zones has led to deforestation, increased greenhouse gas emissions, and disrupted local ecosystems, impacting indigenous Dayak communities who were neither consulted nor compensated adequately in violation of both national and international legal standards.

International experiences show that top-down agrarian megaprojects often generate unintended consequences. In Brazil, state-driven agricultural expansion in the Amazon has accelerated deforestation and triggered conflicts with indigenous peoples.¹³ In India, the Green Revolution increased yields but entrenched regional inequalities and ecological degradation.¹⁴ These cases illustrate that large-scale interventions, when detached from local contexts, often compromise sustainability and justice.

Against this backdrop, Indonesia's food estate program raises fundamental questions. Legally, it challenges the balance between central authority and regional autonomy under Indonesia's decentralized governance system. Ecologically, it risks accelerating peatland degradation and greenhouse gas emissions. Socially, it threatens indigenous rights and local participation. Existing scholarship has primarily focused on the technical or economic aspects of food estates, with limited attention to their legal-ecological implications.

This study seeks to fill this gap by critically examining the legal, ecological, and governance dimensions of the food estate program in Central Kalimantan. It integrates doctrinal legal analysis with empirical

evidence to assess how national policy narratives collide with local realities. The novelty lies in its legal-empirical framework, which bridges constitutional analysis with socio-environmental outcomes, offering fresh insights into the intersection of agrarian governance, ecological justice, and indigenous rights.

Materials and Methods

This study employs a qualitative legal research methodology that integrates doctrinal and non-doctrinal (empirical) approaches to provide a comprehensive analysis of the food estate policy in Central Kalimantan. The doctrinal component involves a normative analysis of Indonesia's constitutional and statutory frameworks related to decentralization, environmental protection, indigenous rights, and agrarian governance.¹⁵ Key legal sources include the 1945 Constitution of the Republic of Indonesia, Law No. 23/2014 on Regional Government, Law No. 32/2009 on Environmental Protection and Management, Law No. 41/1999 on Forestry, and relevant presidential and ministerial regulations governing the implementation of food estate projects.

Complementing this is a non-doctrinal approach that explores how these legal norms operate in practice within the context of the food estate program.¹⁶ Empirical data were collected through document analysis and semi-structured interviews with key stakeholders in Central Kalimantan, including officials from the Provincial Environmental Agency, customary leaders (Dayak), local academics, representatives of WALHI Central Kalimantan, and lawyers from local legal aid institutions. Additional sources of empirical evidence include investigative reports, environmental assessments, media coverage, civil society publications, and official government audits from institutions such as the Audit Board of Indonesia and Komnas HAM. The data were analyzed using thematic analysis, with codes and categories developed inductively based on recurring patterns across legal texts, interview transcripts, and policy documents. This analytical framework is further informed by legal ecology, an interdisciplinary lens that examines the interaction between legal norms and ecological systems, and constitutional environmentalism, which explores how constitutional mandates shape environmental governance.¹⁷

The selection of Central Kalimantan as the primary case study site is methodologically grounded in its status as one of the first and most expansive pilot locations of the food estate program. The province presents a uniquely complex intersection of legal, ecological, and sociocultural factors: it is home to extensive peatland ecosystems that are ecologically vulnerable; it contains diverse indigenous Dayak communities with established customary land practices; and it has been the focus of national government intervention under the *Proyek Strategis Nasional* framework. These characteristics make Central Kalimantan a critical site for examining the legal and ecological implications of state-led agrarian transformation and its alignment with Indonesia's constitutional commitments.¹⁸

Results

Decentralization Undermined: Legal Fragmentation and Centralization in the Food Estate Program

The implementation of the food estate program in Central Kalimantan reflects a deep-rooted tension between Indonesia's constitutional commitment to decentralization and the central government's increasing dominance over national development agendas. The 1945 Constitution, reinforced by Law No. 23 of 2014 on Regional Government, grants significant autonomy to local governments in managing spatial planning, environmental resources, and agricultural development.¹⁹ However, the designation of food estates as PSN has effectively curtailed the decision-making powers of regional authorities. This legal and institutional tension has contributed to fragmented governance, undermining the coherence and legitimacy of the policy's implementation.

This erosion of local decision-making power is further institutionalized through the legal framing of the food estate program as a nationally controlled development agenda under the PSN scheme.²⁰ By virtue of this designation, the program becomes subject to presidential-level acceleration mandates, allowing central government agencies—particularly the Coordinating Ministry for Economic Affairs and the Ministry of Agriculture—to bypass standard regional planning mechanisms.⁸ In practice, this has meant that key decisions regarding land allocation, project zoning, environmental licensing, and even selection of implementing partners were

made in Jakarta, often without proper consultation or consent from local governments. The use of centralized budgetary authority and project financing mechanisms, often tied to state-owned enterprises and military-linked contractors, has further weakened the fiscal and administrative discretion of provincial and regency governments.²¹ This model effectively re-centralizes control over natural resource governance, contradicting the decentralization reforms of the past two decades and reducing local governments to passive implementers rather than active policymakers.

