



Research

Unpacking the role of failed land investments in driving tropical deforestation

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ABSTRACT. Tropical and subtropical forests and savannas support millions of forest-dependent people. These ecosystems are under rising pressure from deforestation, primarily due to agricultural expansion. Yet, a large proportion of agriculture-driven deforestation does not lead to productive land use afterwards, potentially because of speculative, halted, or abandoned land investment projects. Our understanding of such apparently failed projects, their links to deforestation, and their impact on local people, however, remains limited. Here, focusing on failed land investment projects in tropical and subtropical woodlands (i.e., forests and savannas), we aim to understand how these projects failed, how they led to deforestation, and how access to land for local communities changed after failure. We identified and reviewed cases of failed projects that led to deforestation sourced from a systematic literature review and global databases on land investments and environmental conflicts. Our results show that resistance to land investment projects was the most common determinant of failure, suggesting prevailing misalignment of investments with local needs. We identified various configurations on how failed projects are linked to woodland loss, ranging from land clearing for an eventually abandoned project to illegal timber harvesting. Most of the projects targeted areas used by local, forest-dependent communities. Despite failure, some of these communities lost access to lands in the process, indicating that even failed projects can result in land grabs. Our multi-case analysis revealed the pivotal roles played by governments, socioeconomic agendas, and investors in these complex predicaments. This emphasizes the need to learn from failed projects to reevaluate priorities in land governance, enhance government enforcement capabilities, and adopt a more inclusive and comprehensive approach that amplifies local voices and safeguards tropical and subtropical woodlands.

Key Words: *commodity frontiers; Indigenous People; land rights; land rush; large-scale land acquisitions*

INTRODUCTION

Tropical and subtropical forests, woodlands, and savannas (hereafter: tropical woodlands) harbor unique biodiversity, mitigate climate change, and sustain the livelihoods of millions of local people (IPBES 2018, Olesen et al. 2022). Despite their importance, many of these woodlands have been cleared for the expansion of agriculture and forestry (Geist and Lambin 2002, Curtis et al. 2018). This expansion seeks to increase revenue and the provisioning of food, bioenergy or feed, and through this generate socioeconomic development, yet at major environmental costs (Meyfroidt 2018, Meyfroidt et al. 2022). Much of conservation policy, planning, and action centered on tropical deforestation thus seeks to mitigate this trade-off, for example through area-based conservation projects that involve local communities in alternative livelihoods projects, or through working with land investors, producers, or other actors along supply chains to lessen deforestation (Maxwell et al. 2020, Pacheco et al. 2021, Lambin and Furumo 2023).

Yet, at least one third of agriculture-driven deforestation in the tropics does not result in actively managed agricultural land (Pendrill et al. 2022). In Indonesia, for example, over half of deforested primary forest was left idle for five or more years, with the majority of this land being cleared mechanically in large-scale capitalized projects (Parker et al. 2024). In these cases, forest loss is potentially attributable to multiple processes linked with

agriculture and forestry frontiers, which include speculative clearings, or investment projects that fail (i.e., are halted or abandoned) (Pendrill et al. 2022, Parker et al. 2024). In such failed land investment projects, what is otherwise framed as a trade-off becomes a lose-lose situation, where the anticipated socioeconomic benefits do not materialize, but the negative environmental and social impacts can remain.

Considerable research attention has been directed toward land investments, particularly following the surge in transnational land deals in Latin America, sub-Saharan Africa, and Southeast Asia during the 2000s (Cotula 2009, Borras et al. 2012). This land rush emerged in response to both a food and economic crisis, coupled with efforts by Global South countries to attract foreign capital to advance development (Wolford et al. 2013). This land rush accounts for at least 171 million ha in land deals globally (Land Matrix 2024), with a particular focus on those tropical and subtropical regions that are portrayed as holding the last land reserves for agricultural expansion (Moore 2010, Silverstein 2014, Gasparri et al. 2016). As a result, transnational and domestic land investment projects have provoked major environmental impacts, land conflicts, and other social impacts (Messerli et al. 2014, IPBES 2018, Davis et al. 2020).

Within the land rush literature, few studies have focused on failed land investments (Nolte 2020, Borras et al. 2022). Such failed projects encompass situations where actors engage in land

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acquisitions that either fail in the negotiation phase or that are initiated but later halted, canceled, or abandoned. Together, such failed projects account for around 13% of the area covered by land deals globally (Land Matrix 2024). Failures can result from diverse and interrelated factors, including investment factors (e.g., inadequately executed implementation plans), inadequate local context (e.g., local resistance, poor environmental conditions) or inadequate broader context (e.g., market fluctuations that trigger corporate bankruptcy) (Nolte 2020). However, what appears as failed can also include projects that were never intended to succeed in terms of establishing productive agricultural use, such as where extractive (for timber) or speculative goals prevail (Davis et al. 2020, Borras et al. 2022, Broegaard et al. 2022). Thus, despite failure, the result can still be deforestation, sometimes as a byproduct, sometimes as a deliberate outcome. Yet, the land rush literature generally overlooks the environmental outcomes of land deals (Liao and Agrawal 2024, Wolford et al. 2024). The few studies examining the impact of land investments on deforestation typically used case studies (Davis et al. 2015, Moreda 2017, Chen et al. 2019, Magliocca et al. 2020, 2022) or quantitative analyses across large databases of land deals (Messerli et al. 2014, Davis et al. 2020). However, analyses focusing on investment projects that failed, and how failed projects relate to deforestation across geographical contexts, are missing.

Tropical woodlands are important for supporting biodiversity and people's lives. Whether people depend on forests for natural resources or spiritual fulfilment or whether their lifeways are intertwined with those woodlands, land investment can change access and, often, lead to land being expropriated and communities being displaced (Dell'Angelo et al. 2021). Sometimes this involves compensation in the form of financial payments, jobs, or other benefits, but these benefits do not always materialize, and many land investment projects are highly contested, leading to conflict, violence, and sometimes death (Hall et al. 2015). In the case of a failed project, negotiated or anticipated positive outcomes of these projects will likely fall short or remain undelivered, while the negative social-ecological impacts can remain, including restrictions of access and use of forests or depletion of resources. Understanding how failed investments impact people, and specifically access to lands, is therefore important, but no study has investigated systematically across the tropics.

The objective of our study thus was to explore how land investments projects that led to deforestation have failed, how such failed projects relate to deforestation patterns, and how these failed projects change access to land. We ask:

1. What are the characteristics of land investment projects that failed and led to deforestation?
2. At what stages of projects did failure happen, and what were the reasons for failure?
3. How do failed land investment projects relate to the motivations for deforestation, its direct or indirect character, and deforestation legality?
4. What are the relations between failure, deforestation, and change in access to land?

BACKGROUND

Land investment projects

The research approaches and definitions used to analyze land investments projects, land deals, or large-scale land acquisitions differ widely. Here, we define land investments as “the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital” (Borras et al. 2012). Land investments involve processes of land control and dispossession, as well as the potential for resistance (Hall et al. 2015, Borras et al. 2022). This involves a complex set of distant and local political actors, all operating under varying power relations (Wolford et al. 2013, Hall et al. 2015, Chung and Gagné 2021). Moreover, investors or land appropriation actors might be both licit and illicit and can shift their needs, expectations, and consent depending on an established, expected, or materialized set of conditions. With multiple motivations, ways to claim and control land, and forms of resistance, land investment outcomes are highly diverse. For example, many land investments utilize only a fraction of the land recorded in the deal (Edelman 2013, Oya 2013, Scoones et al. 2013, Lu and Schönweger 2019). Development trajectories after a land investment has been initiated are also diverse, with investments being abandoned, halted, or canceled at various stages of project development (Nolte 2020).

Our definition of failed land investment projects aligns with the notion of “non-operational land deals” (Borras et al. 2022). These correspond to both land investments reported as failed because of unsuccessful negotiations or canceled contracts, and deals that were concluded but projects were abandoned during the implementation or operational phase. In the context of failed land investments, speculation and spectacle are key processes (Li 2017, Lay and Nolte 2018, Borras et al. 2022). Following Tsing (2004), an economy of appearances supports and motivates deal-making. Both investors boasting about their potential profits and endowments, and governments, offering large tracts of supposedly “empty” land for investment, create a “necessary” spectacle (Mollett 2016, Fraser and Mittal 2017). In this scenario, gains are exaggerated and challenges are minimized (Scheidel 2016). Investment funds and individual investors are attracted to land investments with potential value gained from an abnormal rent surge, occurring from real or foreseen changes in accessibility, productivity, costs, prices, or subsidies (le Polain de Waroux et al. 2018, le Polain de Waroux 2019). Such situations fuel land speculation, where part of the profit expectation comes from the commodification of land itself (Lay and Nolte 2018, Silva and Arima 2025). Thus, we acknowledge that failure is contextual, although we here define the term failure in reference to formally stated investment goals, part of these non-operational investments can still be successful in fulfilling their speculative goals, and impact access and control to land even after projects are canceled (Bruna et al. 2025).

Forests, land access, and land investment projects

Conservation increasingly recognizes the importance of customary forest uses by local and forest-dependent communities (Article 10, CBD & UNEP 2011). When land investments target forests, they likely impact the livelihoods of forest-dependent communities and their role in ecosystem conservation (Davis et

al. 2020, Levers et al. 2021, Nanthavong et al. 2021). Despite common assertions by governments and investors that targeted areas are unused, idle, or wastelands (Ferguson 2014, Messerli et al. 2016, Moreda 2017, Lu and Schönweger 2019), such labels are often ambiguous and include fallow land or forests managed by local people for multiple purposes, including fuelwood collection or grazing (Baka 2013, Lambin et al. 2013). Such lands also often fall under common property systems or are used by people lacking secure land titles (Dell'Angelo et al. 2017, D'Odorico et al. 2017, Moreda 2017). Consequently, land investments may contribute to furthering the privatization and commodification of land, for example through the establishment of long-term land concessions (D'Odorico et al. 2017).

Land investments can lead to major changes in access to forests and natural resources, and while investments may fail, the changes in who can access land are not always reversed (Broegaard et al. 2022). Different legal mechanisms are usually in place to protect forests and the people who depend on them, for example, consultation with local people, environment impact assessments, management plans, and often compensation mechanisms (Cotula 2009). Disrespecting the procedure before or after approval allows for litigation action, putting at risk the investment (Blackmore et al. 2015). In the case of Indigenous Peoples, mechanisms to support land rights may be leveraged, such as the principle of free, prior informed consent, other international instruments, or country-level laws for Indigenous People's rights (International Labor Organization 1989, UN 2007, Locher et al. 2012, Filer et al. 2020).

METHODS

Data collection

To investigate the relation between failed land investment projects, deforestation, and land access, we identified agricultural and forestry investments in tropical forests and woodlands. Specifically, we focused on projects that were abandoned, canceled, or stopped, thereby failing to achieve their officially stated goal, and that reported direct or indirect associated forest or woodland clearings. We identified these cases from three sources: (1) a systematic literature review, (2) the Land Matrix data on failed land investments, and (3) the global Environmental Justice Atlas (EJAtlas) data on environmental conflicts. Although sources differ in their definitions and focus, much overlap exists, and we thus use land investment projects as the common nomenclature. We focused on agriculture and forestry plantation projects (e.g., excluding mining) because those land uses have been linked with most deforestation in the tropics (Curtis et al. 2018). When forest concessions projects resulted in high deforestation, we included them as well. Our analysis focuses on deforestation in tropical and subtropical natural forests, woodlands, and savannas.

Importantly, given the high structural and spatial diversity of natural vegetation in the dry tropics, our definition was purposefully chosen broadly to include the expansion of land uses to closed-canopy forests, open forests, woodlands, and savannas. We also included cases where land use expansion led to the full conversion (e.g., expansion of rubber plantations) or partial conversion (e.g., expansion of logging operations) of the natural vegetation. This may include degradation processes, such as increased edge densities or fragmentation of ecosystems,

although we did not explicitly assess these effects. We note that our focus here was on understanding the conditions under which projects that expand into natural areas fail, and not necessarily the nuanced ecological outcomes of these expansions or failures, which would require distinguishing between natural ecosystem types.

For our systematic literature review, we followed the Preferred Reporting Items for Systematic Review and Meta-analysis approach (Shamseer et al. 2015). We selected keywords for land investment projects, for failed, non-operational, abandoned, or stopped projects, and for deforestation of forests and woodlands (see Appendix 1). Our literature review was done in Scopus (June 2023). We first searched the title, abstract, and keywords, followed by the full text. We included records that fulfilled two criteria: those that (1) focused on failed or non-operational land investment projects, and (2) included accounts of deforestation linked to the former land investment project. From the initial 231 records, 15 were included; two were excluded because of language barriers, and five because we did not have access to them. We performed a snowball approach and gathered four additional cases, totaling 19 cases that were reviewed in full.

