

## POLICY BRIEF

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**Community Voices for Sustainable Land Use in Indonesia:** 

# Case Studies of Successful Participatory Land Use Planning (PLUP) in Aceh & Riau

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#### **Key Messages**

- Land use planning in Indonesia remains centralized despite participation mandates. While laws like Government Regulation No. 21/2021 on Spatial Planning emphasize community involvement, local implementation remains weak. Government efforts such as Participatory Rural Appraisal (PRA) represent a middle ground to introduce bottom-up planning, but a more formal and consistent approach is needed to reflect local priorities in broader spatial frameworks.
- Institutionalizing the bottom-up participatory paradigm within spatial and development planning through Participatory Land Use Planning (PLUP) from the village level is urgent. PLUP should be formally integrated into local governance to align spatial planning with local resource potential, strategic issues, and development priorities. This calls for PLUP to be embedded within village-level spatial planning processes and synchronized with district and national spatial and development planning.
- Effective PLUP requires multi-stakeholder collaboration across governance levels.
   Strengthening the link between grassroots initiatives and higher-level mandates from village and district governments to provincial and ministerial bodies is essential. This collaborative approach can reduce land-use disputes in forest and non-forest areas, improve coordination, and support sustainable land governance.
- Legal recognition of participatory planning outcomes is critical for long-term impact. Hence, community-based pathways may be legitimized through formal legal instruments, such as mayoral regulations (Perwali), district head regulations (Perbup), or local regulations (Perda). These legal tools will ensure that bottom-up approaches from the village level are officially integrated into spatial and development planning systems at all levels.

# Examining Land-Use Policies and its Relation to Current Spatial Governance in Indonesia

#### **Current State Of Spatial Planning In Indonesia**

Spatial planning in Indonesia is shaped by its regulatory framework, environmental challenges, and social and cultural linkages. The regulatory framework for spatial planning is outlined in Law No. 6/2023 on Job Creation, which stipulates that spatial planning should be transparent, effective, and participatory. Government Regulation No. 21/2021 on Spatial Planning echoes the emphasis on public participation at the district and national levels in spatial planning through the Spatial Planning Forum (*Forum Penataan Ruang* or FPR). While both regulations emphasize participation, there is a lack of formalized community participation at the village level (Niravita, et. al., 2021).

Table 1. Hierarchy of Spatial Planning Documents in Indonesia

#### **NATIONAL LEVEL**

National Spatial Planning (Rencana Tata Ruang Wilayah Nasional or RTRWN). Stipulates:
(i) National Strategic Areas Spatial Planning (Rencana Tata Ruang Kawasan Strategis Nasional or RTR KSN)
(ii) Island/Archipelago Spatial Planning (Rencana Tata Ruang/RTR Pulau/Kepulauan)

#### PROVINCIAL LEVEL

Regional/Provincial Spatial Planning (Rencana Tata Ruang Wilayah Daerah or RTRWD).

#### **DISTRICT/CITY LEVEL**

District/City Spatial Planning (Rencana Tata Ruang Wilayah Kabupaten/Kota or RTRWK).

Article 48 of Government Regulation No. 21/2021 affirms that rural spatial planning should aim to empower communities, conserve the environment, and preserve local cultural heritage. However, Village Law No. 3/2024 only outlines development planning instruments—specifically the Village Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Desa or RPJM Desa) and the Village Work Plan (RKP Desa)—without mandating the formulation of spatial plans (RTRW) at the village level. The RPJM Desa contains development plans in the span of eight years, while RKP Desa details the yearly programs from the RPJM Desa. Meanwhile, RTRW—which applies for a 20 year long period and can be periodically reviewed for a minimum of five years, comprises spatial planning for the region, which includes and is not limited to land uses and infrastructure development.

Spatial planning in Indonesia is characterized by a multi-layered governance structure (described above) that involves both central and local authorities, with regulations dispersed across various institutions and administrative levels. This study identifies the set of key legal frameworks most relevant to fostering a more inclusive spatial planning process, including Government Regulation No. 21/2021 on Spatial Planning Implementation and Law No. 3/2024 on Villages.

#### Local Community Reliance On Land Tenure as a Source of Livelihood

Land use and management are central to spatial planning and closely tied to local livelihoods, especially in forested areas where activities such as farming, infrastructure development, and housing often overlap (Barbieri et al., 2021; Lambin & Geist, 2006). As population growth increases the demand for food, employment, and natural resources, land scarcity intensifies the competition between agricultural, residential, industrial, and conservation uses, leading to evolving land-use patterns (Syaban & Appiah-Oppoku, 2024; Chambers & Conway, 1991).

In Indonesia, regions bordering forests are particularly contested due to mapping scale differences between forest and non-forest land. This contestation is intensified by diverse interests from communities, corporations, and government actors.

<sup>&</sup>lt;sup>1</sup> See Annex C, Table C.2 for an overview of the most relevant laws and regulations.

Despite the ecological and economic importance of these areas, accurate and inclusive planning remains limited. In 2023 alone, Indonesia lost 292,000 hectares of primary forest. This was primarily due to palm oil expansion, which now spans 16.8 million hectares, including 3.4 million hectares (20.2%) located within forest zones (Directorate General of Estates, 2023; KEHATI, 2019).<sup>2</sup>

Riau Province, the top palm oil producer, has lost 54% of its tree cover since 2001, making it the country's fastest-deforesting province (Statistics Indonesia, 2024; Global Forest Watch [GFW], 2024).<sup>3</sup> Plantation expansion has led to deforestation, biodiversity loss, and horizontal and vertical tenurial conflicts, often exacerbated by unclear boundaries and centralized planning (Dharmawan et al., 2020; Abram et al., 2017; Suryadi et al., 2020). These dynamics highlight the urgent need for inclusive, multi-stakeholder spatial planning to balance development with environmental sustainability.<sup>4</sup>

## **Bottom-Up Approach to Ensure Sustainability**

A key regulatory gap lies in the absence of spatial planning documents at the village level. There are national spatial plans (RTRWN) and district level plans (RTRW/RDTR), though not all districts fully implement their plans. Land border data also stops at the sub-district level (Interview 1).