From a legal standpoint, the food estate policy reveals a form of vertical incoherence—a disconnect between laws that delegate authority to local governments and national-level interventions that override these same authorities.²² Article 14 of Law No. 23 of 2014 grants provincial and regency governments control over spatial planning and environmental management within their jurisdictions. Yet, Presidential Regulation No. 109 of 2020 and related sectoral decrees assign dominant control over the food estate program to the Ministry of Agriculture and the Ministry of Public Works and Public Housing, bypassing local governments in both planning and execution. This procedural bypass has led to unclear chains of accountability, overlapping jurisdictional claims, and a lack of responsiveness to local environmental and social contexts.²³

The centralized implementation of the food estate program constitutes a *de facto* violation of the decentralization principle embedded in Law No. 23 of 2014, particularly in its provisions on concurrent governmental affairs.²⁴ According to Article 11 and Article 12 of the law, sub-national governments—both provincial and regency—hold the authority over essential areas such as land use, environmental protection, spatial planning, and agricultural development. These powers are not merely administrative but are constitutionally grounded in the autonomy and co-governance model envisioned by post-Reformasi decentralization. However, the food estate initiative reassigns these domains to central ministries and national task forces through presidential regulations and inter-ministerial coordination, often without regard for regional planning documents, local development priorities, or customary land regimes.²⁵

This undermining of legally mandated regional authority also contravenes Article 18 paragraph (5) of the 1945 Constitution, which guarantees that regional governments have the right to manage their own affairs according to the principles of autonomy and co-administration.²⁴ The imposition of a national project that displaces the functional jurisdiction of local governments—without democratic oversight or legislative accommodation—reveals a structural contradiction between the legal framework and actual policy practice. In this regard, the food estate program reflects a regression from the spirit of decentralization and represents a reassertion of central authority through executive discretion, thereby weakening the institutional legitimacy and operational capacity of sub-national governance systems.²⁶

The case of Central Kalimantan exemplifies this systemic marginalization. Despite being the geographic host of the program, the provincial and regency governments played a merely symbolic role, often limited to administrative coordination and formal approvals. Local environmental impact assessments, which should be guided by regional authorities under Law No. 32/2009 on Environmental Protection and Management, were largely driven by directives from Jakarta.²⁷ Interviews and policy reports from NGOs and independent watchdogs reveal that regional stakeholders—including the Dayak customary institutions—were not meaningfully consulted in the early phases of land allocation and site selection.²⁸ This neglect of local participation reflects a top-down model of governance that contradicts the very principles of democratic decentralization that Indonesia has embraced since the post-Reformasi era.²⁹

The lack of public participation in the planning and implementation of the food estate program in Central Kalimantan illustrates a deeper democratic deficit in Indonesia's agrarian governance. Despite the legal requirement for participatory mechanisms in spatial planning and environmental decision-making—such as those stipulated in Law No. 32/2009 on Environmental Protection and Management—local communities, especially indigenous Dayak groups, were largely excluded from key consultations.³⁰ Village heads, customary leaders, and civil society actors reported that decisions regarding land

conversion, project zoning, and investor entry were made without free, prior, and informed consent. Environmental impact assessments were conducted in a top-down manner, with limited community outreach and minimal transparency, undermining both procedural justice and substantive legitimacy.³¹

This exclusionary approach is not unique to Central Kalimantan. Similar patterns of participation bypass have been documented in other food estate pilot areas, such as Humbang Hasundutan in North Sumatra, where farmers and indigenous landholders reported confusion, inadequate socialization, and even coercion during land acquisition processes. In many cases, the promise of increased livelihood opportunities was not matched by meaningful dialogue or social safeguards.³² These examples suggest a systemic governance failure, in which the pursuit of rapid national development—under the banner of food security—has marginalized local voices and ignored community-based land tenure systems.²⁸ As such, the food estate program not only weakens decentralization but also erodes democratic accountability and social legitimacy in the regions it aims to “develop.”

The juridical implications of this centralistic approach are far-reaching. By undermining regional autonomy, the food estate policy not only deviates from the legal mandate of Law No. 23/2014 but also challenges the legitimacy of local governance as a constitutional institution.²⁹ The pattern of excluding local actors in decision-making processes violates Article 18B paragraph (2) of the 1945 Constitution, which recognizes and respects regional governments and traditional communities in managing their own affairs. This legal bypass risks setting a precedent where national development goals routinely take precedence over participatory governance and territorial subsidiarity. Such a precedent, if normalized, could erode trust in the legal system, exacerbate local resistance, and weaken the state's ability to achieve sustainable and socially just development outcomes.

The problems that have been mentioned explain that the legal fragmentation surrounding the food estate policy exposes the unresolved contradictions within Indonesia's multi-level governance structure. Without a coherent alignment between national ambitions and local mandates, policy implementation

will continue to face resistance, inefficiency, and legal ambiguity. Rectifying this fragmentation requires not only legal harmonization but also a political commitment to honoring the constitutional promises of decentralization and local sovereignty.