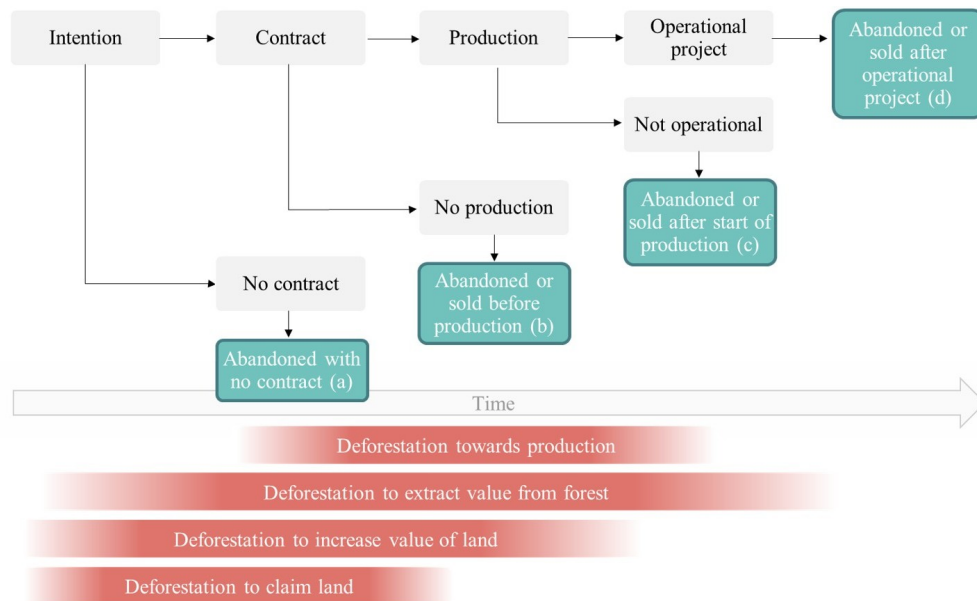
The Land Matrix database is a crowdsourced data repository focusing on "large-scale land acquisitions" defined as any intended, concluded, or failed attempt to acquire land through purchase, lease, or concession for purposes such as agricultural production, timber extraction, and others, in low- and middle-income countries (The Land Matrix 2024). These acquisitions can involve both transnational and domestic investors and must have a land size greater than 200 ha. According to our definition, we focus on land investments reported as failed in their negotiation status as well as all investments that were reported as abandoned during the implementation phase following the classification provided by dataset (The Land Matrix 2024). This resulted in a total of 540 investments identified in June 2023 in countries with tropical and subtropical forests and woodlands. Of these, we selected those where the investment's documentation mentions deforestation as defined earlier. This resulted in 28 cases retained in our analyses.

The EJAtlas is an online database that collects data on environmental conflicts globally through a network of case contributors. In the EJAtlas, a case refers to the contentious mobilizations of civil society actors in which explicit social-environmental claims are made against projects or economic activities pursued by state, corporate, or, sometimes, illicit actors (Temper et al. 2015, Scheidel et al. 2020). Cases are sourced from secondary references such as scholarly papers, civil society reports, lawsuits, formal complaints, news articles, and others, reducing biases by single sources. Before a case is published all information is checked for completeness and quality by a team of moderators (Temper et al. 2015, Scheidel et al. 2020). For our analysis, we searched for cases that (1) reported projects as canceled, stopped, or temporarily suspended, and (2) reported deforestation, as defined earlier. This resulted in 46 cases included in our analyses. The search was conducted in September 2023, on the basis of the dataset's own classification.

Data analyses

For our final database, we triangulated cases across the three sources (literature review, Land Matrix database, and EJAtlas database), resulting in a total of 80 unique cases, where 10 are

Fig. 1. Conceptual diagram of potential pathways of land investment projects (light gray) that lead to non-operational projects (blue) and identification of potential deforestation motivations (in red), situated along the land investment project implementation stages.



present in multiple sources (Table S1, Fig. 1). To provide a more complete understanding of each case, we consulted additional online sources, such as news pages or civil society reports, when available (Table S1). We analyzed the textual content associated with each case using a structured approach that involved two steps. First, we developed codes by combining both inductive (based on themes we observed while reviewing cases' descriptions) and deductive approaches (based on previous research on failed projects, deforestation, and land access). Second, we organized these codes into three dimensions (failed land investments, deforestation, and land use and access), and eight main categories and respective sub-categories that directly address our research questions (Table 1). To characterize cases (RQ1) we classified the geographic focus (country, continent), the temporal scope, and the land use of the investment project. To analyze the stage and the determinants of project failure (RQ2), we elaborated on Nolte's (2020) conceptualization of trajectories of failed land investments and her classification of failure types by project stage (see Fig. 2). We coded determinants of land investment failure, organizing them by (1) investment level determinants, (2) local context determinants, and (3) macro-context determinants. To address how failed projects relate to deforestation events (RQ3), we coded any descriptions of deforestation processes, regarding motivation for deforestation, whether deforestation resulted directly or indirectly from investments, and the legal status of deforestation (Table 1). Motivations for deforestation were coded by considering the mechanisms associated with agriculture-driven deforestation without expansion of managed agricultural land identified by Pendrill et al. (2022). Our classification system—based on the combination of deforestation motivation, legality, and direct or indirectness—allowed us to encompass the full variety of situations found in the cases reviewed. These situations include, for example, the abandonment of projects after land

clearing due to low land suitability or resistance from local communities, as well as deforestation for land speculation or deforestation caused by illegal logging followed by a project cancellation. To relate failed land investments, deforestation, and changes in land access (RQ4), we analyzed the failure determinants, and classified prior land claims, prior uses of the forest/woodland, and post-project land access. Finally, we performed a quantitative content analysis to derive the frequency and co-occurrence of categories of our variables.

RESULTS

Failed land investment projects that lead to deforestation

We identified 80 unique cases of failed land-based investments that led to deforestation, spanning the period 1973 to 2020. Most cases were from Asia (38), followed by Africa (25) and South America (17), and were distributed across 31 countries, with Indonesia (8), Philippines (6), Ethiopia (5), Lao PDR (5), and Papua New Guinea (5) having most reported cases (Fig. 1). For most cases, the intended land use of investment projects was agriculture (52 cases, 13 of which were in combination with other intentions), followed by forestry (40, 14 with other intentions), and mining (three cases combined with agriculture or forestry). Disaggregating this further, silviculture-timber extraction was most common (35), followed by food crops (15), and palm oil (16). Most projects (68) happened between 2000 and 2019.

Pathways and reasons for land investment project failure

Land investment projects that led to deforestation failed mostly in the later stages of project development, 37 after operational projects and 19 after production, whereas 21 failed before production, and only three had no contract (Fig. 3). In South America, the majority of cases reached the operational phase (9 cases), whereas in Asia there was a more heterogeneous mix of

Table 1. Conceptual mapping of content analysis for deforestation mechanism and motivations and for failure mechanisms. Except for failure type, all variables could be coded with multiple categories, and some include sub-variables.

Dimension	Main variable	Description of categories and sub-variables
Failed land investment	Failure type	Conceptualization of trajectories of a failed land investment, with four potential trajectories to a non-operational deal (adapted from Nolte 2020) No contract: there is an intention to pursue a project, but the contract or needed authorizations are never finalized (Fig. 2a). Before production: the contract is concluded and cleared by authorities, yet the project is abandoned or sold before reaching the production stage (Fig. 2b). After production: the project proceeds to the production phase but shortly after fails (when information is provided, for a maximum of two years) (Fig. 2c). After operational project: production initiates and sustains itself for a period (when provided information, for more than two years), but later the production is abandoned (Fig. 2d).
	Failure determinants	Typology of reported determinants of land investment project failure organized by three sub-variables: Characteristics of the investment: determinants for project failure associated with the project, grouped by: <i>economic</i> (e.g., economic difficulties, pull out of investors); <i>intentions</i> (e.g., the investment was never intended to be successful or has speculative goals); <i>political</i> (e.g., investors do not fulfill their political and social commitments, sometimes associated to corruption); <i>knowledge</i> (e.g., the investors lack knowledge for the establishment of a successful project). Characteristics of the local context: determinants for project failure associated with the local context of where the project is established, grouped by: <i>environmental</i> (e.g., environmental hazards or difficulties arising from the environment); <i>resistance</i> (e.g., the project is pushed back by local communities using different mobilization forms [sometimes with support of other actors]); <i>social</i> (e.g., the project targets areas where prior residents have tenure vulnerability). Characteristics of the macro context: the stated determinants for project failure associated with the macro context (national or international) of where a project is established and grouped by: <i>political</i> (e.g., national entities do not support the project, war) and <i>economic</i> (e.g., market volatility or insecurity).
Deforestation	Motivation	Reported and closely inferred [†] motivations for the deforestation event (directly or indirectly resulting from failed land investment project). Toward production: woodlands are cleared in preparation for the production phase of a land project. To extract value from forest: to maximize the extracted land value, landholders might extract forest or woodland for wood and other wood-derived products. To increase the value of land: land rent increases when the land has been cleared from natural vegetation and is thus prepared for production. To claim land: woodlands are cleared to signal land occupation as a step toward gaining or claiming land rights.
	Direct or indirect	Describes whether the deforestation event resulted directly or indirectly from the land investment project. Direct: deforestation event is perpetrated by actors from the investment project and for the goals of the project or investors. Indirect: deforestation event can be traced to investment project but is not perpetrated by the actor from the investment project or fulfilling goals of the project or investors, e.g., local communities that are displaced and have deforested elsewhere.
	Legal status	Describes whether the deforestation event was reported as illegal (directly or indirectly resulting from failed land investment project). Legal: illegal acts are not identified; deforestation event presumed to be authorized. Illegal: deforestation event occurs before authorization, outside the authorized area or after authorization cancellation, or is otherwise illegal.
Land use and access	Use of forests	Reported forest uses, specifically, protected areas and forest-dependent people. Protected areas or reserves: the land investment impacts protected areas or forest reserves. Forest-dependent people: land investment impacts forest-dependent people.
	Prior claims to land	Which actors are reported to have before project (de jure or de facto) access to the area. Local communities: which include traditional communities, Indigenous People or other rural people. State: the state has claims over the area. Private large-scale actors: larger-scale actors that sold their land. Unclear: no report of prior claims.
	Post-project land access	Reported actors accessing/using/ having control over land post-project failure. Local communities: which include traditional communities, Indigenous People or other rural people. State: in the case of concessions, the land was returned to the state. Same actors as project: same actors although abandoned kept control over the area. Sold: the land/project was sold to another actor. Unclear: no report of post access, use or control.

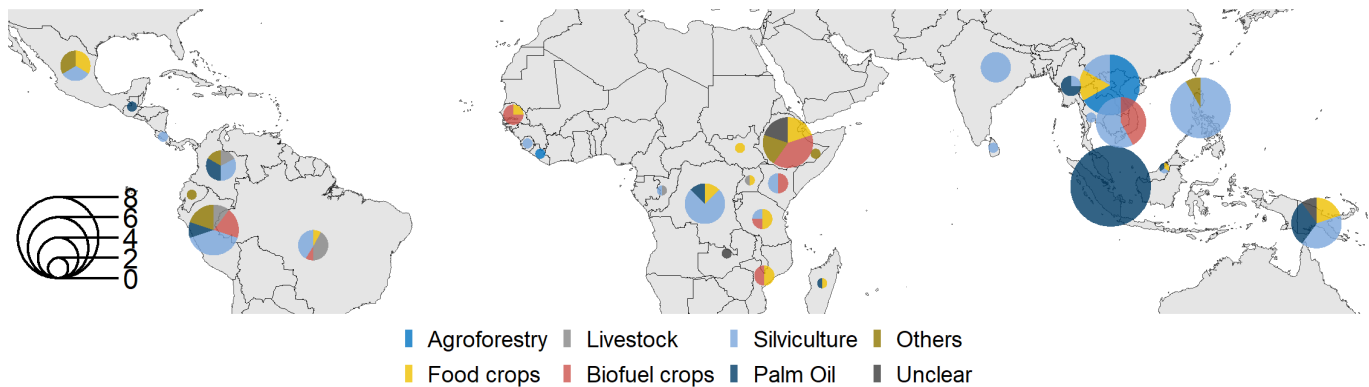
[†] Closed inferred referred to cases, for example, where it was clear that production followed deforestation, and thus we categorized it as *toward production* even though this was not explicitly stated as a motivation for deforestation. When deforestation was reported as present but not described, we categorized it by default as toward production, direct, and legal.

failure types (one case of no contract, 13 cases before production, 11 cases after production; 13 cases after operational project), and Africa had the lowest percentage of projects reaching the operational phase (5 cases). In most cases, failure resulted from multiple determinants (78% of cases).