The lack of village-based spatial planning is a concern because bottom-up approaches are essential for creating sustainable and inclusive plans (Lestari, E., 2024). While officials view platforms like the Spatial Planning Forum (FPR) and public consultations as avenues for public participation (Interviews 1,4), the Forum formally serves at district/city level only. This arrangement further complicates the already complex village-level planning and creates cross-sectoral challenges, including unclear land boundaries, forest tenure disputes, reliance on customary land claims, and environmental risks.

This study provides grounded insights from four districts and/or city in Riau and Aceh Provinces through a series of case studies: 10 villages in Kampar district and Indragiri Hulu district in Riau Province, and 18 villages in Subulussalam city and Aceh Singkil district in Aceh province. Characteristics of the 3 districts and 1 city, which are distinct in each province, are summarized in Table 2. This study was also informed by interviews (listed in Annex A) and focus group discussions (FGD, listed in Annex B).

Table 2.

Overview of the Districts in which Case Studies in Spatial Planning and Livelihoods were Completed, by Province

Kampar and Indragiri Hulu (Riau)	Subulussalam and Aceh Singkil (Aceh)	
Palm oil as the main agricultural commodity	Palm oil as the main agricultural commodity	
Strong customary community role (e.g., ninik mamak and Talang Mamak)	Moderate to low customary community role	
Less developed land borders mapping (less than 20% villages have definitive maps in Kampar District, and much less in Indragiri Hulu District)	Less developed land borders mapping (approximately 0.2% out of 6,500 villages in Aceh Province with definitive maps) (Interview 6)	
Large intersection with forest areas (5.4 million hectares)	Large intersection with forest areas (3.37 million hectares)	

<sup>&</sup>lt;sup>2</sup> See Annex C, Figure C.1 for an illustration of palm oil expansion in each type of forest classification.

<sup>&</sup>lt;sup>3</sup> see Annex C, Figure C.2 for an illustration of forest coverage, tree loss, and palm oil plantation areas in Indonesia.

<sup>&</sup>lt;sup>4</sup> See Annex C, Table C.1 for a list of forest classifications.

Incorporating village perspectives in spatial and development planning is essential to effectively identify and translate each region's potential into opportunities that support individual livelihoods and regional growth.

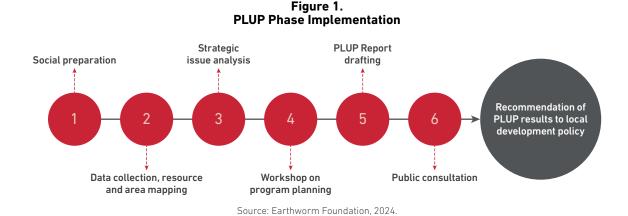
Village planning documents can inform higher-level plans—such as district RTRW and local regulations (*Perbup*<sup>5</sup>/ *Perwali*<sup>6</sup>)—guiding cultural, economic, and infrastructure development while aligning top-down data-driven policies with community needs. Sustainability is achieved when spatial and economic planning work together to improve local livelihoods and resilience (UN, 2015), making community participation critical to sustainable growth. Through the Ministry of Agrarian Affairs and Spatial Planning (MAASP), the government has introduced the Participatory Rural Appraisal (PRA) as a bridge toward more inclusive planning, leading to the adoption of Participatory Land Use Planning (PLUP) (Interview 1).

PLUP emphasizes local and marginalized group participation in land-use decisions, incorporating environmental, socio-economic, and political considerations through capacity building, mentoring, workshops, and data integration (FAO, 2013; Earthworm Foundation, 2024). In Indonesia, where spatial planning must respond to shifting land use and a projected population of 324 million by 2045 (Statistics Indonesia, 2023), the government is promoting a "One Spatial Planning Policy" alongside the existing "One Map Policy" to integrate land, water, airspace, and underground mapping for better decision-making (Interviews 1,3). Nonetheless, gaps in community involvement persist, and stronger links between spatial planning and sustainable development goals are needed to support livelihoods, reduce conflict, and preserve forests.

This study uses case studies from Riau province and Aceh province, where smallholders are increasingly shifting from rubber to palm oil production due to the higher market value of palm oil (FGD 2,6,8,9). Smallholders are cultivating plantation crops and, in some areas, expanding into forests (FGD 2,3,9). These trends highlight the ongoing demand for land and the challenges in balancing economic needs with sustainability.

PLUP consists of six phases (Figure 1) and offers a bottom-up solution through components like: (i) land tenure study and participatory mapping using PRA; (ii) a sustainable livelihood framework; (iii) free prior informed consent (FPIC); (iv) High Conservation Value and High Carbon Stock (HCV-HCS) assessments; (v) dispute resolution mechanisms; and (vi) the establishment of forest stewardship groups for conservation and restoration (Earthworm Foundation, 2024).

The outcome is a holistic, community-endorsed land use plan that optimizes land use, protects the environment, and strengthens governance. PLUP enables communities to define priorities, designate conservation and cultivation zones, and monitor land use. It also prevents conflicts, particularly between communities and corporations (IFAD, 2014; Earthworm Foundation, 2024).



