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Strengthening Indigenous Land Rights in the Face of Rapid Oil Palm Expansion in Kalimantan, Indonesia

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Executive summary

Rapid oil palm expansion is a primary cause of deforestation and peatland drainage / burning in Indonesia, with Central Kalimantan suffering some of the highest rates of land-use change in the country. This threatens transgression of land-system change thresholds, in turn increasing the pressures on climate change, aerosol loading, biogeochemical flows, freshwater use and biosphere integrity boundaries.

Securing *adat* (customary) land tenure is a vital way to maintain social and ecological sustainability, preserving indigenous forest management techniques and reducing land-system change. However, government actions have failed to resolve ongoing land conflict and contradictory land claims, thanks to continued oil palm industry influence in local governance, devolution of natural resource governance, poor institutional capacity, failure to involve local stakeholders, and a failure of certification schemes to address land conflicts.

Thus, local governments must work with *adat* communities to strengthen indigenous land tenure, recognition of *adat* lands and local involvement in natural resource decision making. Taking a bottom-up and political ecology approach to preventing private oil pam expansion will reduce negative land use change and enhance local social, economic, and environmental sustainability. This is essential for the maintenance of local and regional ecosystem services, and the preservation of global Earth System processes.

Foundational science: Discussion and Analysis

With Kalimantan, Sumatra and the Malay Peninsula producing ~90% of global palm oil (1:1418), these areas are suffering severe land use change through deforestation, peatland drainage and conversion to oil palm plantations. Central Kalimantan has some of the highest oil palm expansion rates in Indonesia (25, 26); between 1973 and 2015, 34% of Kalimantan's old-growth forests were cleared, with 12% of Kalimantan's land area now covered by industrial plantations (2:4). As illustrated in figure 1, this reduces the percentage of original forest area, including primary and secondary forests, peat swamps and mangroves (3, 15, 17).

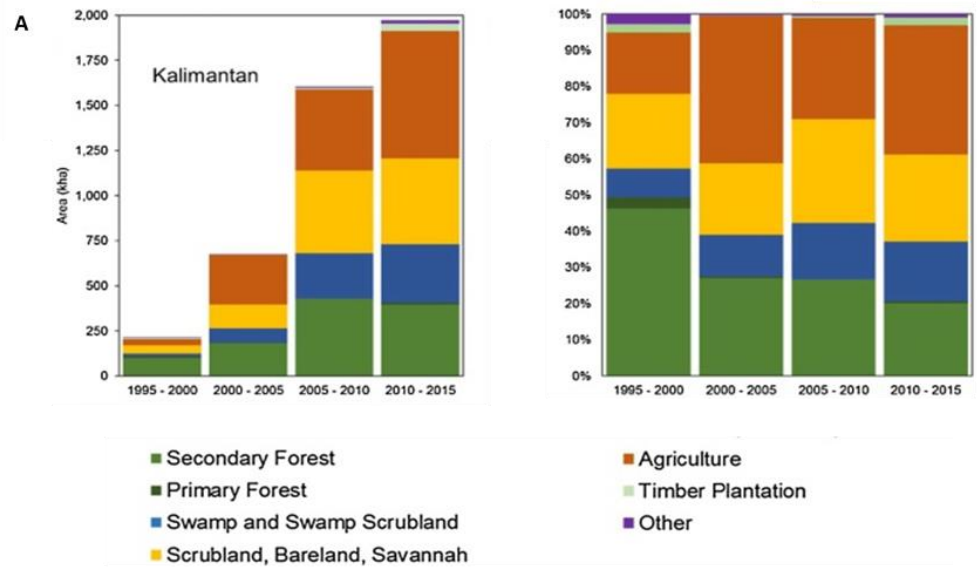

Figure 1: The A) Area and B) Proportion of each land cover category converted to oil palm plantations in Kalimantan, 1995-2015 (17:44)

Despite short term economic benefits (4, 8, 13), the expansion of industrial oil palm plantations has significant impacts on local – and thereby, regional and global – ecosystem services (4, 5, 6, 16, 18). This threatens transgression of the land-system change planetary boundary described by Rockström *et al.* (2009) and Steffan *et al.* (2015), whereby the intensification of localised deforestation threatens regional and global thresholds and key Earth System processes (16).

Acting as a slow variable but with potential to trigger widespread, irreversible changes to forest biomes, land-use change has cumulative effects on other boundaries, including climate change, atmospheric aerosol

loading, freshwater use, and biosphere integrity. These complex interactions, along with the direct and indirect impacts of deforestation (below), are shown in figure 2.