The most common determinant of failure was “local context - resistance” in 80% of all cases, followed by “macro context -

political” (54%, mostly referring to the cancellation of the project by a government agency), and “investment level - political” (48%, which included, for example, investors not fulfilling environmental impact assessments or conducting local consultation). Investment-level determinants were more common in Africa (21 cases), whereas in Asia there was a more balanced mix with more local context determinants (24 cases with investment level, 34 local

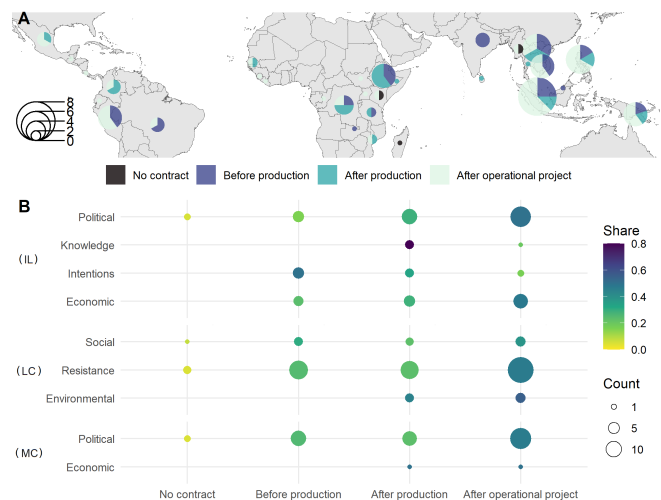
Fig. 2. Map with the distribution of reported cases per country. Pie charts of reported land use and size represent the total number of cases (80). In cases with multiple land uses, each land use was represented by fractions equally divided (e.g., if a case had two land uses each it would be represented with 0.5 in the pie chart).



context, 24 macro context), and in South America a major emphasis on local context followed by investment-level factors (9 cases with investment level, 16 local context, 5 macro context; Fig. S2A).

Four groups of typical failure determinants emerged from our data (Fig. S1A, Fig. 4). The first group (16 cases) combined political variables at the investment level, resistance at the local context, and macro-political determinants. For example, in a jatropha plantation project in Kenya (case 7), clearing began without EIA or the involvement of local Indigenous People. The local community filed a court case to stop the clearing. After public pressure, the Kenyan National Environment Management Authority announced the project would not be allowed (see also cases 17 and 55 in Democratic Republic of the Congo and Philippines, respectively). Resistance was also often combined with investment-level economic determinants (16 cases). For example, Norwegian investors withdrew support from POSCO Daewoo in Papua, Indonesia (case 68) in reaction to the project clearing of 26,500 ha of forest and local Indigenous People's resistance (other examples: cases 6, 47, and 66 in Democratic Republic of the Congo, Columbia, and Costa Rica, respectively). A smaller group, commonly failing before or just after production, included the determinant intention at the investment level (12 cases). For example, the Hengfu concession projects in Cambodia (case 30) were reported to use permits to launder high-value timber from neighboring protected areas. Other projects aimed to capture rents from subsidies or by re-selling land at a higher value (e.g., cases 27 and 76 in Papua New Guinea and Brazil, respectively). The last group of cases only failed after production started or was to a lesser extent already in the operational phase and included determinants "investment level - knowledge" and/or "local context - environment" (13 cases). This represented investments with a general lack of implementation skills or bad production conditions, as a case in Columbia where palm oil plantations were destroyed by floods (case 48). The latter two groups were sometimes also related to political determinants at the macro context; for example, in the Mega Rice project (case 32) the government generally overlooked the poor production potential in this area and kept attracting other investors and granting more permits (see also cases 30 and 36 in Cambodia and Ethiopia, respectively).

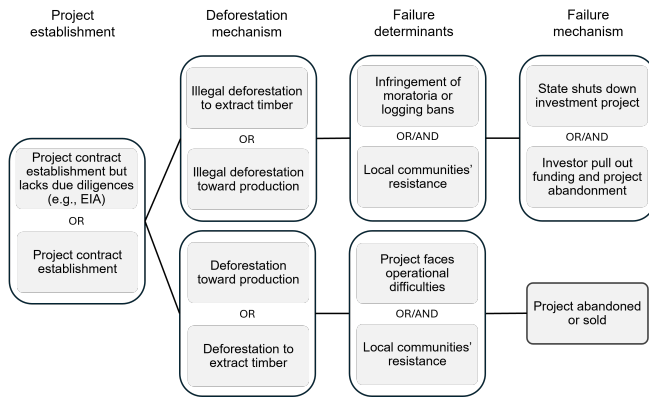
Fig. 3. A, Spatial distribution of types of failure per country. B, Distribution of failure determinants, at investment level (IL), local context (LC) and macro context (MC), along failure types in pathways of land investment projects. The size of balloons represents the total number of cases, color symbology represents the share of each code (determinant) distributed along failure types.



Deforestation associated with failed land investment projects

The most common motivation for deforestation was for establishing production (51 cases), followed by extracting value from the forest (44), claiming land (5), and increasing value (2). Deforestation for production was more common in South America and Africa whereas extracting value was more common in Asia (Fig. S3A). Clearing for production was mostly associated with agriculture projects, whereas extraction of wood resources was associated with both forestry and agriculture. Motivations were similar across failure types (Fig. 5), except for claiming land, which was more common in cases that failed before production.

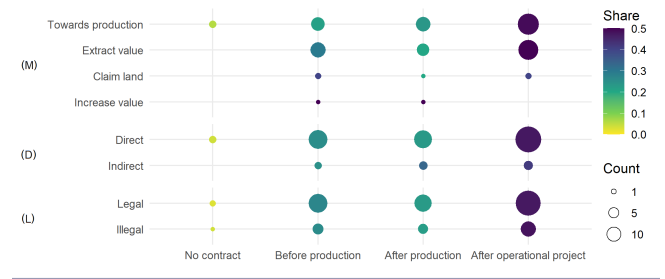
Fig. 4. Schematic representation of the main pathways through which investment projects can cause deforestation and the links with failure determinants. This does not represent all possible pathways but rather intends to illustrate the most common cases.



Only two cases did not report direct deforestation, whereas 11 reported indirect deforestation. Legal deforestation was common (74 cases), yet a third of the cases (26) also reported illegal deforestation, with the highest percentage in Asia. Indirect and illegal deforestation events were slightly more common in projects that failed after production.

Within our cases, we observed three typical types of deforestation (Fig. S1B). The first group included deforestation toward production, which was direct and legal (47 cases). Those cases included clearing as a step toward agriculture production (e.g., case 18 in Myanmar, 48 in Colombia, and 83 in Mozambique) and to a lesser extent forestry (e.g., case 21 in Indonesia, and 63 in Sri Lanka). A second group included illegal forest clearing to extract value from forests (22 cases), most often associated with silviculture, rubber, and oil palm projects. Typical examples were either illegal logging outside concession, including in protected areas (e.g., case 12 Lao PDR, 16 in Democratic Republic of the Congo, and 34 in Cambodia) or illegal logging that prompted and/or ignored newly imposed moratoria or timber logging bans (e.g., cases 53, 54, 55, and 56 in Cambodia and Philippines). The third group of cases included forest clearing to claim land, to increase value, and/or indirect deforestation (14 cases). Deforestation was sometimes an indirect result of land investment projects aimed at claiming land. For instance, in cases in Ethiopia and Lao PDR local people would clear new areas in anticipation of land investors' arrival. These clearings would either signal land occupation to exclude these lands from the deal (e.g., cases 23 and 28), or in Cambodia local people would direct investments to land recently cleared elsewhere, working with goals of targeting idle land (e.g., case 34). Overall, we did not see clear patterns between deforestation types and the timing of project failure. Cases that described deforestation as increasing the value of land were very few; those projects did not reach the operational phase and occurred when there was some speculation intention (e.g., cases 32 in Indonesia and 62 in Brazil).

Fig. 5. Distribution of described deforestation motivations (M), direct or indirect (D) and legal status (L) along failure types in pathways of land investment projects. The size of balloons represents the total number of cases, color symbology represents the share of each code distributed along failure types.



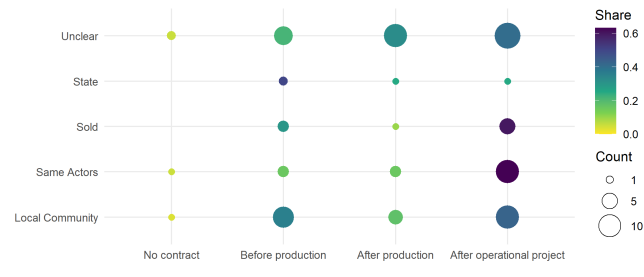
Our typical groups did not represent all processes relating failed investment projects to deforestation. Some deforestation for extracting value in forestry projects was legal but did not reach the phase of tree planting. In other cases, timber was extracted for revenue, but the ultimately intended agriculture project failed (e.g., case 45 in Tanzania, case 37 in Indonesia, and case 27 in Papua New Guinea). One case in Colombia reported land investment for illegal crop production later sabotaged by the state (case 40). Some deforestation resulted from infrastructure legacies of a failed project in Zambia, that fostered land uses like tobacco production that relied upon deforestation (case 25). Finally, the abandoned Mega Rice project in Indonesia contributed to wildfires that affected peatland forests (case 32).

Relations between project failure, deforestation, and change in land access

When relating determinants of failure to the characteristics of deforestation, in 11% of cases (9 cases) a moratorium, logging ban, or timber export ban was a determinant of project failure, often following reports of widespread deforestation or illegal logging. Environmental impact assessment (irregularities, objections, or its absence) was a determinant of project failure in 16% of cases (13). In total, 28% (22) of cases included deforestation occurring in protected areas or forest reserves, of which four cases reported protected area downgrading, downsizing, and degazettement (PADDD). Of the cases we analyzed, 48% (38) of the land investment projects impacted forest-dependent people, whereas 16% (13) reported a lack of consultation with local communities.

When relating investments to land access, the vast majority of cases targeted areas used (de jure or de facto) by local communities or Indigenous People (69; Fig. S4). In a smaller number of cases, the state (5) or large-scale actors (5) had a former claim. Most cases were either reported as abandoned or there was no information on post-project failure access (37). Yet, we found 28 cases where local communities had some form of land access after project failure, ranging from accessing land (including illegal occupation) to restored tenure, which was more common within projects that failed before production (Figs. 4 and 6). As an example, in Kenya is a commercial logging operation carried out

Fig. 6. Distribution of described post-project land access along failure types in pathways of land investment projects. The size of balloons represents the total number of cases, color symbology represents the share of each code distributed along failure types.



by Kamweru Farm started in 2000, despite a logging ban. The project was ultimately stopped when the Chuka community won a 2019 case, granting them legally protected community rights to a portion of the disputed land (case 73). From the cases where local communities had prior claims, 24 reported on post-project users or claimers: the same actors (18), being sold (8), and solely the state (1) (26 cases did not report on this). For example, in the Democratic Republic of the Congo, following the bankruptcy of Feronia and the sale of its oil palm plantations to a new private equity firm, local communities risk losing access to their land (case 6). In 19 cases, land access was retained by the same actors and in 10 cases the land was sold. This pattern of land being retained or sold was more prevalent when the project reached the operational stage.

DISCUSSION

A high share of tropical deforestation does not translate into productive land use, and one of the ways this phenomenon happens is through failed land investment projects. We carried out a pan-tropical assessment of failed land investment projects that resulted in deforestation. Using content analyses, we characterized how these projects failed, how they led to deforestation and how they changed land access. This yielded four major insights. First, although most projects failed because of several reasons, the most common reported determinant of failure was local resistance. This underlines the frequent misalignment of these land investment projects with local needs and the importance of legal safeguards and grievance mechanisms. Second, deforestation in the context of failed projects was common for establishing production (agriculture or tree plantations), but deforestation was also often conducted to extract valuable timber. Many cases also reported illegal deforestation, showing the frequent lack of regulatory enforcement surrounding land investment projects. Third, almost 90% of the failed land investment projects targeted areas that were previously owned or used by local communities. Although these projects failed, some communities still lost access to their land, showing the contribution of failed land projects to injustices. Fourth, although reasons for failure and links between failure and deforestation were diverse, what was common across our cases

was the central role of governments, socioeconomic agendas, and investors in creating lose-lose situations, pointing to a governance opportunity to avoid such situations.