Environmental Impacts on Indigenous Peoples and Local Communities

The food estate program in Central Kalimantan has not only generated legal tensions between central and local authorities, but has also inflicted significant environmental and socio-legal consequences—particularly on indigenous peoples and forest-dependent communities.¹⁸ Ecologically, the project targets vast tracts of peatland ecosystems, which are globally recognized as critical carbon sinks and biodiversity hotspots. The large-scale conversion of these fragile landscapes into mechanized agricultural zones has resulted in widespread deforestation, soil degradation, and increased vulnerability to forest fires.³³ Remote sensing data and field assessments by environmental NGOs indicate that land clearing for food estate purposes has accelerated the degradation of peat domes, contributing to carbon emissions and threatening the ecological integrity of the region.²⁸

The environmental consequences of the food estate program in Central Kalimantan are particularly alarming given the region's ecological sensitivity. Much of the targeted land lies atop deep peat soils, which, when drained and cleared, release enormous amounts of carbon dioxide and methane, exacerbating Indonesia's greenhouse gas emissions and undermining its commitments under the Paris Agreement. Moreover, the drying of peatlands increases the likelihood of seasonal forest fires, which have already plagued the region in previous decades, causing transboundary haze and severe public health crises.³⁴ Studies conducted by environmental watchdogs such as WALHI and Greenpeace Indonesia have found that the environmental assessments for food estate development in Central Kalimantan were either inadequate or bypassed altogether, leading to the clearance of ecologically critical areas without proper mitigation plans. The introduction of large-scale mechanized farming systems, including monoculture rice and cassava cultivation, has also accelerated soil compaction, loss of biodiversity, and hydrological imbalance—damaging the very ecosystems that

rural communities depend on for water regulation, fisheries, and medicinal plants.³⁵

These environmental damages have direct and disproportionate consequences for indigenous Dayak communities, who rely heavily on forest resources for subsistence, cultural identity, and traditional land use practices such as rotational swidden farming (*ladang berpindah*).³⁶ The encroachment of food estate infrastructure on customary land has disrupted these practices, diminished access to forest products, and led to the dispossession of ancestral territories. In many cases, land conversion occurred without adequate compensation or legal recognition of communal land rights.⁸ This violates the constitutional protection of indigenous rights under Article 18B paragraph (2) of the 1945 Constitution and contravenes the jurisprudence of the Indonesian Constitutional Court (e.g., MK Decision No. 35/PUU-X/2012) which affirms the legal status of customary forests distinct from state forests.

The socio-legal exclusion experienced by local communities is further exacerbated by the lack of transparent and inclusive mechanisms for dispute resolution. Many affected groups have reported difficulties in contesting land acquisition, navigating complex licensing procedures, and obtaining legal assistance.²¹ The absence of participatory Environmental Impact Assessments, public hearings, and community consent mechanisms suggests that the procedural safeguards envisioned in Law No. 32 of 2009 were largely bypassed. Furthermore, the central government's reliance on top-down delivery mechanisms and the involvement of state-owned enterprises or military-linked contractors has limited opportunities for community engagement and accountability.¹⁸

Beyond environmental degradation, the food estate program in Central Kalimantan has triggered serious social disruptions, particularly affecting land tenure security, community cohesion, and intergenerational livelihoods.¹⁸ One of the clearest manifestations of this is seen in the Gunung Mas Regency, where several Dayak villages reported losing access to forest areas and traditional farming lands due to the top-down allocation of land for cassava cultivation under the food estate scheme. According to a 2022 field report by WALHI Central Kalimantan,

community members in Tumbang Marikoi and Tewai Baru expressed that they were not properly informed or consulted prior to the clearing of their communal forests. Their rotational farming systems, which are closely tied to seasonal cycles and traditional rituals, were severely disrupted, leading to food insecurity and economic displacement.²⁸

Moreover, the influx of outside labor forces and private contractors has created tensions with local populations, further complicated by the absence of clear benefit-sharing mechanisms. Women, in particular, have been disproportionately affected, as the loss of forest access limits their role in gathering food, herbs, and materials for traditional medicine. Additionally, many youth in these communities now face limited opportunities for agricultural livelihoods due to the decline of community-based land use.³⁵ These outcomes reflect a broader pattern of agrarian misgovernance, where state-led interventions—absent of meaningful dialogue and cultural sensitivity—result in the erosion of social capital, weakening the resilience of indigenous and rural populations.³⁷

A notable case of socio-economic disruption can be observed in Jabiren Raya Sub-district, Pulang Pisau, Indonesia, where the implementation of the food estate program in villages such as Pilang resulted in substantial livelihood losses and heightened social tensions. The conversion of secondary forests into rice fields triggered land-use conflicts between private contractors and smallholder farmers, accompanied by a breakdown in conflict-resolution mechanisms and a marked decline in local welfare conditions—many of which were officially categorized as "poor" based on economic indicators.³¹ In Desa Simpur, the situation was further exacerbated by crop failures caused by drought and the lack of adequate irrigation infrastructure; one farmer reported harvesting only 10 kilograms of dry rice from a one-hectare plot, far below expected yields under normal agroecological conditions.¹⁸ These outcomes illustrate the broader pattern of agrarian misgovernance and ecological unpreparedness in the food estate program's implementation across ecologically sensitive areas.³⁸

Additionally, AMAN and WALHI have raised alarms about the exclusion of indigenous communities from planning and implementation.³⁰ Their critique focuses on Pulang Pisau, Central Kalimantan,

Indonesia, where land clearing occurred without free, prior, and informed consent (FPIC); Bupati Edy Pratowo acknowledged this risk during early project socialization, and reiterated the need to prevent land conflicts. Yet, despite such warnings, hundreds of hectares were opened in “no-go zones”—peatland and forested areas with high conservation value including in Desa Garung and Tumbang Nusa—leading to further grievances among local.³⁸

These patterns are not isolated to Central Kalimantan. Similar socio-environmental impacts have been documented in other food estate pilot regions. In Humbang Hasundutan, North Sumatra, smallholder farmers faced the reallocation of their land to corporate operators under unclear tenure arrangements.³² In Belu, East Nusa Tenggara, reports indicate that local communities were promised food self-sufficiency, but instead faced land degradation and unsustainable monoculture practices.³⁹ The program’s prioritization of yield maximization and national logistics over ecological balance and community welfare reflects a technocratic bias that marginalizes local knowledge systems, customary law, and long-standing community stewardship models.