Direct impacts of deforestation and peatland drainage and burning include:

- → Increased carbon, methane and nitrous oxide emissions (4, 5, 6); reduced carbon dioxide absorption (19);
- → Atmospheric aerosol loading of isoprene, estragole and surface ozone (4, 7, 20);
- → Significantly reduced terrestrial and aquatic species diversity and abundance (4);
- → Degrading productivity, biomass and species composition within forest ecosystems (18);
- → Regional climate disruption due to disruption to evapotranspiration cycles and land albedo (4, 18);
- → Incomplete combustion of peatland fires; hazardous smog; reduced peatland fire resilience (6);
- → Land grabbing, labour exploitation and land insecurity; marginalisation of *adat* (customary) communities; land conflict involving local communities, migrant farmers and smallholders (11, 21, 4, 12, 11, 13).

Further impacts can consist of:

- → Disruption to hydrological cycles and water quality (4);
- → Human health risks, including increased risk of respiratory illness or premature mortality (6, 7, 22);
- → Increased potential for emergence of zoonotic infectious diseases (9, 18);
- → Degrading regional air quality and resulting social and economic disruption to schools, airports and cities (6, 7);
- → Decreased social stability and wellbeing (11, 21).

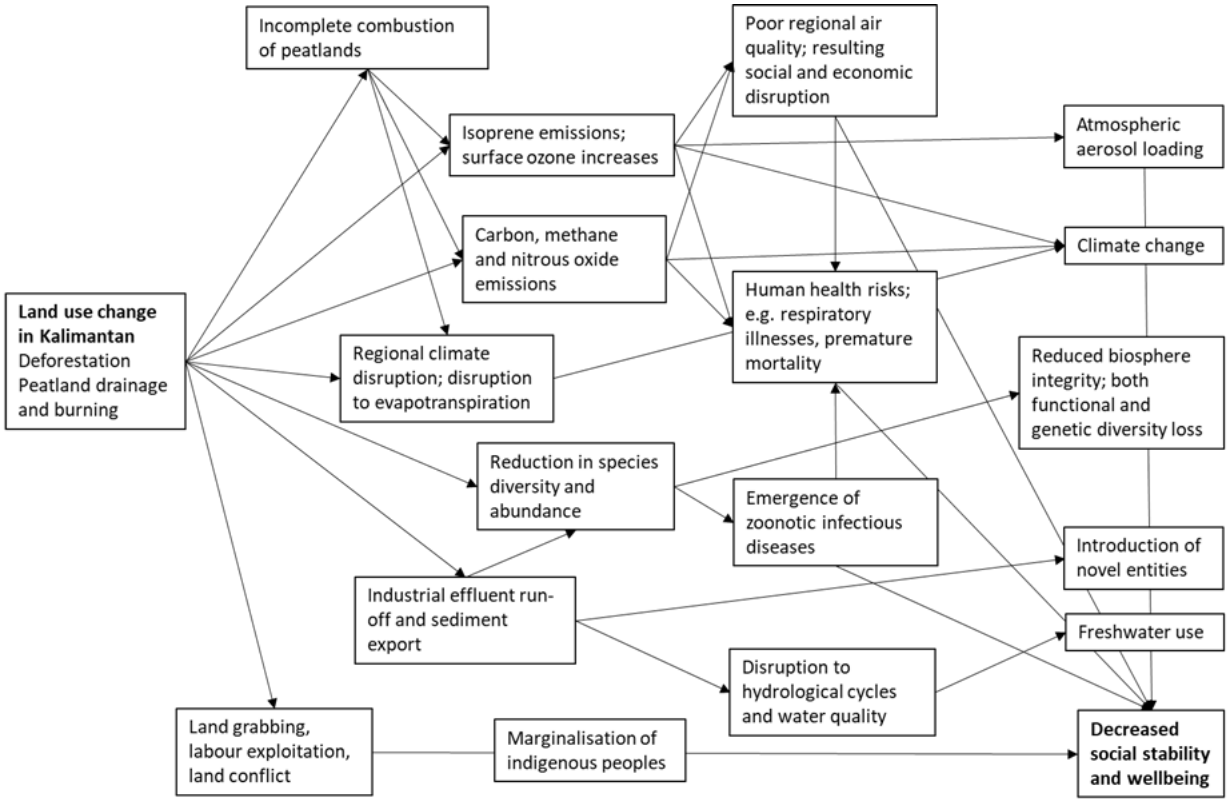

Figure 2: the interconnections between the direct and indirect effects of land use change (4-16)