Resistance is the main but not the only determinant of investment project failures

We found resistance to land investment projects to be the most common contributor to failure. Different forms of resistance have been at the forefront of preventing land investments and potential land grabs (Hall et al. 2015, McAllister 2015, Kenney-Lazar et al. 2018, Scheidel et al. 2020). Such land investment projects have thus likely failed at least in part because of a misalignment with local people's needs or expectations, sometimes leading to violent conflicts. On one hand, this highlights the need for responsible investments that integrate more strongly with local needs. On the other hand, the link between resistance and government cancellation of projects underscores that the enforcement of mechanisms such as environmental impact assessments can effectively support forests protection and customary land rights of local people. Yet, in the absence of effective safeguards, protests and resistances become a central mechanism to seek redress, halt, and modify unsustainable and conflictive projects, and assure more just land governance (Hanna et al. 2016, Gobby et al. 2022).

Given our focus on failed projects, our sample corresponds to cases where such mechanisms worked and led to the project's cancellation. Still, most projects that face resistance are not stopped (e.g., the EJAtlas reports that 83% of contested cases were not canceled or temporarily suspended). Thus, our assessment characterizes failed projects, their mechanisms and outcomes, particularly deforestation, but it does not explain the conditions under which projects may fail or succeed. Moreover, because the EJAtlas focuses on conflict and because cases might be more likely to be recorded in the Land Matrix database if conflict or resistance led to its publicization, our dataset may be biased toward conflict. Nevertheless, if we focus only on the cases identified through the literature review, the percentage of cases reporting resistance is 65%, compared to 58% of the cases sourced from Land Matrix, and 79% in our combined sample. Thus, the core finding that resistance is the main determinant of failure appears robust to possible biases toward conflict cases in our dataset. Like previous studies on unsuccessful land investments, we reviewed cases where land deals became a burden (Chung and Gagné 2021, Salverda and Nkonde 2021, Gagné 2022), as investments were made on faulty promises of easy access to land and good conditions for production. Yet, we also found speculative or virtual projects seemingly designed to extract profits from forest timber or collect subsidies, with little to no apparent intent to establish a productive land project. Thus, although officially considered a failed project, the project might have served the hidden objectives set by the investors or authorities. In all of these cases, host countries, fuelled by their socioeconomic agendas, may have underestimated the potential impacts of their criteria for supporting private investments. Overall, although we use the term failed as an umbrella, land acquisition projects can be very complex, with intricate investment dynamics, and thus a small number of projects could correspond to a partially operational category where some part of the investment targeted areas were unsuccessful but not in all, and some projects were officially stopped but illegally maintained.

Motivations were multiple, but mainly toward production, and to extract value from the land

The most common motivation for deforestation was to make space for the intended land use. However, we identified other motivations along the investment process, which underscore the diverse goals and impacts of land investment projects. For example, we reviewed a considerable number of cases where deforestation was a means to extracting valuable timber, part of it illegally, in projects for silviculture, rubber, oil palm, and other uses (e.g., in Cambodia, the Philippines, and the Democratic Republic of the Congo). Logging bans in Cambodia and the Philippines should have stopped such projects, but seemed to have little impact on preventing illegal deforestation. This corroborates prior research observing that land investment projects combine legal, and illegal mechanisms to establish themselves (Milne 2015, Gan et al. 2016, Kleinschmit et al. 2016, Mackenzie et al. 2022). Many investment projects unfold within a context of institutional fragility (Transparency International 2025), which can facilitate the issuance of questionable permits and the bypassing of crucial steps in land acquisition. This, in turn, can make way for timber smuggling that feeds a profitable market of high-value wood. Diverse forms of deforestation can also happen as an indirect consequence of such investment projects. Although such indirect deforestation is often the outcome of displacement, in some cases local residents worked with the state's goals of investing in unused or idle lands, either to claim new land or to direct land investments elsewhere.

Failed land investment projects mostly targeted used areas, not empty lands

Most of the land investments we have identified have targeted landscapes previously used or occupied by local or Indigenous communities that depend on forests and woodlands. This overlap underscores the potential benefits of bolstering land rights for forest conservation and local communities (Robinson et al. 2014) but also of potentially directing deals toward titled land that could encourage more equitable benefit-sharing (Oberlack et al. 2021). In 37% of the analyzed cases, we do not know how land access and control changed, although in 35% of cases, investors kept or sold the land to new investors or the state, showing that even when projects fail, land grabs can endure (Bruna et al. 2025). Moreover, if land investment projects were intended to provide alternative livelihoods, such as income or resources to replace the need for using lands and forests, their failure results in a double loss. Notably, whereas loss of access is most common in projects that reach the operational stage, when project failed before the production phase, local communities more often reclaimed some access to the land, particularly through legal action. This highlights the importance of early enforcement of legal safeguards, although the security of these renewed claims requires further investigation.

Understanding failed investment projects to prevent and learn from lose-lose situations

What consistently emerged in our analyses were the structures and narratives that enable lose-lose situations, along with the environmental, land, and political legacies left behind. Our research suggests that the potential benefits of agricultural and forestry land investments may often be overstated or misguided (Chiarella et al. 2024). Governments and development agencies may have been too eager to welcome these investments while

downplaying the risks and understating the incentives to deforest. Once these projects unfolded, they leave legacies, not only in terms of changing land access, but also in terms of environmental destruction, established infrastructure and institutional change (Kronenburg Garcia et al. 2022). For example, the Mega Rice project in Indonesia (case 32) destroyed a major portion of peatland forests, fueling major fires in the following years. In Zambia (case 25), a failed project built infrastructure, creating opportunities for market integration of new land uses, such as tobacco farming, which led to further deforestation.

Despite numerous negative impacts, certain failed projects, because of their high level of contestation, gathered a platform and political will to reassess conditions for further investments, ultimately prompting political changes. Examples include the Daewoo project in Madagascar (case 26) that led to the government fall (Evers et al. 2011) and the implementation of a moratorium to regulate foreign land acquisitions in Laos (case 31) (McAllister 2015). Necessarily, tackling such situations demands system-wide transformation that centers on local communities' priorities embracing principles of justice (Garrett et al. 2025). This means securing local communities land rights (including customary and communal ones), providing fair negotiation and prompt regulatory enforcement, and establishing effective redress mechanisms to uphold local communities' rights and protect forests and woodlands. Most critically, success hinges on prioritizing a just distribution of benefits and burdens. While land investments must be governed and implemented responsibly, this transformative change ultimately depends on the political will from government and supporting agencies to reform and capacitate land governance and rural development interventions (Lyons-White et al. 2025).

Limitations and outlook

Although we have striven for the most comprehensive understanding of the relationship between failed land investment projects, deforestation, and land access, our approach has limitations. Our study captures only those cases that have been documented in the data sources we searched. The databases we used, Land Matrix and EJAtlas, result from crowdsourced and collaborative data collection processes and thus might contain bias, such as toward regions with open data policies, higher media and research coverage, and access to local collaborators (Scheidel et al. 2020, Land Matrix 2024). Further, the Land Matrix database likely underrepresents failed projects as those are more difficult to trace (Nolte 2020, Borrás et al. 2022). Moreover, the Land Matrix primary goal is to record deals, but it provides limited depth on their social and environmental outcomes. Our findings therefore serve as a sample, offering insights into the variety of processes and dynamics of failed land projects. Despite these limitations, those databases represent the most comprehensive and detailed source of data on land deals and environmental conflict (Nolte et al. 2016, Scheidel et al. 2020).

There is a critical need for a more integrated understanding of the environmental and social dimensions of the land rush (Liao and Agrawal 2024, Wolford et al. 2024). We opened the investigation of the unexplored relations between failed land investments, deforestation, and access. However, several crucial aspects remain to be addressed. These include the extent of deforestation caused by failed land investments and a quantitative

assessment of the proportion of deforestation explained by failed investments. Furthermore, future research should incorporate assessments of forest degradation resulting from failed land projects. Our analysis also did not include projects expanding into natural vegetation types not dominated by woody cover, such as natural grasslands or wetlands. Including such projects in future analyses could add valuable insights. This would require more comprehensive delineations of the spatial extent of investments. Furthermore, a comparative analysis of failed land investments versus operational investments and their social-ecological outcomes would allow better understanding of why some projects fail or succeed, and what this means for woodlands. Finally, a better investigation of the social-ecological outcomes of failed investments in customary lands is missing, including impacts on livelihoods, lifeways, customary rights, and cultural land uses.

CONCLUSIONS

Our study explores the complex relationships between failed land investment projects, deforestation, and changes in land access, drawing from 80 cases of failed projects across the world's tropical woodlands. Resistance emerged as the predominant determinant of failure, highlighting the misalignment of projects with local needs and underscoring the power of resistance and the significance of legal mechanisms that protect local people. Our findings also uncover the diverse motivations behind deforestation, with illegal practices prevalent in some countries, indicating opportunities to improve limits to local government enforcement. Importantly, our study reveals that even failed projects can contribute to land grabs, affecting forest-dependent communities and emphasizing the crucial role of land rights in forest conservation, including communal land rights. Furthermore, our work underscores the overarching influence of governments, (hidden) socioeconomic agendas, and investors in perpetuating the lose-lose situation in which land investments drive deforestation without sustained production or positive contributions (e.g., jobs, income generation).

Our findings thus highlight the imperative for either enhancing the enforcement capacity of existing laws and regulations or implementing more comprehensive and integrative land governance and rural development strategies that acknowledge the limitations of current land governance frameworks. By highlighting the importance of resistance in driving project cancellations, our study also suggests that a more explicit recognition and articulation of local voices and protests into governance schemes might contribute to identifying projects that are likely to fail earlier. Ultimately, addressing lose-lose situations requires the political will and capacity of governments and supporting agencies to enact substantive reforms in land-dealing practices and rural development interventions.

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Data Availability:

The data that support the findings of this study is available in the Appendix. These data were derived from the following resources available in the public domain: EJAtlas (<https://ejatlas.org/>) and Land Matrix (<https://landmatrix.org/>).

LITERATURE CITED

- Baka, J. 2013. The political construction of wasteland: governmentality, land acquisition and social inequality in South India. Pages 211-229 in W. Wolford, S. M. Borras Jr., R. Hall, I. Scoones, and B. White, editors. *Governing global land deals: the role of the state in the rush for land*. Wiley, Chichester, UK. <https://doi.org/10.1002/9781118688229.ch10>
- Blackmore, E., N. Bugalski, and D. Pred. 2015. *Following the money: an advocate's guide to securing accountability in agricultural investments*. International Institute for Environment and Development, London, UK.
- Borras, S. M., Jr., C. Kay, S. Gómez and J. Wilkinson. 2012. Land grabbing and global capitalist accumulation: key features in Latin America. *Canadian Journal of Development Studies / Revue canadienne d'études du développement* 33:402-416. <https://doi.org/10.1080/02255189.2012.745394>
- Borras, S. M., Jr., J. C. Franco, T. Moreda, Y. Xu, N. Bruna, and B. Afewerk Demena. 2022. The value of so-called 'failed' large-scale land acquisitions. *Land Use Policy* 119:106199. <https://doi.org/10.1016/j.landusepol.2022.106199>
- Broegaard, R. B., T. Vongvisouk, and O. Mertz. 2022. The impact of unimplemented large-scale land development deals. *Frontiers in Sustainable Food Systems* 6:789809. <https://doi.org/10.3389/fsufs.2022.789809>
- Bruna, N., S. M. Borras, Jr., and Y. Xu. 2025. Failed land deals and the invisibilization of land grabbing in Mozambique. *Globalizations* 22:1617-1634. <https://doi.org/10.1080/14747731-2025.2528511>
- Chen, B., C. M. Kennedy, and B. Xu. 2019. Effective moratoria on land acquisitions reduce tropical deforestation: evidence from Indonesia. *Environmental Research Letters* 14:044009. <https://doi.org/10.1088/1748-9326/ab051e>
- Chiarella, C., P. Rufin, D. Abeygunawardane, A. Bey, S. N. Lisboa, H. Zavale, and P. Meyfroidt. 2024. Impacts of large-scale forestry investments on neighboring small-scale agriculture in northern Mozambique. *Land Use Policy* 145:107251. <https://doi.org/10.1016/j.landusepol.2024.107251>
- Chung, Y. B., and M. Gagné. 2021. Understanding land deals in limbo in Africa: a focus on actors, processes, and relationships. *African Studies Review* 64:595-604. <https://doi.org/10.1017/asr.2021.73>