<sup>&</sup>lt;sup>5</sup> District head regulations.

<sup>&</sup>lt;sup>6</sup> Mayoral regulations.

Earthworm Foundation's programs in Aceh (SLPI LASR) and Riau have implemented PLUP in 81 villages—mapping 117,614 hectares, including 54,829 hectares of forests designated by communities for protection and restoration (Earthworm Foundation, 2025). This effort, supported by 18 mentored forest steward groups, has helped communities balance conservation and cultivation, prevent conflicts, and safeguard livelihoods.

This study recommends adopting PLUP more widely to strengthen village participation in Indonesia's spatial planning. While current regulations allow public consultation, a more robust framework is needed to fully integrate bottom-up planning, including in forest-adjacent villages most affected by spatial planning gaps.

## Elevating the Participatory Approach within Indonesia's Spatial and Development Planning

#### Spatial and Development Planning: National Perspective

Inclusive participation down to the village level is essential to ensure that spatial planning reflects the regional context and supports both national development and local livelihoods. This study finds that overlapping land borders between villages, sub-districts, and forest areas, particularly in Aceh and Riau, have created land tenure conflicts and hindered local governments from accurately mapping development potential. These overlapping borders contribute to planning inconsistencies and obstruct national targets, such as emission reductions and sustainable land management.

Although village development planning documents like village medium-term development plans (RPJM Desa) and village work plans (RKP Desa) exist, they remain disconnected from formal spatial planning frameworks due to the absence of regulations mandating village-level spatial planning (RTRW) (Interview 2). This gap underscores the importance of adopting participatory approaches like PLUP, which empowers communities to map land use, align development with local potential, and contribute meaningfully to broader planning systems.

PLUP aims to create sustainable landscapes in which economic development and environmental protection coexist. It helps reduce deforestation, lower land-use emissions, enhance biodiversity, and strengthen community resilience. By shifting away from a top-down, one-size-fits-all approach, PLUP enables region-specific planning that responds to local livelihoods and land dynamics. This aligns with the 2025–2029 National Medium-Term Development Plan (RPJMN), which prioritizes improved spatial planning and environmental quality to support national growth. Despite these goals, including an 8% economic growth target and a reduction in GHG emissions intensity, village-level participation in spatial planning remains limited (Interview 4).

One major obstacle is incomplete land border mapping. In many areas, data only reaches the sub-district level, with maps still using a 1:50,000 scale (Geospatial Information Agency, 2023; Interview 13). The government aims to improve this to a 1:5,000 scale by 2027/2028 to support more detailed local governance (Interviews 3,4,18).

In addition, overlapping mandates among ministries complicate spatial governance. The MAASP manages non-forest areas, while the Ministry of Forestry (MOFe) oversees forest zones, except for grand forest parks (*Taman Hutan Raya*) which are managed by provincial governments. The Ministry of Home Affairs (MOHA) addresses village boundary issues, and the Ministry of Village (MoV) focuses on mapping local development potential (Interviews 2,4). These overlapping roles have led to fragmented planning and governance. To address this, the Coordinating Ministry of Economic Affairs (CMEA) is drafting a regulation to resolve spatial planning conflicts across administrative levels and forest areas (Interview 4).

Additionally, the One Map Policy, which aimed at creating a single, standardized geospatial database, has now been transferred from CMEA to the Coordinating Ministry of Infrastructure and Regional Development (CMIRD). CMIRD is tasked with resolving spatial overlaps by 2029 (Interview 3). CMIRD is also preparing a complementary tool, the One Spatial Planning Policy, to incorporate geospatial data beyond land to include water, airspace, and subsurface areas. These efforts emphasize the need to formally integrate the role of the Ministry of Village in

defining village boundaries and development strategies to ensure truly inclusive and coherent spatial planning at all levels.

#### **Key Takeaways from Case Studies**

#### **Between Land Tenure and Improved Livelihoods**

The provinces of Riau and Aceh have a long history of unresolved land-related issues besides the drastic loss of tree cover (Statistics Indonesia, 2024; Global Forest Watch [GFW], 2024; Interview 5,12). The urgency in addressing the core problems is high, as under 20% of total villages in Riau have definitive maps (Interview 13). In Aceh province, less than 1% of villages have definitive maps and the absence of a district-level detailed spatial plan (RDTR), due to the district's budget constraints, further hinders spatial use and development mapping (Interview 5).

The availability of definitive maps is crucial in securing and legally strengthening tenurial rights and minimizing further disputes that may arise in the future. This not only assures communities of the legal security of the land on which their livelihoods depend, but also supports the formulation of the RDTR document. RDTR is a key policy instrument in district spatial planning to stimulate economic growth, create additional jobs and simplify bureaucracy (Interviews 4,7,9,10,13,14,17; Ratih et al., 2023).

At the community level, both in Aceh and Riau, land tenure conflicts arise from clashes between state-defined land rights and customary land claims, particularly those bordering forest areas. Local communities rely heavily on land for livelihoods, settlement, and cultural practices, making land tenure a pivotal aspect of their lives (UN, 2012).

Combined with unclear borders, increased demand for land due to rapid population growth and industrial use such as palm oil plantations and mining further exacerbates land tenure conflicts in Kampar and Indragiri Hulu (Riau) and Aceh Singkil and Subulussalam (Aceh) (FGD 1,2,3,4,6,7,8,9,10,11,12). The government tried to address these conflicts by setting up institutions, legal systems, and public discussion forums. However, when public discussion fails to achieve a consensus, the district head or mayor has the right to decide the village boundaries (FGD 1,5; Interviews 6,9,10,11,15,20). This practice reflects a predominantly top-down approach that overrides communities in the decision-making process.