Globally, this destabilisation risks triggering further biophysical changes including global climate disruption, thanks to close land surface-climate coupling and climate feedbacks (15, 16, 18), disruption to hydrological and carbon cycles and reduced carbon storage and resilience (16, 18). In this way, increased deforestation risks triggering non-linear changes and negative feedback loops that accelerate functional collapse within ecosystems (16). **Addressing the unsustainable use of land within of the palm oil industry is therefore essential to remaining within a "safe operating space for humanity" (16:2).**

Assessment of Existing Governance

Government actions since 2010 have reduced some deforestation; for example, joining the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (REDD+) in 2010, implementation of the Indonesian Sustainable Palm Oil (ISPO) certification scheme in 2011, and Presidential Instruction No.10/2011 signing a moratorium to prevent the conversion of primary forests and peatland (19, 23, 24).

There is recognition of the importance of indigenous land rights to ecological sustainability (27), with some legal recognition of customary forests and communal land rights land in Constitutional Court Decision No.35/2012, the 2014 Agrarian Reform and by the Ministries of Environment and Forestry, Agrarian and Spatial Planning and the National Land Agency (24). The publication of the One Map Policy in 2018 aimed to consolidate land tenure information to reduce overlapping claims to customary forests (28).

However, governance inconsistencies remain; policies including One Map have failed to resolve contradictory land claims, insecure land tenure or land conflict (11, 24, 14, 8, 29), and recent withdrawals of national government subsidies for smallholders have increased provincial endorsement of intensive agribusinesses, despite indigenous protest (12, 8).

Local governments must therefore interrogate the "institutional, social and technological barriers and inertia" that have perpetuated these failures (24:374), widely recognised to go hand in hand with oil palm monoculture expansion and associated adverse environmental impacts (11, 24, 14, 8, 21):

1. State-industry alliances

Close state-industry alliances have arisen from national governance strategies since the 1960s, as illustrated in figure 3 (24). Alongside dominance of neoliberal attitudes to land management, this has prioritised the economic value of forests and peatland over social, cultural or ecological values, rendering palm oil a commodity that relies on exploitation of fragile landscapes and a precarious labour force (12, 24, 8).

Resulting dominance of political and economic elites has structurally excluded indigenous communities from forest management – for example, refusal to recognise unwritten land tenure claims (13, 24 12). The vested interests of oil palm companies continue to significantly influence political processes, allowing companies to avoid prosecution for unsustainable practices, get cheap land to continue expansion, shape regulation in their favour and resist more sustainable forest policy (8, 24). This drives land conflict and unsustainable practices (31), whilst "producing and entrenching structural causes of inequality and poverty" (8:218-219).