- Cotula, L., S. Vermeulen, R. Leonard, and J. Keeley. 2009. Land grab or development opportunity? Agricultural investment and international land deals in Africa. International Institute for Environment and Development, London, UK.
- Curtis, P. G., C. M. Slay, N. L. Harris, A. Tyukavina, and M. C. Hansen. 2018. Classifying drivers of global forest loss. *Science* 361:1108-1111. <https://doi.org/10.1126/science.aau3445>
- D'Odorico, P., M. C. Rulli, J. Dell'Angelo, and K. F. Davis. 2017. New frontiers of land and water commodification: socio-environmental controversies of large-scale land acquisitions. *Land Degradation & Development* 28:2234-2244. <https://doi.org/10.1002/ldr.2750>
- Davis, K. F., H. I. Koo, J. Dell'Angelo, P. D'Odorico, L. Estes, L. J. Kehoe, M. Kharratzadeh, T. Kuemmerle, D. Machava, A. d. J. R. Pais, et al. 2020. Tropical forest loss enhanced by large-scale land acquisitions. *Nature Geoscience* 13:482-488. <https://doi.org/10.1038/s41561-020-0592-3>
- Davis, K. F., K. Yu, M. C. Rulli, L. Pichdara, and P. D'Odorico. 2015. Accelerated deforestation driven by large-scale land acquisitions in Cambodia. *Nature Geoscience* 8:772-775. <https://doi.org/10.1038/ngeo2540>
- Dell'Angelo, J., G. Navas, M. Witteman, G. D'Alisa, A. Scheidel, and L. Temper. 2021. Commons grabbing and agribusiness: violence, resistance and social mobilization. *Ecological Economics* 184:107004. <https://doi.org/10.1016/j.ecolecon.2021.107004>
- Dell'Angelo, J., P. D'Odorico, M. C. Rulli, and P. Marchand. 2017. The tragedy of the grabbed commons: coercion and dispossession in the global land rush. *World Development* 92:1-12. <https://doi.org/10.1016/j.worlddev.2016.11.005>
- Edelman, M. 2013. Messy hectares: questions about the epistemology of land grabbing data. *Journal of Peasant Studies* 40:485-501. <https://doi.org/10.1080/03066150.2013.801340>
- Evers, S., P. Burnod, R. A. Ratsialonana, and A. Teyssier. 2011. Foreign land acquisitions in Madagascar: competing jurisdictions of access claims. Pages 110-132 in T. Dietz, K. Havnevik, M. Kaag, T. Oestigaard, editors. *African engagements*. Brill, Leiden, The Netherlands. https://doi.org/10.1163/ej.9789004209886_i-390_36
- Ferguson, J. M. 2014. The scramble for the Waste Lands: tracking colonial legacies, counterinsurgency and international investment through the lens of land laws in Burma/Myanmar. *Singapore Journal of Tropical Geography* 35:295-311. <https://doi.org/10.1111/sjtg.12078>
- Filer, C., S. Mahanty, and L. Potter. 2020. The FPIC principle meets land struggles in Cambodia, Indonesia and Papua New Guinea. *Land* 9(3):67. <https://doi.org/10.3390/land9030067>
- Fraser, E., and A. Mittal. 2017. The truth about land grabs: a review of the Oakland Institute's reports on large-scale land investments in the twenty-first century. Pages 221-245 in E. Wamboye and E. A. Tiruneh, editors. *Foreign capital flows and economic development in Africa: the impact of BRICS versus OECD*. Palgrave Macmillan, New York, New York, USA. https://doi.org/10.1057/978-1-137-53496-5_11
- Gagné, M. 2022. Analysing the constraints to corporate land control: the influence of local power dynamics on a large-scale land deal in Senegal. *Canadian Journal of African Studies* 56:239-259. <https://doi.org/10.1080/00083968.2021.1890628>
- Gan, J., P. O. Cerutti, M. Masiero, D. Pettenella, N. Andrighetto, and T. Dawson. 2016. Quantifying illegal logging and related timber trade. *Illegal Logging and Related Timber Trade-Dimensions, Drivers, Impacts and Responses*. A Global Scientific Rapid Response Assessment Report: International Union of Forest Research Organizations (IUFRO).
- Garrett, R., P. Meyfroidt, A. de Bremond, A. Wartenberg, L. Barbieri, Á. Fernández-Llamazares, E. Acheampong, T. Addoah, M. Adeleye, P. Alexander, et al. 2025. Policy principles for sustainable and just land systems. *Royal Society Open Science* 12:250810. <https://doi.org/10.1098/rsos.250810>
- Gasparri, N. I., T. Kuemmerle, P. Meyfroidt, Y. le Polain de Waroux, and H. Kreft. 2016. The emerging soybean production frontier in Southern Africa: conservation challenges and the role of south-south telecouplings. *Conservation Letters* 9:21-31. <https://doi.org/10.1111/conl.12173>
- Geist, H. J., and E. F. Lambin. 2002. Proximate causes and underlying driving forces of tropical deforestation: tropical forests are disappearing as the result of many pressures, both local and regional, acting in various combinations in different geographical locations. *BioScience* 52:143-150. [https://doi.org/10.1641/0006-3568\(2002\)052\[0143:PCAUDF\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2002)052[0143:PCAUDF]2.0.CO;2)
- Gobby, J., L. Temper, M. Burke, and N. von Ellenrieder. 2022. Resistance as governance: transformative strategies forged on the frontlines of extractivism in Canada. *The Extractive Industries and Society* 9:100919. <https://doi.org/10.1016/j.exis.2021.100919>
- Hall, R., M. Edelman, S. M. Borrás Jr, I. Scoones, B. White, and W. Wolford. 2015. Resistance, acquiescence or incorporation? An introduction to land grabbing and political reactions 'from below.' *Journal of Peasant Studies* 42:467-488. <https://doi.org/10.4324/9781315112565-1>
- Hanna, P., F. Vanclay, E. J. Langdon, and J. Arts. 2016. Conceptualizing social protest and the significance of protest actions to large projects. *The Extractive Industries and Society* 3:217-239. <https://doi.org/10.1016/j.exis.2015.10.006>
- IPBES 2018. The IPBES assessment report on land degradation and restoration. L. Montanarella, R. Scholes, and A. Brainich, editors. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany.
- International Labor Organization 1989. Indigenous and Tribal Peoples Convention, Geneva, International Labor Organization.
- Kenney-Lazar, M., D. Suhardiman, and M. B. Dwyer. 2018. State spaces of resistance: industrial tree plantations and the struggle for land in Laos. *Antipode* 50:1290-1310. <https://doi.org/10.1111/anti.12391>
- Kleinschmit, D., S. Mansourian, C. Wildburger, and A. Purret, editors. 2016. *Illegal logging and related timber trade-dimensions, drivers, impacts and responses*. A global scientific rapid response assessment report, IUFRO (International Union of Forestry Research Organizations) Secretariat, Vienna, Austria.

- Kronenburg García, A., P. Meyfroidt, D. Abeygunawardane, and A. A. Sitoe. 2022. Waves and legacies: the making of an investment frontier in Niassa, Mozambique. *Ecology and Society* 27(1):40. <https://doi.org/10.5751/ES-13159-270140>
- Lambin, E. F., and P. R. Furumo. 2023. Deforestation-free commodity supply chains: myth or reality? *Annual Review of Environment and Resources* 48:237-261. <https://doi.org/10.1146/annurev-environ-112321-121436>
- Lambin, E. F., H. K. Gibbs, L. Ferreira, R. Grau, P. Mayaux, P. Meyfroidt, D. C. Morton, T. K. Rudel, I. Gasparri, and J. Munger. 2013. Estimating the world's potentially available cropland using a bottom-up approach. *Global Environmental Change* 23:892-901. <https://doi.org/10.1016/j.gloenvcha.2013.05.005>
- Land Matrix. 2024. International Land Coalition (Ilc), Centre For Development And Environment (Cde), German Institute Of Global And Area Studies (Giga) And Deutsche Gesellschaft Für Internationale Zusammenarbeit (Giz).
- Lay, J., and K. Nolte. 2018. Determinants of foreign land acquisitions in low- and middle-income countries. *Journal of Economic Geography* 18:59-86. <https://doi.org/10.1093/jeg/ibx011>
- Le Polain de Waroux, Y. 2019. Capital has no homeland: the formation of transnational producer cohorts in South America's commodity frontiers. *Geoforum* 105:131-144. <https://doi.org/10.1016/j.geoforum.2019.05.016>
- le Polain de Waroux, Y., M. Baumann, N. I. Gasparri, G. Gavier-Pizarro, J. Godar, T. Kuemmerle, R. Müller, F. Vázquez, J. N. Volante, and P. Meyfroidt. 2018. Rents, actors, and the expansion of commodity frontiers in the Gran Chaco. *Annals of the American Association of Geographers* 108:204-225. <https://doi.org/10.1080/24694452.2017.1360761>
- Levers, C., A. Romero-Muñoz, M. Baumann, T. De Marzo, P. D. Fernández, N. I. Gasparri, G. I. Gavier-Pizarro, Y. le Polain de Waroux, M. Piquer-Rodríguez, A. Semper-Pascual, and T. Kuemmerle. 2021. Agricultural expansion and the ecological marginalization of forest-dependent people. *Proceedings of the National Academy of Sciences* 118:e2100436118. <https://doi.org/10.1073/pnas.2100436118>
- Li, T. M. 2017. Rendering land investible: Five notes on time. *Geoforum* 82:276-278. <https://doi.org/10.1016/j.geoforum.2017.04.004>
- Liao, C., and A. Agrawal. 2024. Towards a science of 'land grabbing.' *Land Use Policy* 137:107002. <https://doi.org/10.1016/j.landusepol.2023.107002>
- Locher, M., B. Steimann, and B. Raj Upreti. 2012. Land grabbing, investment principles and plural legal orders of land use. *Journal of Legal Pluralism and Unofficial Law* 44:31-63. <https://doi.org/10.1080/07329113.2012.10756681>
- Lu, J., and O. Schönweger. 2019. Great expectations: Chinese investment in Laos and the myth of empty land. *Territory, Politics, Governance* 7:61-78. <https://doi.org/10.1080/21622671.2017.1360195>
- Lyons-White, J., M. Spencer, J. Arif, A. Balmford, J. Barlow, J. Brandão, J. Börner, G. Camara, A. Chandra, D. Cleary, et al. 2025. Political will has been critical for protecting forests in the Brazilian Amazon and Indonesia. *Conservation Letters* 18:e13120. <https://doi.org/10.1111/conl.13120>
- Mackenzie, E., S. Milne, L. Van Kerkhoff, and B. Ray. 2022. Development or dispossession? Exploring the consequences of a major Chinese investment in rural Cambodia. *Journal of Peasant Studies* 50:1478-1500. <https://doi.org/10.1080/030661-50.2022.2026929>
- Magliocca, N. R., A. C. de Bremond, E. A. Ellicott, L. Seghezzo, C. D. Venencia, M. J. Mosciaro, and C. Nolte. 2022. Two of a kind? Large-scale land acquisitions and commodity frontier expansion in Argentina's Dry Chaco. *Ecology and Society* 27(2):25. <https://doi.org/10.5751/ES-13103-270225>
- Magliocca, N. R., Q. V. Khuc, A. e Bremond, and E. A. Ellicott. 2020. Direct and indirect land-use change caused by large-scale land acquisitions in Cambodia. *Environmental Research Letters* 15:024010. <https://doi.org/10.1088/1748-9326/ab6397>
- Maxwell, S. L., V. Cazalis, N. Dudley, M. Hoffmann, A. S. L. Rodrigues, S. Stolton, P. Visconti, S. Woodley, N. Kingston, E. Lewis, et al. 2020. Area-based conservation in the twenty-first century. *Nature* 586:217-227. <https://doi.org/10.1038/s41586-020-2773-z>
- McAllister, K. E. 2015. Rubber, rights and resistance: the evolution of local struggles against a Chinese rubber concession in Northern Laos. *Journal of Peasant Studies* 42:817-837. <https://doi.org/10.1080/03066150.2015.1036418>
- Messerli, P., M. Giger, M. B. Dwyer, T. Breu, and S. Eckert. 2014. The geography of large-scale land acquisitions: analysing socio-ecological patterns of target contexts in the global South. *Applied Geography* 53:449-459. <https://doi.org/10.1016/j.apgeog.2014.07.005>
- Messerli, P., A. Peeters, O. Schoenweger, V. Nanthavong, and A. Heinemann. 2016. Marginal land or marginal people? Analysing patterns and processes of large-scale land acquisitions in South-East Asia. Pages 136-171 in C. Gironde, C. Golay, and P. Messerli, editors. *Large-scale land acquisitions*. Brill, Leiden, the Netherlands. https://doi.org/10.1163/9789004304758_007
- Meyfroidt, P. 2018. Trade-offs between environment and livelihoods: bridging the global land use and food security discussions. *Global Food Security* 16:9-16. <https://doi.org/10.1016/j.gfs.2017.08.001>
- Meyfroidt, P., A. de Bremond, C. M. Ryan, E. Archer, R. Aspinall, A. Chhabra, G. Camara, E. Corbera, R. DeFries, S. Diaz, et al. 2022. Ten facts about land systems for sustainability. *Proceedings of the National Academy of Sciences* 119:e2109217118. <https://doi.org/10.1073/pnas.2109217118>
- Milne, S. 2015. Cambodia's unofficial regime of extraction: illicit logging in the shadow of transnational governance and investment. *Critical Asian Studies* 47:200-228. <https://doi.org/10.1080/14672715.2015.1041275>
- Mollett, S. 2016. The power to plunder: rethinking land grabbing in Latin America. *Antipode* 48:412-432. <https://doi.org/10.1111/anti.12190>