In essence, the food estate program operates under a developmentalist logic that subordinates environmental sustainability and human rights to national food production goals. By failing to integrate customary land governance, ecological risk assessment, and inclusive social planning, the policy has created a disconnect between intended outcomes and ground-level realities. For indigenous communities, this not only represents a material loss of land and livelihood, but also a symbolic erasure of identity, culture, and historical presence.

To address these challenges, the central government has adopted several legal and administrative measures, including the issuance of Presidential Regulation No. 109/2020, which designates the food estate program as a National Strategic Project, thereby streamlining licensing and accelerating land conversion. However, these measures remain largely top-down and have not adequately incorporated mechanisms for consultations with local governments or indigenous communities. To bridge the gap between state law and customary law, a more integrative approach is needed, one

that formally recognizes indigenous land tenure within statutory agrarian frameworks and embeds FPIC in all project planning.⁴⁰ Strengthening the mandate of regional governments under Law No. 23/2014 and aligning it with the Constitutional Court’s jurisprudence on customary rights would allow a more democratic and culturally sensitive governance model. Such reforms would not only reduce land conflicts, but also enhance the legitimacy and sustainability of Indonesia’s food security policy.

National Food Security or Agrarian Misgovernance? Assessing the Policy’s Alignment with Constitutional and Ecological Mandates

At the core of the food estate initiative lies a bold national ambition: to secure Indonesia’s food sovereignty by increasing domestic production of strategic commodities such as rice and cassava. The policy is framed as a response to global supply chain disruptions, shrinking arable land in Java, and rising dependency on food imports. However, in practice, the food estate program has fallen drastically short of its stated goals, and in many cases, has produced counterproductive outcomes. Rather than boosting food production, the program has led to widespread crop failures, ecological damage, and social dislocation.³⁰ Government and independent monitoring reports show that yields from food estate areas—particularly in Central Kalimantan—are far below national averages, with cassava plots producing only a fraction of projected outputs. In some cases, large areas of cleared land remain unplanted or abandoned, resulting in both ecological loss and a waste of public funds. Moreover, the overemphasis on speed and scale, driven by the political imperative to deliver quick results, has compromised site selection, soil analysis, and infrastructure preparation—core elements essential for agricultural viability.⁵ These failures point not only to technical miscalculations but also to deeper structural flaws in the policy’s design and governance model, which lacks flexibility, inclusiveness, and ecological grounding.

In Central Kalimantan, for instance, cassava cultivation under the food estate scheme in the districts Gunung Mas and Pulang Pisau has failed to meet projected targets due to poor soil compatibility, lack of irrigation infrastructure, and minimal technical assistance. Farmers have reported financial losses,

while cleared peatlands remain unproductive and abandoned.⁹ The Audit Board of the Republic of Indonesia and Ministry of Agriculture themselves have acknowledged project inefficiencies and implementation irregularities. Rather than achieving food self-sufficiency, the program has generated new dependencies on external contractors and input suppliers—contradicting its foundational premise of agricultural resilience.⁴¹

In reality, the food estate initiative has evolved beyond its official narrative of addressing food insecurity; it now increasingly resembles a politico-economic project driven by elite interests and extractive development logics.⁹ The designation of food estate areas as strategic national zones has opened the door for accelerated land acquisition and infrastructure development—often benefiting large corporations, state-owned enterprises, and military-affiliated actors rather than local communities or independent farmers.¹⁸ Reports have documented the involvement of politically connected contractors and agricultural conglomerates, who are awarded land and operational rights without transparent tender processes or environmental safeguards.³⁵ This pattern mirrors the broader trend of resource capture under the guise of national development, where land, labor, and ecosystems are commodified for the benefit of a narrow set of stakeholders.

The framing of food estate as a national emergency has also enabled the bypassing of standard legal procedures, including public participation, environmental review, and regional planning coordination. In doing so, the program consolidates decision-making power within the executive branch, while sidelining local voices and democratic accountability.⁹ This centralized accumulation of authority and resources reflects what scholars of agrarian change have identified as “authoritarian populism” in rural development—a model in which state-led agrarian interventions are justified by nationalist rhetoric but result in the expansion of extractive capital and marginalization of rural populations. Instead of empowering local food systems, the food estate project appears to entrench a vertical, technocratic, and market-oriented agrarian regime, in which efficiency and investment are prioritized over justice, sustainability, and sovereignty.²²

From a legal and constitutional standpoint, the misalignment between policy objectives and outcomes raises serious concerns. Article 33 of the 1945 Constitution mandates that natural resources must be managed to promote the greatest possible prosperity for the people. Similarly, Article 28H emphasizes the right to a good and healthy environment. Yet, the food estate program appears to have prioritized short-term production targets and elite development interests over ecological sustainability and social justice.⁴² The resulting environmental damage, tenure insecurity, and exclusion of customary communities represent a systemic deviation from the constitutional mandates of equity, sustainability, and public participation.