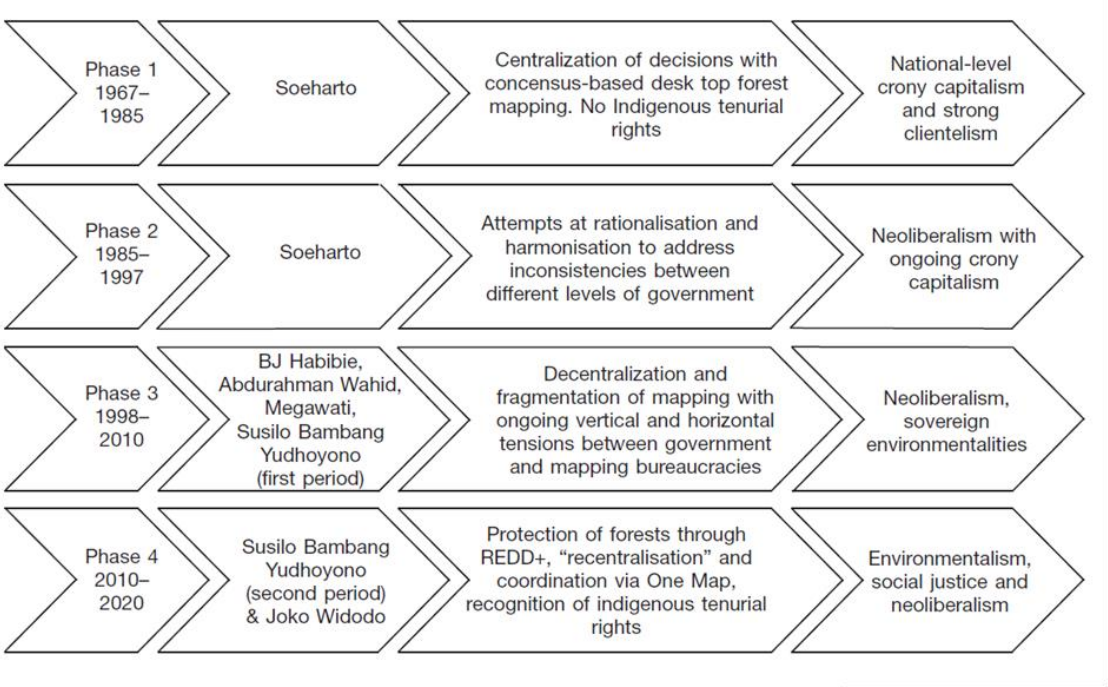

Figure 3: Indonesia's Forestry and Land Management phases, 1967 – 2010 (24)

2. Devolution of natural resource governance

Since the 1980s, the Indonesian government has oscillated between centralised and decentralised land management, with laws such as law No.22/1999 on Local Government or Law No 23/2014 on Regional Governance favouring decentralised and community-based governance of natural resources (24, 12). The lack of overall coordination demonstrated in figure 3 has led to abuse of planning powers by local elites, weakening customary land rights and increasing privatisation and forest conversion, effects of which can be seen in figure 4 (24:389, 12).

Intention	Outcome
Participatory development and greater efficiency for local priorities[1,2,3,4,5]	Local jurisdiction did not receive sufficient power or resources[1,2,3,4,5]
Increased voice for local communities, empowerment and democratisation[1,2,5]	The elite captured resources, as the powerful locals took advantage of uncertainties[1,2,5]
Poverty reduction through equitable access to resources[1,2,3,4,5]	Extreme poor and disadvantaged groups were marginalised[1,2,3,4,5]
Greater accountability in local governments[1,2,5]	Lack of representativeness of decentralised body[1,2,5]
Tailor resource management objectives to local contexts[1,5]	Fragmented management responsibility for ecosystems[1,5]
Local conflict resolution and more sustainable resource management outcomes[1,2,3,4,5]	Created more local conflicts and social tensions, some leading to resource overuse[1,2,3,4,5]

Figure 4: The outcomes of Indonesia's decentralisation of land use policy (26)

3. Poor capacity

Local government and national agencies still lack sufficient capacity to enforce sustainable forest management policies or protect the rights of indigenous peoples (12, 30, 11, 14). This limits the power of the state and mechanisms such as the ISPO to regulate and reduce deforestation (19, 11, 32).

Failures to resolve contradictions in land claims persist – for example, unwritten land claims or claims from local communities not recognised as indigenous groups (24). This reflects the failure of projects such as the One Map Policy to map or legally recognise customary forests and villages: currently only 19% of Indonesia villages have been mapped and only 65 of 814 *adat* communities have been recognised by local governments (24:383-389).

4. Lack of public participation

Local corruption and uneven power dynamics lead to poor public participation in forest management, reducing transparency and representation within local institutions, whilst failures to inform indigenous groups of boundaries to customary forests increase land conflicts (24, 12).

The failures of certification schemes such as the ISPO and Roundtable on Sustainable Palm Oil (RSPO) to recognise Free Prior Informed Consent (FPIC) in plantation expansion undermines indigenous tenure rights and fails to support balanced negotiation between local communities and plantation companies (19, 23, 14).

Thus, state-facilitated commodification of customary land both reduces the power of local communities to maintain stewardship of their land (12) and undermines efforts for setting higher sustainability standards (11).

5. Failures of certification schemes

Despite attempting to enhance the 'sustainability' of palm oil, national and private certification measures such as the ISPO and RSPO are inadequate in reducing deforestation and peatland conversion and the associated effects outlined above (13, 8, 19, 11, 25). For example, ISPO regulations and definitions of deforestation are vague, lacking zero-deforestation commitments, clear emission reduction targets or strong prevention policies (19).

These schemes do not address local land conflicts or protect indigenous communities (13, 11, 12, 8), instead operating "at the expense of local people" (10:74) through reproducing structural power inequalities, poverty and inequality (8, 11).

NGOs and local governments have institutionalised these harmful mechanisms, embedding the use of capitalist instruments and structurally excluding the voices of 'sceptic' NGOs and local people from a technical and capitalist discourse (10, 8).

Governance Recommendations

As the majority of lands in Central Kalimantan are customary owned (29), it is essential for local government to work with *adat* communities to recognise indigenous and communal land rights, thereby reducing land conflicts, promoting social justice and enhancing local sustainability (24, 9, 12, 8, 31).