- Moore, J. W. 2010. Cheap food & bad money: food, frontiers, and financialization in the rise and demise of neoliberalism. *Review (Fernand Braudel Center)* 33:225-261.
- Moreda, T. 2017. Large-scale land acquisitions, state authority and indigenous local communities: insights from Ethiopia. *Third World Quarterly* 38:698-716. <https://doi.org/10.1080/01436597-2016.1191941>
- Nanhthavong, V., C. Oberlack, C. Hett, P. Messerli, and M. Epprecht. 2021. Pathways to human well-being in the context of land acquisitions in Lao PDR. *Global Environmental Change* 68:102252. <https://doi.org/10.1016/j.gloenvcha.2021.102252>
- Nolte, K. 2020. Doomed to fail? Why some land-based investment projects fail. *Applied Geography* 122:102268. <https://doi.org/10.1016/j.apgeog.2020.102268>
- Nolte, K., W. Chamberlain, and M. Giger. 2016. International land deals for agriculture: fresh insights from the land matrix: analytical report II, Bern Open Publishing.
- Oberlack, C., M. Giger, W. Anseeuw, C. Adelle, M. Bourblanc, P. Burnod, S. Eckert, W. Fitawek, E. Fouilleux, S. L. Hendriks, et al. 2021. Why do large-scale agricultural investments induce different socio-economic, food security, and environmental impacts? Evidence from Kenya, Madagascar, and Mozambique. *Ecology and Society* 26(4):18. <https://doi.org/10.5751/ES-12653-260418>
- Olesen, R. S., C. M. Hall and L. V. Rasmussen 2022. Forests support people's food and nutrition security through multiple pathways in low-and middle-income countries. *One Earth* 5:1342-1353. <https://doi.org/10.1016/j.oneear.2022.11.005>
- Oya, C. 2013. Methodological reflections on 'land grab' databases and the 'land grab' literature 'rush.' *Journal of Peasant Studies* 40:503-520. <https://doi.org/10.1080/03066150.2013.799465>
- Pacheco, P., K. Mo, N. Dudley, A. Shapiro, N. Aguilar-Amuchastegui, P.-Y. Ling, C. Anderson, and A. Marx. 2021. Deforestation fronts: drivers and responses in a changing world. WWF, Gland, Switzerland.
- Parker, D., A. Tosiani, M. Yazid, I. L. Sari, T. Kartika, R. Firmansyah, Z. Said, A. Wijaya, P. Potapov, A. Tyukavina, et al. 2024. Land in limbo: nearly one third of Indonesia's cleared old-growth forests left idle. *Proceedings of the National Academy of Sciences* 121:e2318029121. <https://doi.org/10.1073/pnas.2318029121>
- Pendrill, F., T. A. Gardner, P. Meyfroidt, U. M. Persson, J. Adams, T. Azevedo, M. G. Bastos Lima, M. Baumann, P. G. Curtis, V. De Sy, et al. 2022. Disentangling the numbers behind agriculture-driven tropical deforestation. *Science* 377:eabm9267. <https://doi.org/10.1126/science.abm9267>
- Robinson, B. E., M. B. Holland, and L. Naughton-Treves. 2014. Does secure land tenure save forests? A meta-analysis of the relationship between land tenure and tropical deforestation. *Global Environmental Change* 29:281-293. <https://doi.org/10.1016/j.gloenvcha.2013.05.012>
- Salverda, T., and C. Nkonde. 2021. When land becomes a burden: an analysis of an underperforming Zambian land deal. *African Studies Review* 64:653-674. <https://doi.org/10.1017/asr.2021.65>
- Scheidel, A. 2016. Tactics of land capture through claims of poverty reduction in Cambodia. *Geoforum* 75:110-114. <https://doi.org/10.1016/j.geoforum.2016.06.022>
- Scheidel, A., D. Del Bene, J. Liu, G. Navas, S. Mingorría, F. Demaria, S. Avila, B. Roy, I. Ertör, L. Temper, and J. Martínez-Alier. 2020. Environmental conflicts and defenders: a global overview. *Global Environmental Change* 63:102104. <https://doi.org/10.1016/j.gloenvcha.2020.102104>
- Scoones, I., R. Hall, S. M. Borras Jr, B. White, and W. Wolford. 2013. The politics of evidence: methodologies for understanding the global land rush. *Journal of Peasant Studies* 40:469-483. <https://doi.org/10.1080/03066150.2013.801341>
- Shamseer, L., D. Moher, M. Clarke, D. Ghersi, A. Liberati, M. Petticrew, P. Shekelle, and L. A. Stewart. 2015. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ* 349:g7647. <https://doi.org/10.1136/bmj.g7647>
- Silva, D. S., and E. Y. Arima. 2025. When land becomes capital: farmland financialization and sustainability in Brazil. *Environmental Research Letters* 20:114030. <https://doi.org/10.1088/1748-9326/ae0faf>
- Silverstein, K. 2014. Is Africa the next frontier for global capitalism? *Forbes*. 10 August.
- Transparency International. 2025. Corruption perceptions index.
- Temper, L., D. del Bene, and J. Martinez-Alier. 2015. Mapping the frontiers and front lines of global environmental justice: the EJAtlas. *Journal of Political Ecology* 22:255-278. <https://doi.org/10.2458/v22i1.21108>
- Tsing, A. 2004. Inside the economy of appearances. Pages 81-100 in A. Amin and N. Thrift, editors. *The Blackwell cultural economy reader*. Blackwell, Malden, Massachusetts, USA. <https://doi.org/10.1002/9780470774274.ch5>
- United Nations (UN). 2007. United Nations declaration on the rights of Indigenous peoples. United Nations, New York, New York, USA.
- UNEP. 2011. Convention on Biological Diversity: text and annexes. Secretariat for the Convention on Biological Diversity.
- Wolford, W., S. M. Borras Jr., R. Hall, I. Scoones, and B. White. 2013. Governing global land deals: the role of the state in the rush for land. *Development and Change* 44 189-210. <https://doi.org/10.1002/9781118688229>
- Wolford, W. W., B. White, I. Scoones, R. Hall, M. Edelman, and S. M. Borras. 2024. Global land deals: what has been done, what has changed, and what's next? *The Journal of Peasant Studies* 52:1409-1446. <https://doi.org/10.1080/03066150.2024.2325685>

Supplementary Methods 1 | Literature review – keyword selection

For our literature review, we adopted a PICO procedure to select our keywords, where the Population was the land investment project, our Intervention was failed, non-operational, abandoned or stopped projects, and our Outcome was our environmental dimension – deforestation of forests and woodlands. Our literature review was done in the Scopus database, from March to June 2023, we adapted keywords from Borrás et al. (2022) and interactively tested new keywords. We used the following research string: "*land grab*" OR "large*scale land acquisition*" OR "land deal*" OR "land investment*" OR "land rush" OR "land contract*" OR "Agr* Proj*" OR "Forest* Proj*" OR "Mining* Proj*" OR "Plantat* Proj" AND “fail*” OR "block*" OR "cancel*" OR "not*realize*" OR "cancel*" OR "shut down" OR "abandon*" OR "speculat*" OR "not*pursue*" OR "withdraw*" OR "stall*" OR "bankrupt*" OR "stop*" OR "revise*" OR "roll*back" OR "reverse*" OR "virtual*" OR "Limbo" OR "*Operational*" OR "resist*" AND "*forest*" OR "Clearing*" OR "Savanna*" OR "Woodland*".

Supplementary analysis 1 | Grouping deforestation and failure determinants variables

To present our results for research questions 2 and 3, we organized variables for failure determinants (RQ2) and deforestation (RQ3) in groups. These groupings were based both on an interpretation of overall cases by the authors and further supported by a correspondence analysis of variable groups (Figure S1).

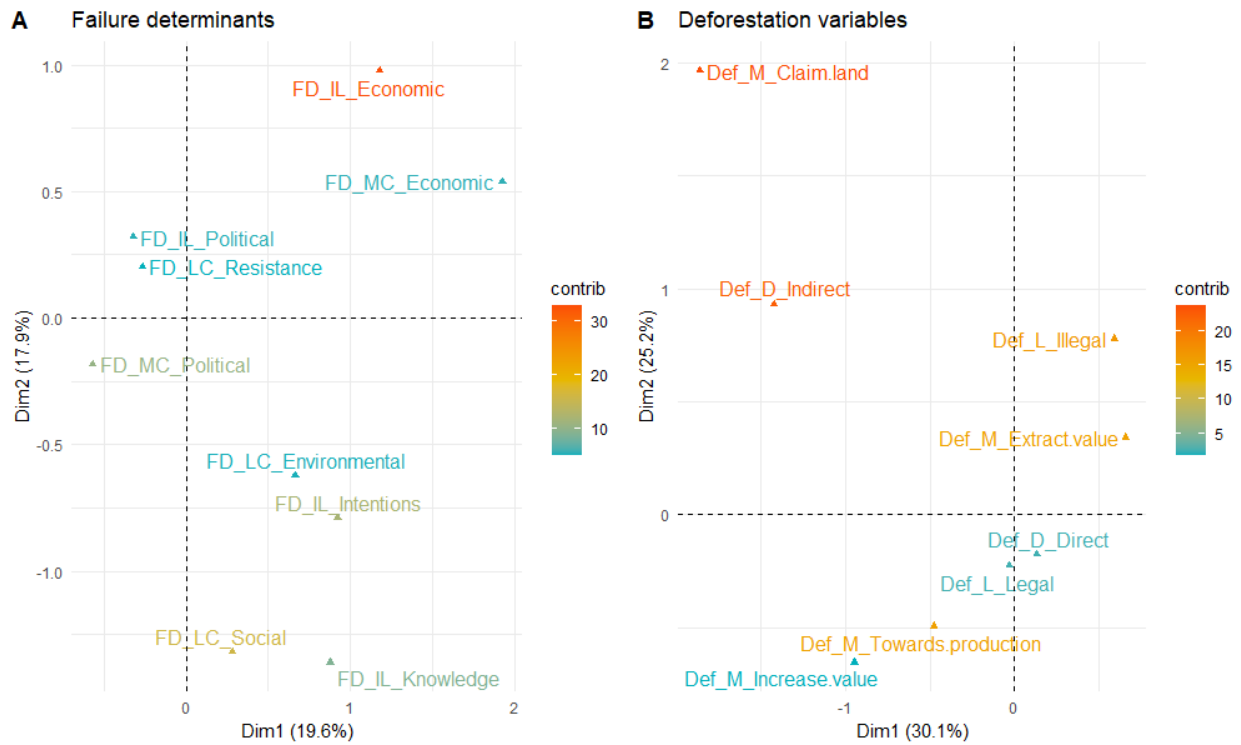


Figure S1 – Correspondence analysis biplot of variables contribution. Biplot of correspondence analysis using failure determinants variables (A) and using deforestation variables: motivations direct or indirect and legal status. On the side contribution of each variable for the correspondence analysis.