Moreover, the governance structure of the food estate reveals a technocratic and extractive logic that treats land as a passive resource to be optimized, rather than as a living space embedded in social, cultural, and ecological relations.²⁷ By framing food security as a technical problem solvable through centralized land consolidation and mechanization, the state has ignored alternative models of community-based agriculture, agroecology, and food sovereignty. The neglect of indigenous knowledge systems and local food traditions not only weakens the program’s legitimacy, but also undermines its resilience in the face of ecological and economic shocks.³⁶

These contradictions point to a deeper issue: rather than addressing food insecurity through inclusive, context-sensitive strategies, the food estate program represents a form of agrarian misgovernance. It combines state overreach, corporate favoritism, and ecological myopia under the guise of national urgency. As such, the initiative risks reproducing the very inequalities, vulnerabilities, and inefficiencies it was designed to overcome.

Discussion

Toward a Reform-Oriented Framework: Legal and Policy Recommendations

These findings align with recent scholarly critiques of top-down agrarian reform policies in Southeast Asia, which argue that centralized interventions frequently bypass local tenure systems and customary land rights.⁴³ The multidimensional failures of the food estate initiative—including

ecological degradation, socio-legal exclusion, and governance fragmentation—highlight the need for a comprehensive and systemic policy reorientation. Rather than pursuing technical adjustments or administrative refinements to salvage the existing model, the Indonesian government must reconsider the foundational assumptions underpinning food estate development. A truly reform-oriented framework should be grounded in three interrelated normative pillars: ecological justice, participatory governance, and legal pluralism.¹⁷

First, it is essential to re-center ecological sustainability as the legal and operational basis for any large-scale agricultural development. This requires a shift away from monoculture expansion and peatland conversion toward context-sensitive agroecological models that preserve ecosystem services, minimize greenhouse gas emissions, and enhance biodiversity.³⁴ The legal framework must be revised to prohibit food estate expansion on deep peatlands, primary forests, and other ecologically critical areas, aligning with both Law No. 32/2009 on Environmental Protection and Indonesia's international commitments under the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework. Environmental Impact Assessments must be restored as a substantive legal requirement, not a procedural formality, and must be reviewed independently with meaningful public oversight.⁴¹

Second, the state must institutionalize participatory governance mechanisms that embed local communities and indigenous peoples as co-decision makers in agrarian and spatial planning processes. This involves strengthening the mandate and capacity of regional governments under Law No. 23 of 2014, ensuring that project planning cannot override local development plans, and requiring free, prior, and informed consent before any land conversion or investment approval.¹⁰ Community participation must not be tokenistic or post hoc; it should be built into the early stages of project design, through village deliberation forums, customary law assemblies, and regional consultative bodies. Legal provisions should mandate the inclusion of social impact assessments, and budgetary support should be allocated to facilitate community legal assistance and independent monitoring.³⁸

Third, a reform agenda must embrace legal pluralism by formally recognizing and protecting customary land rights as a central element of agrarian justice. The jurisprudence of the Constitutional Court (Decision No. 35/PUU-X/2012) must be translated into statutory law through amendments to the Law No. 5 of 1960 on Basic Agrarian Principles and its implementing regulations. National policies should also create a moratorium on food estate development in areas where customary land mapping has not yet been completed, and allocate public funds to accelerate participatory land tenure certification in collaboration with indigenous institutions and local governments.²⁰

Comparative experiences from other Global South countries offer valuable lessons. In Brazil, large-scale agrarian programs under the ProAlcool and Amazonian development schemes led to significant deforestation and land conflicts due to centralized planning and weak recognition of indigenous territories. Subsequent reforms, including greater recognition of quilombola and indigenous land claims, have emphasized the importance of integrating socio-environmental safeguards into national development agendas.⁴⁴ Similarly, India's Green Revolution, while successful in boosting food production, created long-term ecological and social disparities by favoring resource-rich regions and marginalizing smallholders. Recent policy shifts toward agroecology and decentralization through Panchayati Raj institutions illustrate the benefits of locally embedded governance.¹⁴ In the Philippines, the Comprehensive Agrarian Reform Program demonstrates how legal recognition of ancestral domains, via the Indigenous Peoples' Rights Act of 1997, has been essential in safeguarding indigenous land tenure amidst agribusiness expansion. These cases underline that state-led agricultural transformation, if not rooted in inclusive legal frameworks and ecological considerations, tends to reproduce exclusion and environmental harm.⁴⁵

Furthermore, to foster a just and sustainable food system, the state must shift its approach from a narrow focus on caloric sufficiency and production volume to a rights-based framework that integrates the cultural, ecological, and economic dimensions of food.³⁶ This paradigm shift requires formal recognition of indigenous land tenure and the integration of FPIC

into project planning and approval processes. By bridging state and customary law, the government not only addresses existing legal disparities, but also establishes a governance framework that is both culturally sensitive and constitutionally sound. Simultaneously, supporting the development of small-scale community-based food systems through state extension services, credit programs, and ecological farming training offers a more resilient alternative to large-scale top-down food estate models.³⁷ This holistic approach ensures that food policy promotes diverse, locally rooted production strategies, while safeguarding the rights and traditions of indigenous communities.