Our case studies of 28 villages across Aceh and Riau demonstrate that implementing PLUP leads to clear progress in defining village boundaries. This proves that inclusive, community-driven approaches are effective in resolving longstanding land tenure disputes and promoting inclusive spatial planning. PLUP also supports the district government to gain insights from the ground for RTRW, KLHS (*Kajian Lingkungan Hidup Strategis* or Strategic Environmental Assessments), and RDTR completion. PLUP empowers bottom-up aspirations to ensure accurate development decisions (Azhari et al., 2025).

Integration of provincial planning (RTRWD) into Riau province's local regulations (*Peraturan Daerah* or *Perda*) has been accommodated since 2012, when the 1998 *Perda* for spatial planning was updated. However, definitive maps require a thorough and complex planning process involving different stakeholders that often stops at the district level.

Participatory planning at the village level can be a bridge between local and regional regulation that is then acknowledged at the national level (Interview 13). The Provincial Development Planning (Badan Perencanaan Pembangunan Daerah or Bappeda) of Riau also highlights the importance of defining an agreed holding zone in conflicted forest areas. The holding zone works as a buffer zone to minimize the conflict and to accommodate the needs of the community before its conversion to other use areas. Areal Penggunaan Lain (APL) are non-forest areas that can be allocated for non-forest purposes, such as agriculture.

The importance of holding zones in forest areas is also evident in Aceh, which is the home of the Leuser Ecosystem. Because Aceh province has received a designation as a special region in Indonesia, its governance must adhere to *Qanun*, a legal basis that is equivalent to local government-level regulation. This study found an ongoing discourse regarding the Leuser Ecosystem Area (*Kawasan Ekosistem Leuser* or KEL) statutory authority. *Qanun* Aceh Special Law No. 7/2016 specifies that forest areas in KEL are managed according to their status and function, while Law

No. 11/2006 on Aceh Government dictates that the Aceh government manage KEL. This contradicts the Ministry of Environment and Forestry (MOEF) Decree No. 859/2016, which designates KEL as a strategic national area (KSN) managed by the national government.

The key advantages of managing KEL through the Aceh Government and not as a KSN are: i) greater regional autonomy, ii) area development flexibility, iii) responsive management, and iv) minimal conflict of interest/authority. However, these benefits are accompanied by certain risks that should be carefully considered, including: i) environmental destruction, ii) lessening direct state influence, iii) decreasing conservation value, iv) biodiversity risk, and v) a bad international image of Indonesia due to drastic environmental destruction (Interview 7).

However, regardless of which level of government manages KEL's holding zone, PLUP would address strategic issues and offer an alternative recourse to the community. For example, PLUP generated consensus on a zoning system that allows local communities to plant economically important and native ecosystem-friendly estate crops such as Gambir, Agarwood, Jengkol, and Durian (FGD 2,3). This would provide a vital source of income for local communities whose livelihoods are closely tied to the surrounding forest areas, strengthening both their economic resilience and incentives to protect the ecosystem.

#### Spatial Planning Readiness Gap Between PLUP and Non-PLUP Villages

Villages that have implemented PLUP are a step ahead in securing their land rights and associated economic benefits by developing indicative maps. Making these maps more definitive and integrating them into regional spatial planning will streamline the planning process and help communities transition toward more sustainable livelihoods. In Kampar district, PLUP Villages have been exposed to a variety of non-governmental organizations (NGOs) who raised awareness of the importance of integrating the spatial planning process to secure tenurial rights (FGD 9; Interview 16). In contrast, most non-PLUP villages across the four study districts lack even basic indicative maps (FGD 1,5,8). Unclear boundaries led to persistent issues of unresolved land tenure disputes.

Another issue is the land grab practice of customary leaders, or *ninik mamak*. In Kampar, *ninik mamak* hold significant power, overseeing both forest areas and productive lands. They mediate land disputes and maintain the tradition of gifting a maximum of one hectare of land to their heirs, despite possessing no legal rights over the land which complicates regional spatial planning (Interview 13; FGD 8,9). This makes regional spatial planning more challenging, as ninik mamak can claim any land despite its ownership.

In Kampar, each village may have more than seven ninik mamak who have absolute power over land, regardless of ownership. This makes spatial planning more complex through overlapping land claims and widespread illegal land grabs. PLUP may uncover these practices. While this is an improvement in the long term, it is more complicated than a process in which PLUP can help secure customary land rights and thereby minimize conflict. Instead, it is likely to create resistance to reforms from those who benefit from governance under ninik mamak (FGD 8; Interviews 11,14,15,16). The main distinctions between villages having PLUP and non-PLUP are summarized in Table 3.

<sup>&</sup>lt;sup>7</sup> Ninik Mamak is a customary leader from Minangkabau, West Sumatra.