Improved mapping / recognition of customary lands and indigenous communities

This includes consolidation of the One Map Policy in a way that is transparent, publicly available and that addresses previous government inconsistencies (29). Governments should accept the map of customary lands prepared by the Indigenous Peoples Alliance of the Archipelago (AMAN) and encourage participatory mapping processes (24) They should also simplify the legal procedures for the recognition of indigenous communities, *adat* and customary land (24).

This should improve protection of land with unrecognised or contested claims, contribute to *adat* community-led land management, and allow for targeted interventions to strengthen land rights – such as of farmers close to historic forested areas less likely to have formal land tenure (24, 30, 12).

Public participation in natural resource decision making and *adat* institutions

This is essential for sustainable, community-led management of resources (12, 9). Land use decisions and interventions must be taken with the full engagement and consent of local peoples; this includes the implementation of FPIC at all levels of land management and lobbying the national government to include FPIC within the ISPO (12). Local governments should work with local NGOs to facilitate FPIC implementation within land-change proposals (12, 10).

A political shift

Development strategies must shift from centring growth-driven, top-down agendas to respect of local livelihoods and finite planetary limits (8, 12). This requires inclusion of political ecological approaches, 'sceptic' NGOs and movements organising against land conflict, such as AMAN, to promote local land rights and sustainability outside certification schemes (10, 12, 10, 8).

Local governments must act against vested corporate interests in the oil palm industry through preventing private enterprise expansion on *adat* and indigenous community land (24, 33, 9, 25). This means developing mechanisms to strengthen local institutions, regulations and enforcement mechanisms – for example, through making them more inclusive of different local stakeholders (30, 12, 25). Use of financial and coercive power and collaboration with sceptic and opponent NGOs can increase transparency and accountability within certification schemes and local institutions (12).

This framework is illustrated in figure 5.

Sustainability

Reducing land conflicts and displacement of local peoples will reduce negative land use change such as deforestation, through reducing resulting pressures on surrounding forests and exploitation of ecosystems by external actors (13, 9, 30, 14, 12, 5). Improved local governance is linked to reduced deforestation rates (26). The promotion of indigenous land management will enhance communal stewardship of natural resources and intergenerational sustainability (8, 24), allowing oil palm cultivation to exist as part of a diversified and sustainable agro-ecological approach (8). Overall, this will enhance social, economic and therefore, environmental, stability (9, 13, 12).

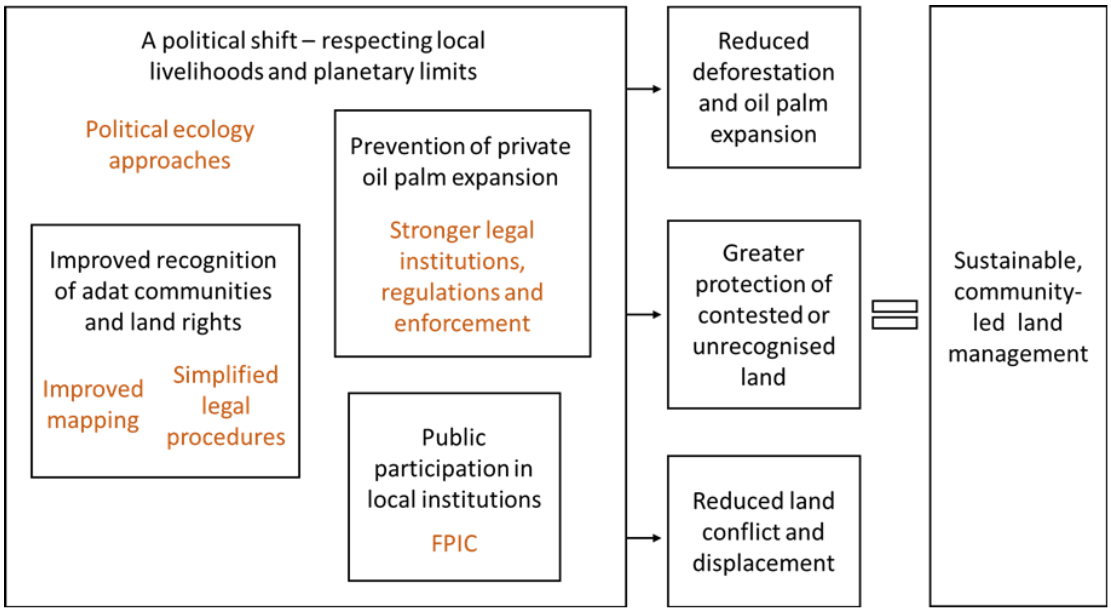

Figure 5: A framework for sustainable land management

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