Finally, the reform must also include mechanisms of state accountability. Independent oversight bodies such as the the Ombudsman of the Republic of Indonesia, the Audit Board of the Republic of Indonesia, and the National Commission on Human Rights must be empowered to investigate violations arising from food estate implementation. Additionally, a transparency portal that publishes real-time data on project locations, implementing entities, environmental licenses, and budget allocations should be developed to enhance public scrutiny.²⁵ In sum, transforming Indonesia's food estate policy requires more than regulatory fine-tuning; it demands a paradigm shift from technocratic, extractive development to democratic, rights-based, and ecologically just agrarian governance. Only by restoring constitutional balance, ecological integrity, and community agency can food policy serve its true purpose: securing the right to food without sacrificing justice, sustainability, and sovereignty.

Conclusion

The findings of this study reveal a fundamental contradiction between the centralized implementation of Indonesia's food estate program and the constitutional principles of decentralization and local autonomy. In the case of Central Kalimantan, the policy's legal framework and administrative execution have largely bypassed regional governments, reducing their roles to that of procedural compliance rather than substantive governance. This pattern represents a clear violation of Law No. 23/2014 on Regional Government, as well as Article 18 of the 1945 Constitution, which mandates that local authorities manage their own affairs. The marginalization of local decision-making not only

weakens democratic accountability, but also leads to fragmented governance and policy inefficiency.

Moreover, the ecological and socio-legal impacts of the food estate program are both severe and far-reaching. The conversion of peatlands and forested areas into industrial agricultural zones has accelerated deforestation, increased greenhouse gas emissions, and compromised ecosystem integrity. These environmental disruptions have disproportionately affected indigenous Dayak communities, many of whom have lost access to customary lands and traditional livelihoods without adequate consultation, compensation, or legal protection. The absence of free, prior, and informed consent processes and the failure to conduct inclusive environmental and social impact assessments demonstrate a broader failure to uphold procedural justice and human rights.

Ultimately, the food estate policy has fallen short of its primary goal—achieving national food security. Instead, it has become an elite-driven development project marked by technocratic planning, ecological degradation, and the erosion of indigenous rights. This article argues for a reorientation of agrarian policy toward a model rooted in ecological justice, legal pluralism, and participatory governance. Key reforms should include halting further expansion in ecologically and socially vulnerable areas, strengthening the role of regional authorities, recognizing customary land tenure, and embedding community participation in every phase of policy design and implementation. Importantly, the central government must ensure that state law is harmonized with customary law, recognizing indigenous rights as legally binding and constitutionally protected. Only through this integration can food policy achieve its intended purpose: securing national food security without sacrificing justice, sustainability, and sovereignty.

Acknowledgement

The authors would like to express their sincere gratitude to the Institute for Research and Community Service (Lembaga Penelitian dan Pengabdian kepada Masyarakat, LPPM), Universitas Diponegoro, for funding this research project. We also extend our appreciation to all respondents and stakeholders in Central Kalimantan who generously shared their time and insights during fieldwork. Their

contributions have been invaluable to the completion of this study.

Funding Sources

This work was supported by the Institute for Research and Community Service of Universitas Diponegoro under Grant No. 222-248/UN7.D2/PP/IV/2025.

Conflict of Interest

The authors do not have any conflict of interest.

Data Availability Statement

The data that support the findings of this study, including interview transcripts, environmental reports, and legal documents, are available from the corresponding author upon reasonable request. Due to privacy and ethical considerations, some qualitative data may be restricted.

Ethics Statement

This study involved non-invasive field interviews and document analysis. All participants provided verbal informed consent prior to data collection. Ethical clearance was granted by the Research Ethics Committee of Universitas Diponegoro. The

study adhered to principles of voluntary participation, confidentiality, and cultural sensitivity.

Informed Consent Statement

This study involved interviews with community members. Informed verbal consent was obtained, and participant anonymity was ensured. No personal data or sensitive information was recorded.

Clinical Trial Registration

This research does not involve any clinical trials.

Permission to Reproduce Materials from Other Sources

Not Applicable.

Author Contributions

- **Fifiana Wisnaeni:** Theoretical Framework Development, Policy and Legal Review, Writing – Review and Editing, Supervision.
- **Ahmad Ainun Najib:** Conceptualization, Legal and Field Methodology, Data Collection, Legal-Ecological Analysis, Writing – Original Draft.

References

1. Paudel D, Neupane RC, Sigdel S, *et al.* COVID-19 Pandemic, Climate Change, and Conflicts on Agriculture: A Trio of Challenges to Global Food Security. *Sustainability*. 2023;15(10):8280. doi:10.3390/su15108280
2. Rasman A, Theresia ES, Aginda MF. Analisis implementasi program food estate sebagai solusi ketahanan pangan Indonesia. *HJTAS*. 2023;1(1): 36-38. doi:10.61511/hjtas.v1i1.2023.183
3. Arifin B, Achsan NA, Martianto D, *et al.* The Future of Indonesian Food Consumption. *JEI*. 2019;8(1): 71-102. doi:10.52813/jei.v8i1.13
4. Gandharum L, Hartono DM, Karsidi A, *et al.* Monitoring Urban Expansion and Loss of Agriculture on the North Coast of West Java Province, Indonesia, Using Google Earth Engine and Intensity Analysis. *Khan MA, ed. The Scientific World Journal*. 2022;2022: 1-16. doi:10.1155/2022/3123788
5. Redi A, Mizuno K. Benefits and Costs of Legal Policy for the Food Estate Program in Indonesia. *LAW REFORM*. 2025;21(1): 58-80. doi:https://doi.org/10.14710/lr.v21i1.62903
6. Pangestu JEP, Habib S. Climate change impacts of forest conversion (Study on forest conversion for food estate/ national food granary program in Central Kalimantan). *ICESE*. 2024;2(1): 92-106. doi:10.61511/icese.v2i1.2024.419
7. Medrilzam M, Dargusch P, Herbohn J, *et al.* The socio-ecological drivers of forest degradation in part of the tropical peatlands of Central Kalimantan, Indonesia. *Forestry: An International Journal of Forest Research*. 2014;87(2):335-345. doi:10.1093/forestry/cpt033
8. Wisnu D. Food Estate Program Law Politics. *CSI*. 2022;2(1): 76-91. doi:10.19184/csi.v2i1.28051