Table 3.
Differences between PLUP and Non-PLUP Villages

PLUP Villages		Non-PLUP Villages	
Maps and Village Border	<ul> <li>A definitive map generated with a scale as detailed as 1:250 or 1:1000</li> <li>Clearly defined land use and land cover</li> <li>Village boundary mapping exists</li> </ul>	<ul> <li>Only indicative maps from existing baseline maps for spatial planning (relying on Geospatial Information Agency's Indonesia topographic maps or high resolution orthorectified images for boundary mapping at 1:25000 and 1:10000)</li> <li>No clearly defined land use and land cover</li> <li>Lack of village boundary mapping</li> </ul>	
Land Tenure, Zoning System, HCV-HCS and Directive of Spatial Utilization	<ul> <li>Land use and cover proportion for each functional area are clearly defined (i.e., forest areas, settlement, estate and agriculture areas)</li> <li>Land tenure is distinguished as state-owned, corporate, and community-owned</li> <li>Resources potential mapping identified, such as natural, human, social, economic, and institutional capital (including HCV-HCS potential)</li> <li>Community-informed zoning system between spatial patterns (cultivated and protected areas) for conservation and development purposes</li> </ul>	<ul> <li>No clearly defined land use and coverage areas; mostly based on estimation/claims</li> <li>No clear distinction of land tenure</li> <li>Not yet identified resource potential mapping</li> <li>Lack of community-informed zoning system</li> </ul>	
Availability of Current and Strategic Issues Document	The issues proposed by the community have been clearly identified and documented	The issues proposed by the community have not been clearly identified and documented	
Village Program and Strategy Management	<ul> <li>Roadmap on strategy, program management, and stakeholder mapping for sustainable livelihoods are incorporated into village fund budget and allocation</li> <li>Roadmap also supports protection or restoration programs which then can leverage funds such as payment for ecosystem services (PES) or carbon financing</li> </ul>	Program and strategy are based only on centrally defined priorities on village fund budget	
Stakeholders; Role and Institutional Organization	<ul> <li>Village administrators</li> <li>Village Consultative Agency (BPD)</li> <li>Farmers groups</li> <li>District Agriculture Agency</li> <li>Environmental Agency</li> <li>Community and Village Empowerment Agency (DPMD)</li> <li>NGOs</li> <li>Communities</li> </ul>	Only village administrators are involved	

#### Raising Awareness of Conservation, Local Wisdom and Multi-stakeholder Cooperation

Singgersing and Namo Buaya, two PLUP villages in Subulussalam district in Aceh province, offer a compelling example of how PLUP can lead to concrete, community-driven solutions. Through the PLUP process, both villages reached a collective decision to convert their land into customary forest (*hutan adat*) to protect their environment. Located in the upper river basin and surrounded by extensive palm oil plantations, these areas face frequent flooding, landslides, and soil erosion. Their request for customary forest conversion status is now being reviewed by the MOFe. This case highlights the value of participatory approaches in addressing strategic environmental challenges and fostering locally-driven, consensus-based solutions.

In contrast, land use in districts in Riau Province are strongly influenced by local leaders such as the *ninik mamak* in Kampar and *Talang Mamak*<sup>8</sup> in Indragiri Hulu. In contrast to the sweeping powers of *ninik mamak*, *Talang Mamak* in Indragiri Hulu have a more limited role that is confined to protected forest areas in Bukit Tigapuluh National

<sup>&</sup>lt;sup>8</sup> Talang Mamak refers to an indigenous community that originated from Riau who mostly live in forest areas such as Bukit Tigapuluh National Park.

Park. Involving *ninik mamak* in Provincial *Bappeda* land mapping discussions since 2014 has yielded no results (Interview 13). This highlights the need for capacity-building of local communities in spatial planning, rather than simply relying on traditional leadership.

The power of high-capacity local communities is demonstrated in Aceh province through the leadership style under the customary leadership of *Mukim*. This system has a deep-rooted tradition of community involvement in spatial planning. Mukim governs multiple villages and is responsible for managing land ownership and resolving land disputes. Additionally, Aceh province has had a community-based system that regulated specific land use, such as logging activities, to ensure sustainability and prevent deforestation (Interview 8).

Spatial planning is vital to guide national development, as outlined in Law No. 25/2004. Planning involves not only direct authorities such as *Bappeda* and Public Works and Spatial Planning Local Office (*Dinas Pekerjaan Umum dan Penataan Ruang* or PUPR), but other relevant authorities such as Community and Village Empowerment Agency (*Dinas Pemberdayaan Masyarakat Desa* or DPMD).

In Aceh and Riau, the DPMD is actively involved at the district level, working closely with villages and communities. They primarily focus on monitoring the use of village funds to strengthen village governance and institutional capacity (Interviews 16,19). However, this fund does not traditionally include spatial planning. Only PLUP villages in Aceh allocate up to 10% of the village fund for spatial planning, highlighting the community awareness built by PLUP (Azhari et al. 2025; FGD 1; Interview 2).

Additionally, the role of *Camat* (sub-District Head) in spatial planning is currently limited. The *Camat* mainly coordinates the communication of District Heads with village institutions (Interview 21). Expanding *Camat* responsibilities by boosting their capacity, awareness of RTRW, budgeting knowledge/skills for sustainable land use, and ability to foster multi-stakeholders' collaboration would greatly improve and streamline the spatial planning integration at the local level.

## Integration of PLUP: Beyond Spatial Planning

The Government of Indonesia, through Presidential Regulation No. 23/2021, aims to combine the One Map Policy and the One Data Policy into the One Spatial Planning Policy. The One Spatial Planning Policy would map Indonesia on a granular scale of 1:5000. The main objective of this integration is to map out the resource potential of areas to help development planning through detailed spatial plans (RDTRs) that support economic activities and promote sustainable developments.

However, less than 20% of RDTRs were enacted after four years of implementation (Santo et al., 2025). This underperformance was influenced mainly by the local government's lack of commitment to RDTR design, followed by lack of budget allocation and cross-sector coordination involving local communities. PLUP's bottom-up approach can help address these challenges while accommodating the needs of local communities and the government. PLUP can be funded through the village fund, which is sourced directly from the state budget (Anggaran Pendapatan dan Belanja Negara or APBN) or the allocated village fund, which is sourced from the local budget (Anggaran Pendapatan dan Belanja Daerah or APBD).