Supplementary Figures

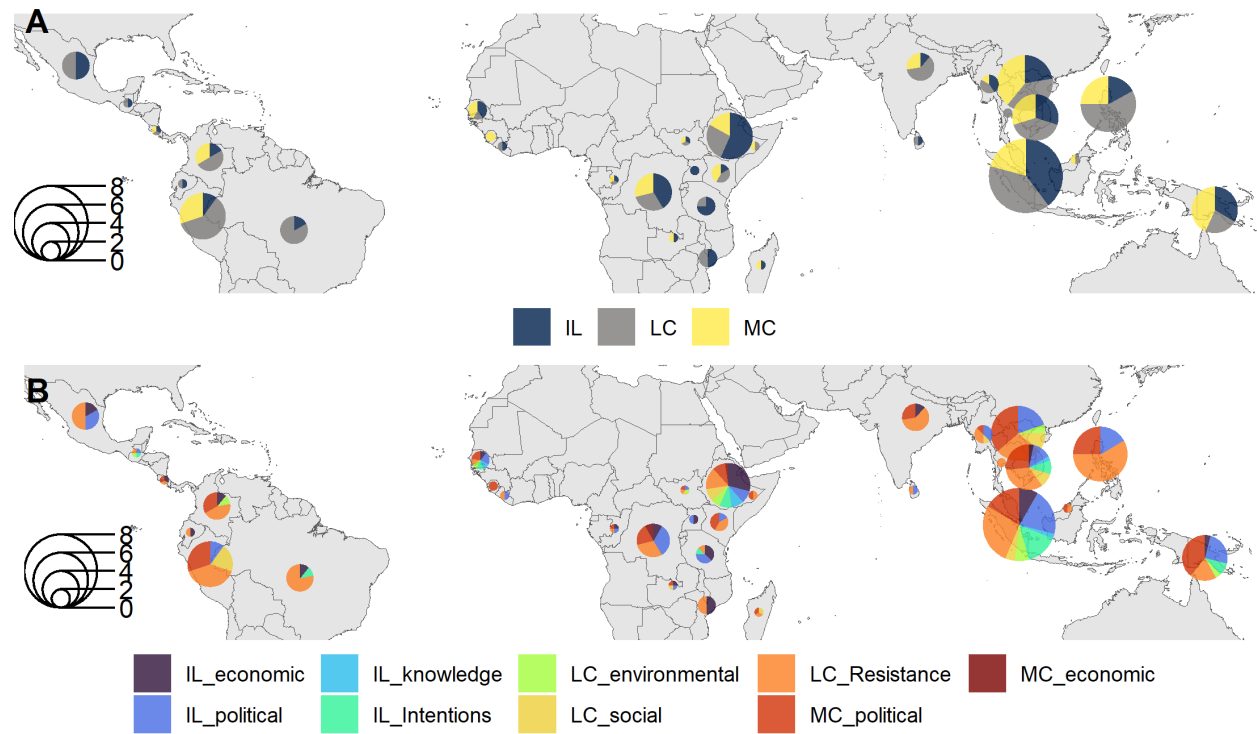


Figure S2 – Map with the distribution of reported cases per country. Pie charts of reported failure determinants major groups (A) and disaggregated (B) and size representing the total number of cases (80). In cases with multiple failure determinants, each determinant was represented by fractions, equally divided, e.g., if a case had two determinants each would be represented with 0.5 in the pie chart.

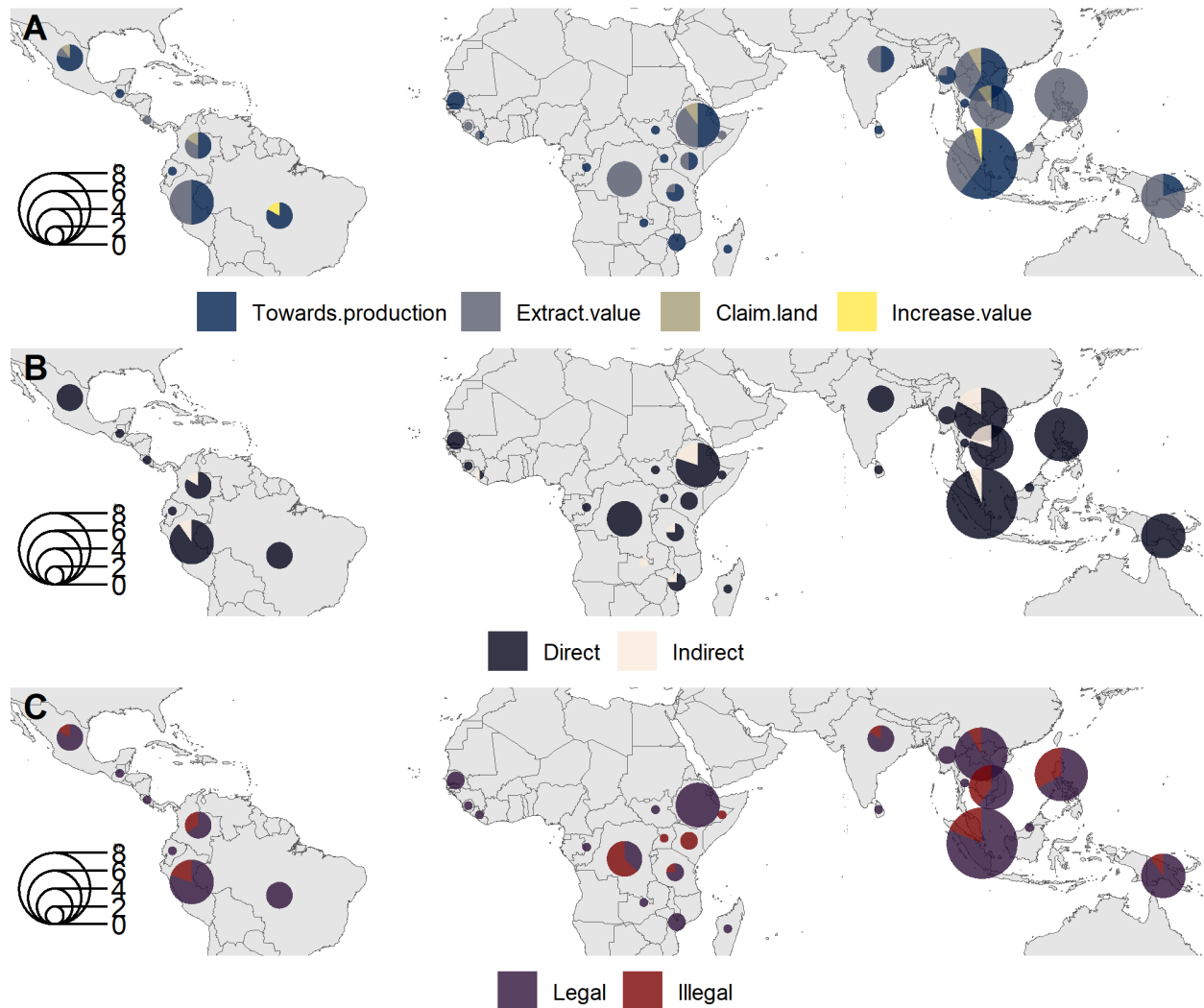


Figure S3 – Map with the distribution of reported cases per country. Pie charts of reported deforestation motivations (A), direct or indirect (B), and Legal status. Size represents total number of cases (80). In cases with multiple characteristics, each category was represented by fractions, equally divided, e.g., if a case had two categories each would be represented with 0.5 in the pie chart.

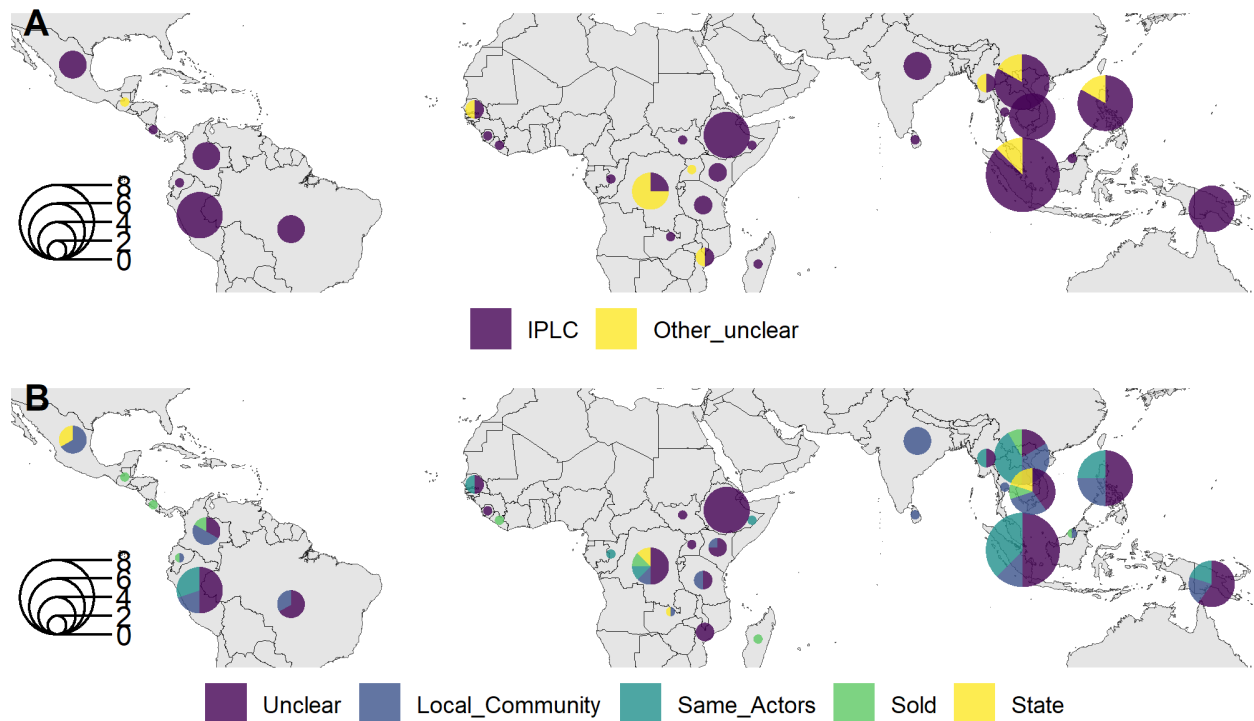


Figure S4 – Map with the distribution of reported cases per country. Pie charts of reported presence of Indigenous People or Local communities (IPLC) or not reported (A) and post land control (B). Size represents total number of cases (80). In cases with multiple characteristics, each category was represented by fractions, equally divided, e.g., if a case had two categories each would be represented with 0.5 in the pie chart.

Supplementary Tables

Table S1 - List of cases reviewed. With Case ID, country of focus, main source used (LM – Land Matrix, LR – Literature Review, EJA – Environmental Justice Atlas), id from the source, other sources and scope of the case if focusing on a specific deal or in a geographical region.

ID	Country	Main source	ID from source	Other sources	Case scope
1	Indonesia	LM	188		Deal
2	Ethiopia	LM	1201	Wendimu (2016)	Deal
3	South Sudan	LM	1742	EJA ID: 130	Deal
5	Uganda	LM	1978		Deal
6	Congo, Dem. Rep.	LM	2006	[1]	Deal
7	Kenya	LM	3362	EJA ID: 180, 27	Deal
8	Liberia	LM	3447	Wåhlin (2018); [2]	Deal
9	Papua New Guinea	LM	3594	[3]	Deal
10	Papua New Guinea	LM	3656	[4]	Deal
11	Ethiopia	LM	3832	[5]	Deal
12	Lao PDR	LM	3992		Deal
13	Tanzania	LM	4506	[6]	Deal
14	Congo, Dem. Rep.	LM	4995	[7], [8]	Deal
15	Sierra Leone	LM	5189		Deal

16	Congo, Dem. Rep.	LM	5214		Deal
17	Congo, Dem. Rep.	LM	5225	EJA ID: 3679; [9], [10], [11]	Deal
18	Myanmar	LM	5959		Deal
19	Peru	LM	6232		Deal
20	Lao PDR	LM	6346		Deal
21	Indonesia	LM	7964	[12], [13], [14]	Deal
22	Indonesia	LM	7965	[15], [16], [17], [18]	Deal
23	Ethiopia	LR	Ango (2018)		Deal
25	Zambia	LR	Chilombo and van der Horst (2021)		Deal
26	Madagascar	LR	Evers et al. (2011)	LM ID: 2253, 2254; EJA ID:94	Deal
27	Papua New Guinea	LR	Filer (2012)		Deal
28	Lao PDR	LR	Kenney-Lazar (2018)		Deal
29	Lao PDR	LR	Kenney-Lazar et al. (2018)		Deal
30	Cambodia	LR	Mackenzie et al. (2022)	LM ID: 3534; EJA ID: 1781; [19], [20]	Deal
31	Lao PDR	LR	McAllister (2015)		Deal
32	Indonesia	LR	McCarthy et al. (2012), Cattau et al. (2015)	Goldstein (2016)	Deal
33	Lao PDR	LR	Messerli et al. (2016)	Barney (2008)	Deal
34	Cambodia	LR	Oldenburg and Neef (2014)		Geographical region
35	Papua New Guinea	LR	Roberts (2019)	LM ID: 3620	Deal
36	Ethiopia	LR	Rahmato (2014)	[21]	Deal