9. Siborutorop J. Analysis of Indonesia's National Food Estate Programme from a Food Sovereignty-based Perspective. *IJP*. 2023;9(2): 92-102. doi:10.20473/jpi.v9i2.44430
10. Berenschot W, Dhialulhaq A, Deviane A. Local brokerage and international leverage: NGOs and land conflicts in Indonesia. *J of Intl Development*. 2023;35(3):505-520. doi:10.1002/jid.3640
11. Puspitaloka D, Kim Y, Purnomo H, *et al*. Defining ecological restoration of peatlands in Central Kalimantan, Indonesia. *Restoration Ecology*. 2020;28(2):435-446. doi:10.1111/rec.13097
12. Toumbourou TD, Lestari S, Yuwati TW, *et al*. Principles for equitable and resilient tropical peatland restoration in Central Kalimantan, Indonesia. *Restoration Ecology*. 2024;32(7):e14221. doi:10.1111/rec.14221
13. Souza M. The Economic Consequences of Deforestation in the Amazon Basin on Brazil's Agricultural Sector and Biodiversity: A Comparative Analysis of Pre and Post-2000 Policy Interventions. *LE*. 2024;3(2):23-30. doi:10.56397/LE.2024.02.06
14. Divya. A Study on Contribution of Panchayati Raj Institutions to Agricultural Infrastructure Development in Hanumangarh District. *ShodhKosh J Vis Per Arts*. 2024;5(4): 634–638. doi:10.29121/shodhkosh.v5.i4.2024.2425
15. Hutchinson T, Duncan N. Defining and Describing What We Do: Doctrinal Legal Research. *Deakin Law Review*. 2012;17(1):83-119. doi:10.21153/dlr2012vol17no1art70
16. Friedman LM. *The Legal System: A Social Science Perspective*. Repr. New York: Russell Sage Foundation; 1977.
17. M'Gonigle M, Takeda L. The Liberal Limits of Environmental Law: A Green Legal Critique. *Pace Environmental Law Review*. 2013;30(3):1005. doi:10.58948/0738-6206.1730
18. Maulana J, Khairunisa S, Prakoso A, *et al*. Field of False: Food Estate in Central Kalimantan Represents a Severe Violation of Peat Ecosystem Protection Policy. Jakarta, Indonesia: Pantau Gambut; 2024. Accessed June 14, 2025. [https://pantaugambut.id/publikasi/jilid-1-proyek-food-estate-](https://pantaugambut.id/publikasi/jilid-1-proyek-food-estate-kalimantan-tengah-setelah-2-tahun-berlalu)
19. Najib AA, Saraswati R. Omnibus Law on Job Creation: Tug of War over Environmental Protection Authority Amid the Climate Crisis. *IOP Conf Ser: Earth Environ Sci*. 2023;1270(1):012004. doi:10.1088/1755-1315/1270/1/012004
20. Yuwono FP. Legal Implications of the Merauke Food Estate: A Critical Analysis of Customary Rights and Environmental Concerns. *Lex Publica*. 2024;11(2):294-316. doi:<https://doi.org/10.58829/lp.11.2.2024.294-317>
21. Hajati ProfDrS, Winarsi DrS, Nugraha X, *et al*. Land Acquisition for the Public Interest as an Alternative to Building a Food Estate in Indonesia: An Effort to Achieve Proportional Justice. *WJEMSD*. 2023;19(1-2):3-14. doi:10.47556/WJEMSD.19.1-2.2023.1
22. Rasji, Vera Tua Tobing. Problematic Analysis of the Legal Policy of the Food Estate Program (Government Era 2020-2024). *JLPH*. 2024;5(2):983-991. doi:10.38035/jlph.v5i2.1152
23. Putri EIK, Dharmawan AH, Hospes O, *et al*. The Oil Palm Governance: Challenges of Sustainability Policy in Indonesia. *Sustainability*. 2022;14(3):1820. doi:10.3390/su14031820
24. Hidayat R. Political Devolution: Lessons From a Decentralized Mode of Government in Indonesia. *Sage Open*. 2017;7(1):2158244016686812. doi:10.1177/2158244016686812
25. Ardiansyah F, Marthen AA, Amalia N. Forest and Land-Use Governance in a Decentralized Indonesia: A Legal and Policy Review. Occasional Paper 132. Bogor, Indonesia: Center for International Forestry Research (CIFOR); 2015. Accessed Juni 14, 2025. doi:10.17528/cifor/005695
26. Moeliono M, Limberg G. The Decentralization of Forest Governance: Politics, Economics and the Fight for Control of Forests in Indonesian Borneo (ed by Eva Wollenberg). 1st ed. London, England: Routledge; 2012. doi:10.4324/9781849772952
27. Sentana FY, Hadinata F. Melacak Pengetahuan yang Terpinggirkan: Analisis Teori Standpoint dalam Kebijakan Food Estate di Kalimantan. *multikultura*. 2023;2(4): 431-446. doi:10.7454/multikultura.v2i4.1047