Since their introduction in 2015, village funds have mainly been allocated to physical developments, such as infrastructure improvements, rather than on non-physical development (Bachtiar et al., 2018). While this generates visible evidence of development, it does not necessarily contribute to the agricultural community's welfare. Communities struggling to improve their welfare can lead to an expansion of agricultural lands into forest areas.

PLUP addresses both spatial and developmental planning through inclusive participation in spatial and non-spatial mapping (this is illustrated formally in Figure 2). These maps can form the basis for revision of detailed spatial

<sup>&</sup>lt;sup>9</sup> Mukim is a customary system in Aceh led by Imum Mukim, the leader.

plans (RDTR) and spatial plans (RTRW) and for the Local Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Daerah or RPJMD). The RPJMD can be a precursor for attracting local government commitment and legally acknowledged through the district or city level of regulation - mayoral regulation (Peraturan Walikota or Perwali) and district head regulation (Peraturan Bupati or Perbup).

Completing RDTRs is also a national commitment. The MAASP Strategic Planning includes a target of completed RDTR in all 38 provinces up to the district/city level by 2028. This commitment is in line with meeting the government's ultimate goals in the One Spatial Planning Policy and One Map Policy.

Regulation **Development Planning** Framework **Priorities RPJP** RTRW RTR STRATEGIC Ministry/ **AREAS** National **RPJMN KLHS** Government Regulations **RKP** One Map Policy (1:50000 & 1:5000) **RPJPD** KLHS -RTRW RTR STRATEGIC Local **AREAS** Provincial Regulation Perda RPJMD RKPD One Spatial **Planning Policy** (1:5000) Mayor/Head RPJPD RTRW RTR STRATEGIC of District AREAS City/District **RPJMD** Regulation Perwali/ Perbup RKPD RDTR Village Fund Allocation (ADD) Spatial (Definitive) Map Village Regulation **RPJM Desa** in 1:250/1:1000 Village One Data Policy PLUP **RKP Desa** Perdes Non-Spatial (Development) Map Village Fund (DD) PR 23/2021: Laws on National Development Planning Laws on SEA-Laws on Spatial Planning

Figure 2. Integration of PLUP into Spatial and Development Planning to Achieve National Strategic Priorities

Source: Author compilation based on related laws and regulations.

**Spatial Planning** 

Systems -Local Regulations- Village

PR 39/2019

## **Policy Recommendations**

Despite existing laws and regulations that emphasize community participation, land use planning in Indonesia remains predominantly top-down. Drawing on interviews, focus group discussions, and case studies from 28 villages in four districts in Aceh province and Riau province, our findings underscore the value of PLUP and its potential integration into both spatial and development planning processes. Transitioning toward a participatory paradigm is inherently complex and requires careful, phased implementation. To support this shift, we outline the following short-, medium-, and long-term policy recommendations:

#### **Short-Term Actions**

First, it is essential to implement and enforce PLUP through the Spatial Planning Forum (Forum Penataan Ruang or *FPR*), as a mandatory process within spatial and development planning at the local level, as mandated by Government Regulation No. 21/2021. Optimizing the implementation of existing regulation offers a more practical starting point than developing entirely new frameworks. Efforts should also be made to increase familiarity with participatory approaches among local stakeholders.

Moreover, the implementation of FPR must be routinely evaluated to refine its application. As a multi-stakeholder platform, FPR enables local actors to voice their needs and harness their development potential, thereby strengthening inclusivity and bottom-up participation. District Heads and Mayors play a pivotal role in ensuring that FPR involves both local communities and officials, down to the village level, to uphold transparency and accountability throughout the planning and decision-making process.

#### **Medium-Term Priorities**

To enhance the effectiveness of participatory planning, government officials and policymakers should shift their focus toward strategic, medium-term goals. One key step is institutionalizing the insights gained from the PLUP-based FPR process. These instruments should be tailored to local contexts, ensuring they are relevant and sustainable.

This phase involves advocating best practices in PLUP and progressively codifying them into official technical guidelines (*Petunjuk Teknis*, or *Juknis*) at district, city, and national levels. The Ministry of Spatial Planning may take the lead in coordinating this effort, working alongside the Ministry of Home Affairs and the Ministry of Villages, under the supervision of the Coordinating Ministry for Infrastructure and Regional Development, and with guidance from the Ministry of National Development Planning (Bappenas).

It is critical that these *Juknis* align with—and not contradict—higher-level regulations, ensuring that participatory inputs are integrated into the technocratic processes. Once developed, they can serve as practical references for implementing participatory planning at the local level.

#### **Long-Term Goals**

In the long run, the institutional knowledge and *Juknis* developed should serve as a foundation for embedding participatory approaches into existing legal and regulatory frameworks, specifically in spatial planning instruments such as the RTRW (spatial plans), KLHS (strategic environmental assessments), and RDTR (detailed spatial plans). This may involve revising Law No. 26/2007 on Spatial Planning, as well as Minister of Agrarian Affairs and Spatial Planning/National Land Agency Regulation No. 11/2021 on Procedures for the Preparation, Review, Revision, and Issuance of Approval of the Substance of Spatial Planning Plans for Provinces, Districts, and Cities, and Detailed Spatial Planning Plans; and Government Regulation No. 21/2021 on Spatial Planning Implementation, for instance, by formally mandating PLUP at the village level.

To ensure alignment between spatial planning and medium-to long-term development strategies, a stronger legal basis for PLUP must be established. This includes issuing local regulations, such as, mayoral or district head regulations (*Perwali* or *Perbup*), and where appropriate, elevating them into local regulations (*Perda*). These legal instruments will help formally embed bottom-up planning approaches from the village level within the policymaking process, ensuring that PLUP becomes an integral and permanent feature of Indonesia's planning system.

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### **Annexes**

#### **Annex A. Interview List**

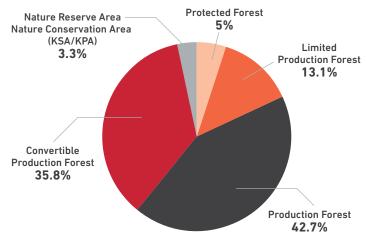
- Interview 1 Ministry of Agrarian Affairs and Spatial Planning (2025, May 6). Personal communication.
- Interview 2 Ministry of Village (2025, May 2). Personal communication.
- Interview 3 Coordinating Ministry of Infrastructure and Regional Development (2025, April 17). Personal communication.
- Interview 4 Ministry of National Development Planning (2025, March 14). Personal communication.
- Interview 5 Environmental and Forestry (Lingkungan Hidup dan Kehutanan or LHK) Aceh Province Local Office (2025,
- February 26). Personal communication.
- Interview 6 Public Works and Spatial Planning (*Pekerjaan Umum dan Penataan Ruang* or PUPR) Aceh Province Local Office (2025, February 10). Offline interview.
- Interview 7 Aceh Province Local Development Planning Agency (2025, February 10). Offline interview.
- Interview 8 HAkA in Aceh Province (2025, February 10). Offline interview.
- Interview 9 Subulussalam City, Aceh Province Local Office Representatives (2025, February 6). Offline interview.
- Interview 10 Aceh Singkil District, Aceh Province Local Office Representatives (2025, February 7). Offline interview.
- Interview 11 PUPR Riau Province Local Office (2025, January 23).
- Interview 12 LHK Riau Province Local Office (2025, January 23).
- Interview 13 Development Planning Agency of Riau Province (2025, January 23).
- Interview 14 Development Planning Agency of Kampar District, Riau Province (2025, January 21).
- Interview 15 PUPR Local Office of Kampar District, Riau Province (2025, January 21).
- Interview 16 DPMD Local Office of Kampar District, Riau Province (2025, January 21).
- Interview 17 Development Planning Agency of Indragiri Hulu District, Riau Province (2025, January 20).
- Interview 18 Agrarian Affairs and Spatial Planning/Land Affairs (Agraria Tata Ruang/Badan Pertanahan Nasional or ATR/BPN) Local Office of Indragiri Hulu District, Riau Province (2025, January 20).
- Interview 19 DPMD Local Office of Indragiri Hulu District, Riau Province (2025, January 20).
- Interview 20 PUPR Local Office of Indragiri Hulu District, Riau Province (2025, January 20).
- Interview 21 Kuala Cenaku sub-District Head, Indragiri Hulu District, Riau Province (2025, January 18).

#### Annex B. Focus Group Discussions (FGD) List

- FGD 1 Subulussalam City, Institutional (2025, February 5).
- FGD 2 Sultan Daulat Subdistrict, Subulussalam City, Community (2025, February 9).
- FGD 3 Penanggalan Subdistrict, Subulussalam City, Community (2025, February 6).
- FGD 4 Rundeng Subdistrict, Subulussalam City, Community (2025, February 6).
- FGD 5 Aceh Singkil District, Institutional (2025, February 7).
- FGD 6 Danau Paris Subdistrict, Aceh Singkil District, Community (2025, February 8).
- FGD 7 Kota Baharu Subdistrict, Aceh Singkil District, Community (2025, February 8).
- FGD 8 Sungai Sariak & IV Koto Setingkai Village, Kampar District, Riau Province, Institutional and Community (2025, January 17).
- FGD 9 Kebun Tinggi, Pangkalan Kapas, Ludai, Lubuk Bigau, Balung, Dua Sepakat, Koto Lama, Tanjung Karang Village, Kampar District, Riau Province, Institutional & Community (2025, January 22).
- FGD 10 Pulau Jumat & Sukajadi Village, Kuala Cenaku Subdistrict, Indragiri Hulu District, Riau Province, Institutional & Community (2025, January 18).
- FGD 11 Rantau Bakung Village, Indragiri Hulu District, Riau Province, Institutional & Community (2025, January 18).
- FGD 12 Kampung Jawa, Rantau Mapesai, Kampung Pulau Village, Indragiri Hulu District, Riau Province, Institutional & Community (2025, January 19).

#### **Annex C. Data and Reference Graphics**

Figure C.1.
Oil palm plantations coverage based on forest area functionality

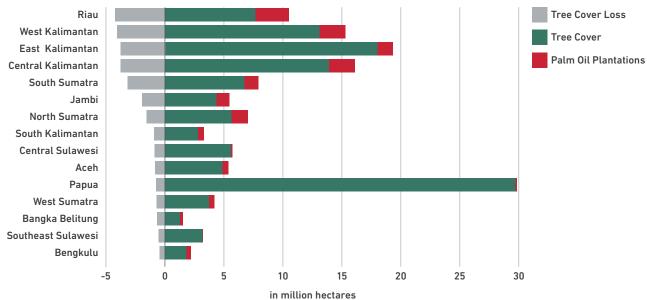


Source: reproduced from CEC, BIG, NIAS, BIG, and MOA (2019).

Table C.1. Forest area type description

Nature Reserve Area/ Nature Conservation Area	Distinctive ecological characteristics designated for preserving biodiversity—both flora and fauna, and their ecosystems.
Protected Forest	Forest areas primarily designated to act as ecological support systems, including water regulation, flood prevention, erosion control, protection against seawater intrusion and preserving soil fertility.
Limited Production Forest	Located outside of protected and conservation forests with scoring 125–174 based on slope, soil, and rainfall factors. Usually intended for limited production of timber and wood.
Production Forest	Located outside of protected and conservation forests with scoring less than 125 based on slope, soil, and rainfall factors. Its main objective is to produce timber, pulp, fuelwood and/or non-wood forest products.
Convertible Production Forest	Non-productive and productive forests that can be allocated for non-forestry development, such as agricultural development.