28. Khairunisa S. Proyek Food Estate Di Kalteng Dan Ancaman Kerusakan Ekologis Berkepanjangan. Depok, Indonesia: Green Network Indonesia; 2021. Accessed June 16, 2025 <https://greennetwork.id/unggulan/proyek-food-estate-di-kalteng-dan-ancaman-kerusakan-ekologis-berkepanjangan/>
29. Gregorio MD, Moeliono M. Climate Governance and Decentralization in Indonesia. In: Fenna A, Jodoin S, Setzer J, eds. *Climate Governance and Federalism*. 1st ed. Cambridge University Press; 2023:198-217. doi:10.1017/9781009249676.011
30. Jong HN. Apakah Program 'Food Estate' di Kalteng akan Mengulangi Kegagalan Proyek Pangan Sebelumnya? Jakarta: Mongabay Indonesia; 2023. Accessed June 13, 2025. <https://www.mongabay.co.id/2023/04/27/apakan-program-food-estate-di-kalteng-akan-mengulangi-kegagalan-proyek-pangan-sebelumnya/>
31. Putra OA, Ayunda D, Prakoso A, *et al.* Jilid 1: Proyek Food Estate Kalimantan Tengah Setelah 2 Tahun Berlalu. Jakarta: Pantau Gambut; 2022. Accessed June 13, 2025. <https://pantaugambut.id/publikasi/jilid-1-proyek-food-estate-kalimantan-tengah-setelah-2-tahun-berlalu>
32. Caniago A, Nurasiah N. Food Estate Policy in Humbang Hasundutan Regency, North Sumatra Province, from the Perspective of Masalah Mursalah. *JLPH*. 2024;4(3):289-294. doi:10.38035/jlph.v4i3.353
33. Caterine Harianja. Policy Brief: Revaluating Indonesia's Food Estate Program to Ensure Food Security in Alignment with Environmental Sustainability and Climate Change. Published online 2025. doi:10.13140/RG.2.2.25759.06561
34. Law EA, Bryan BA, Meijaard E, *et al.* Ecosystem services from a degraded peatland of Central Kalimantan: implications for policy, planning, and management. *Ecological Applications*. 2015;25(1):70-87. doi:10.1890/13-2014.1
35. Greenpeace Indonesia. Food Estate Report: The Failure of Industrial Agriculture to Achieve Food Sovereignty in Indonesia. Jakarta: Greenpeace Indonesia; 2022. Accessed June 14, 2025. https://www.greenpeace.org/static/planet4-indonesia-stateless/2022/11/a388b294-food-estate-report_english_new-2.pdf
36. Mulyoutami E, Rismawan R, Joshi L. Local knowledge and management of simpukng (forest gardens) among the Dayak people in East Kalimantan, Indonesia. *Forest Ecology and Management*. 2009;257(10):2054-2061. doi:10.1016/j.foreco.2009.01.042
37. Usop SR. Farmers' Cultural Flexibility in Food Estate Development Corporate Based in Central Kalimantan. *ISSJ*. 2023;4(2):165. doi:10.20527/issj.v4i2.7841
38. Nurleni E. Cultural Mechanisms of Local Community towards the Food-Based Development in Indonesia (Case of Food Estate Program in Pulang Pisau Regency, Central Kalimantan). *J Glob Innov Agric Sci*. Published online November 17, 2024:1199-1206. doi:10.22194/JGIAS/24.1437
39. Alifya H, Silvy Sari D, Yulianti D. Strategi Food Estate Sebagai Solusi Keamanan Pangan. *Ganaya*. 2024;7(2):116-124. doi:10.37329/ganaya.v7i2.2964
40. Noor RS, Hamzani AI, Widyastuti TV, *et al.* Gender Equality in Indigenous Peoples in Indonesia (Challenges and Efforts Towards the 2030 Sustainable Development Goals). *J of Law and Sust Develop*. 2024;12(1):e2173. doi:10.55908/sdgs.v12i1.2173
41. Yeny I, Garsetiasih R, Suharti S, *et al.* Examining the Socio-Economic and Natural Resource Risks of Food Estate Development on Peatlands: A Strategy for Economic Recovery and Natural Resource Sustainability. *Sustainability*. 2022;14(7):3961. doi:10.3390/su14073961
42. May JR, Daly E. *Global Environmental Constitutionalism*. Cambridge: Cambridge University Press; 2015.
43. Heathcote J. Powers of exclusion: land dilemmas in Southeast Asia. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*. 2013;34(1):140-142. doi:10.1080/02255189.2013.755919
44. Berg T, Nieto EA, Moura S, *et al.* Socio-ecological conflict in Quilombola territory: land titling and ecosystem health. *Sustain Sci*. 2025;20(3):903-918. doi:10.1007/s11625-025-01632-8
45. Vista BM, Nel E, Binns T. Land, landlords

and sustainable livelihoods: The impact of agrarian reform on a coconut hacienda in the

Philippines. *Land Use Policy*. 2012;29(1):154-164. doi:10.1016/j.landusepol.2011.06.002