Figure C.2.
Forest coverage and tree cover loss from 2001 to 2023, and palm oil plantation areas in Indonesian provinces



Source: Author's calculation based on Global Forest Watch [GFW], 2024; Statistics Indonesia, 2024.

Table C.2. Key Regulations in Indonesia's Spatial and Development Planning

Regulation	Contextual Relevance	
Law No. 6/2023 on Job Creation	Stipulates the digitalization of RDTR.	
Government Regulation No. 21/2021 on Spatial Planning Implementation	The implementing rules of the Job Creation Law for spatial planning. This regulation governs spatial planning procedures, including RTR and RDTR.	
Village Law No. 3/2024 on Village	Affirms village authority in village-level spatial planning and management based on local wisdom and sustainability.	
Agrarian and Spatial Planning Ministry Regulation No. 5/2022 on Procedures for Strategic Environmental Study Integration in Spatial Planning Preparation	Regulates the procedures for integrating Strategic Environmental Assessment (Kajian Lingkungan Hidup Strategis or KLHS) in spatial planning.	
National Development Planning System Law No. 25/2004	Specifies five approaches in national development planning: politics, technocratic, participative, top-down, and bottom-up; highlighting the inclusion of community as a core of the system.	

Table C.3.
Proposed Integration on Stakeholders Perspectives

	Existing Context		Proposed Integration Context	
	Spatial Planning	Development Planning	Spatial Planning	Development Planning
National		National Development Planning Agency		National Development Planning Agency
	Coordinating Ministry of Infrastructure and Regional Development	Ministry of Village	Coordinating Ministry of Infrastructure and Regional Development	Ministry of Village
	Ministry of Home Affairs		Ministry of Home Affairs	
	Ministry of Agrarian and Spatial Planning		Ministry of Agrarian and Spatial Planning	
	Ministry of Forestry		Ministry of Forestry	
	Ministry of Marine and Maritime Affairs		Ministry of Marine and Maritime Affairs	
			Ministry of Village	
Provincial	Provincial Public Works and Spatial Planning	Provincial Development Planning Bappeda	Provincial Public Works and Spatial Planning	Provincial Development Planning Bappeda
	Provincial Forestry Agency	Community and Village Empowerment Agency	Provincial Forestry Agency	Community and Village Empowerment Agency
District/ City	District/City Public Works and Spatial Planning	Development Planning Agency	District/City Public Works and Spatial Planning	Development Planning Agency
	District/City Forestry Agency	Community and Village Empowerment Agency	District/City Forestry Agency	Community and Village Empowerment Agency
Village	No context currently exists	Village Council (Badan Permusyawaratan Desa, BPD)		Village Council (Badan Permusyawaratan Desa, BPD)
		Village Administrative (Village Head and Staffs)		Village Administrative (Village Head and Staffs)

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The findings, conclusions and recommendations presented in this report are those of the author(s) alone, and do not necessarily reflect the opinions of the Walmart Foundation, Earthworm Foundation and Swisscontact.

#### **About Yayasan Hutan Tropis (Earthworm Foundation)**

Earthworm Foundation is an impact-driven non-profit that partners with businesses, civil society, communities and governments to reduce the impact of raw materials sourcing on people and the planet. Its supply chain, social and environmental experts work across five continents to improve conditions for people, forests and soils impacted by the production of cocoa, packaging, palm oil, rubber and more. In Indonesia, Earthworm Foundation implements its activities through Yayasan Hutan Tropis and is currently active in the Aceh and Riau landscapes. More information about Earthworm Foundation can be found at https://earthworm.org/

#### **About Swisscontact**

Swisscontact is an independent non-profit development organization established in 1959 by the Swiss private sector and civil society. The work focuses on private sector-led, sustainable economic development and improved quality of life for all in developing and emerging countries. A key focus is to strengthen the skills of individuals and foster the competitiveness of businesses. Swisscontact is implementing 133 projects in 41 countries. In Indonesia, Swisscontact has implemented over 20 multi-year projects since 1974 in the areas of sustainable agriculture, skills development, sustainable tourism, trade and entrepreneurial ecosystem, and green cities. Visit the website for more information www.swisscontact.org.

This policy brief was developed by CIPS with funding support from Earthworm Foundation and Swisscontact. The analysis focuses on the implementation of PLUP in two provinces in Indonesia: The Leuser Alas Singkil Riverbasin (LASR) program in Aceh, implemented by Earthworm Foundation and Swisscontact, as well as the Riau landscape program led by Earthworm Foundation in collaboration with its various members.

The content of this policy brief is the sole responsibility of CIPS and does not necessarily reflect the views or positions of Earthworm Foundation and Swisscontact.

#### **About the PLUP Programs**

Earthworm Foundation and Swisscontact are implementing the SLPI-LASR Project (a Swiss-Indonesia bilateral program) in which PLUP is one of the project activities. The working areas are in Subulussalam, Aceh Singkil, and Aceh Tenggara Districts as well as Aceh Selatan District to another extent. Furthermore, Earthworm Foundation also carries outs PLUP activities in a separate sustainable landscape project in Riau Province, supported by its partners. This policy study will focus on the following areas: Subulussalam and Aceh Singkil districts (Aceh province); Kampar and Indragiri Hulu districts (Riau Province).

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