37	Indonesia	LR	Romijn et al. (2013)	Kartodihardjo and Supriono (2000)	Geographical region
38	Senegal	LR	Gagné and Fent (2021)		Deal
39	Ethiopia	LR	Awoke (2014)		Geographical region
40	Colombia	LR	Rodríguez-de-Francisco et al. (2021)		Geographical region
41	Peru	LR	Salisbury and Fagan (2013)		Geographical region
42	Mozambique	LR	Zaehringer et al. (2021)		Geographical region
43	Congo, Rep.	EJA	102		Deal
44	Peru	EJA	122	LM ID: 920	Deal
45	Tanzania	EJA	171	LM ID: 1866; [22]	Deal
47	Colombia	EJA	658		Deal
48	Colombia	EJA	675	[23]	Deal
49	India	EJA	1181		Geographical region
50	Thailand	EJA	1215		Geographical region
51	Mexico	EJA	1398		Deal
52	Brazil	EJA	1473		Deal
53	Cambodia	EJA	1742		Deal
54	Cambodia	EJA	1768		Deal
55	Philippines	EJA	1976		Deal
56	Philippines	EJA	1981		Deal
57	Philippines	EJA	1983		Deal

58	Guatemala	EJA	2089		Deal
59	Ecuador	EJA	2154		Deal
60	Mexico	EJA	2319		Deal
61	Peru	EJA	2363		Deal
62	Brazil	EJA	2402	Allegretti (2008)	Deal
63	Sri Lanka	EJA	2449		Deal
64	Peru	EJA	2654	Scurrah (1998)	Deal
65	Senegal	EJA	3020	Gagné and Fent (2021), Gagné (2021), Word et al. (2014); [24], [25]	Deal
66	Costa Rica	EJA	3266	[26],[27]	Deal
67	Indonesia	EJA	3349		Deal
68	Indonesia	EJA	3443	[28]	Deal
69	Myanmar	EJA	3463	Oo (2021), Tarkapaw (2016); [29]	Deal
70	Indonesia	EJA	3474	[30], [31], [32]	Deal
71	India	EJA	3888		Deal
72	Mexico	EJA	4380		Deal
73	Kenya	EJA	4891		Deal
74	Somalia	EJA	4916		Geographical region
75	Papua New Guinea	EJA	5004	Mousseau and Lau (2015)	Deal
76	Brazil	EJA	5055		Deal

77	Cambodia	EJA	5374		Deal
78	Malaysia	EJA	5535		Deal
79	Philippines	EJA	5634		Deal
80	Philippines	EJA	5687		Deal
81	India	EJA	5866	[33]	Geographical region
82	Philippines	EJA	5887		Deal
83	Mozambique	EJA	119	LM ID:2275	Deal

[1] <https://grain.org/en/article/6674-the-untold-story-of-feronia-inc-s-failed-rice-operations-in-the-dr-congo>, Accessed between July 2023 to December 2023

[2] <https://www.accountabilitycounsel.org/client-case/liberia-buchanan-renewable-energy/>, Accessed between July 2023 to December 2023

[3] <https://efaidnbmnnnibpcajpcgclcfndmkaj/https://landmatrix.org/media/uploads/apecdocorgsitepng20090703granting-of-lease-queried.pdf>, Accessed between July 2023 to December 2023

[4] <https://efaidnbmnnnibpcajpcgclcfndmkaj/https://landmatrix.org/media/uploads/turubu-a-ghost-plantation-post-courier.pdf>, Accessed between July 2023 to December 2023

[5] <https://www.ecotextile.com/2014110521133/materials-production-news/organic-cotton-projects-linked-with-deforestation.html>, Accessed between July 2023 to December 2023

[6] <https://www.farmlandgrab.org/post/view/19498>, Accessed between July 2023 to December 2023

[7] <https://www.greenpeace.org/international/story/6843/the-lengths-illegal-wood-will-travel/>, Accessed between July 2023 to December 2023

[8] <https://rainforestjournalismfund.org/projects/congos-illegal-timber>, Accessed between July 2023 to December 2023

[9] <https://www.globalwitness.org/en/campaigns/forests/total-systems-failure/>, Accessed between July 2023 to December 2023

[10] <https://news.mongabay.com/2022/03/revealed-timber-giant-quietly-converts-congo-logging-sites-to-carbon-schemes/>, Accessed between July 2023 to December 2023

[11] <https://www.africaintelligence.com/central-africa/2023/06/19/environment-minister-eve-bazaiba-at-loggerheads-with-congo-s-forestry-barons.109995065-ge0>, Accessed between July 2023 to December 2023

[12] <https://www.straitstimes.com/asia/se-asia/spore-team-digs-in-to-help-riau-village-combat-haze>, Accessed between July 2023 to December 2023

[13] <https://www.mongabay.co.id/2019/12/05/warga-riau-bersemangat-kelola-hutan-desa-tetapi-terkendala-dana/>, Accessed between July 2023 to December 2023

- [14] <https://www.eyesontheforest.or.id/reports/investigative-report-peat-swamp-forest-and-community-livelihoods-threatened-by-pt-lestari-unggul-makmur-april>, Accessed February 2024
- [15] <https://news.mongabay.com/2015/04/activists-target-roger-federer-as-brand-ambassador-for-bank-linked-to-deforestation/>, Accessed between July 2023 to December 2023
- [16] <https://news.mongabay.com/2020/10/pulp-paper-giant-april-rapp-riau-peatland-canal/>, Accessed between July 2023 to December 2023
- [17] <https://environmentalpaper.org/2012/07/april-concessions-protested-by-communities/>, Accessed between July 2023 to December 2023
- [18] <https://news.mongabay.com/2012/01/extreme-mouth-sewing-protest-in-indonesia-leads-to-logging-inquiry/>, Accessed between July 2023 to December 2023
- [19] <https://grain.org/e/6397>, Accessed between July 2023 to December 2023
- [20] <https://www.farmlandgrab.org/post/view/31968-indigenous-kuy-people-block-outsiders-from-clearing-farmland-in-preah-vihear>, Accessed February 2024
- [21] <https://www.thehindu.com/news/international/world/attack-on-indianowned-farm-in-ethiopia-turns-spotlight-on-land-policy/article5314720.ece>, Accessed between July 2023 to December 2023
- [22] <https://www.iied.org/what-happens-when-landgrabbers-leave-account-kilwa-tanzania>, Accessed February 2024
- [23] <https://verdadabierta.com/que-pasa-alrededor-de-la-hacienda-las-pavas/>, Accessed between July 2023 to December 2023
- [24] <https://grain.org/article/entries/4815-who-is-behind-senhuile-senethanol/>, Accessed between July 2023 to December 2023
- [25] <https://www.oaklandinstitute.org/struggle-land-senhuile-agribusinesses-senegal-ardo-sow> , Accessed in: between July 2023 to December 2023
- [26] <https://www.nacion.com/economia/ston-forestal-a-manos-ticas/57FTRYGGTRHPDDF4QGASTRLTDY/story/> , Accessed between July 2023 to December 2023
- [27] <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/stakeholder-negotiations-over-third-world-natural-resource>, Accessed between July 2023 to December 2023
- [28] <https://interactive.aljazeera.com/aje/2020/five-dollar-forests/index.html>, Accessed between July 2023 to December 2023
- [29] <https://www.earthsight.org.uk/news/idm/oil-plantation-south-myanmar-conflict-zone-wreaks-havoc-local-communities-forest>, Accessed between July 2023 to December 2023
- [30] <https://www.bbc.com/news/world-asia-57845156>, Accessed between July 2023 to December 2023
- [31] <https://forensic-architecture.org/investigation/intentional-fires-in-papua>, Accessed between July 2023 to December 2023
- [32] <https://news.mongabay.com/2020/11/palm-oil-korindo-papua-rainforest-fire-burn-greenpeace-forensic-architecture/>, Accessed between July 2023 to December 2023
- [33] <https://www.downtoearth.org.in/blog/governance/how-chhattisgarh-s-baiga-tribe-secured-habitat-ownership-in-the-face-of-eviction-threats-92421>, Accessed between July 2023 to December 2023

References

- Allegretti, M. 2008. A construção social de políticas públicas. Chico Mendes e o movimento dos seringueiros. *Desenvolvimento e meio ambiente*, 18.
- Ango, T. G. 2018. "Medium-scale" forestland grabbing in the southwestern highlands of Ethiopia: Impacts on local livelihoods and forest conservation. *Land*, 7.
- Awoke, T. C. 2014. Unique Forest Ecosystem under Threats.
- Barney, K. 2008. 5. China and the Production of Forestlands in Lao PDR: A Political Ecology of Transnational Enclosure. In: Joseph, N. and Nancy Lee, P. (eds.) *Taking Southeast Asia to Market*. Ithaca, NY: Cornell University Press.
- Borras, S. M., J. C. Franco, T. Moreda, Y. Xu, N. Bruna and B. Afewerk Demena 2022. The value of so-called 'failed' large-scale land acquisitions. *Land Use Policy*, 119, 106199.
- Cattau, M. E., S. Husson and S. M. Cheyne 2015. Population status of the Bornean orang-utan *Pongo pygmaeus* in a vanishing forest in Indonesia: The former Mega Rice Project. *ORYX*, 49, 473-480.
- Chilombo, A. and D. Van Der Horst 2021. 'When the cat is away, the mice will play': the political ecology of tobacco production and manganese mining in Nansanga farm block in Zambia. *Journal of Political Ecology*, 28, 553-576.
- Evers, S., P. Burnod, R. A. Ratsialonana and A. Teyssier 2011. Foreign land acquisitions in Madagascar: Competing jurisdictions of access claims. *Africa-Europe Group for Interdisciplinary Studies*.
- Filer, C. 2012. Why green grabs don't work in Papua New Guinea. *Journal of Peasant Studies*, 39, 599-617.
- Gagné, M. 2021. Corporate Repertoires of Control and Performances of Power in a Contested Land Deal in Senegal. *African Studies Review*, 64, 675-703.
- Gagné, M. and A. Fent 2021. The Faltering Land Rush and the Limits to Extractive Capitalism in Senegal. *International Political Economy Series*.
- Goldstein, J. 2016. *Carbon Bomb: Indonesia's Failed Mega Rice Project*. Arcadia.
- Kartodihardjo, H. and A. Supriono. The Impact of sectoral development on natural forest conversion and degradation: the case of timber and tree crop plantations in Indonesia. 2000.
- Kenney-Lazar, M. 2018. Governing Dispossession: Relational Land Grabbing in Laos. *Annals of the American Association of Geographers*, 108, 679-694.
- Kenney-Lazar, M., D. Suhardiman and M. B. Dwyer 2018. State Spaces of Resistance: Industrial Tree Plantations and the Struggle for Land in Laos. *Antipode*, 50, 1290-1310.
- Mackenzie, E., S. Milne, L. Van Kerkhoff and B. Ray 2022. Development or dispossession? Exploring the consequences of a major Chinese investment in rural Cambodia. *Journal of Peasant Studies*.

- Mccallister, K. E. 2015. Rubber, rights and resistance: the evolution of local struggles against a Chinese rubber concession in Northern Laos. *Journal of Peasant Studies*, 42, 817-837.
- Mccarthy, J. F., J. a. C. Vel and S. Afiff 2012. Trajectories of land acquisition and enclosure: Development schemes, virtual land grabs, and green acquisitions in Indonesia's Outer Islands. *Journal of Peasant Studies*, 39, 521-549.
- Messerli, P., A. Peeters, O. Schoenweger, V. Nanthavong and A. Heinemann 2016. Marginal Land or Marginal People? Analysing Patterns and Processes of Large-Scale Land Acquisitions in South-East Asia. *International Development Policy*.
- Mousseau, F. and P. Lau 2015. The great timber heist: The logging industry in Papua New Guinea. Oakland, California: Oakland Institute.
- Oldenburg, C. and A. Neef 2014. Reversing land grabs or aggravating tenure insecurity? Competing perspectives on economic land concessions and land titling in Cambodia. *Law and Development Review*, 7, 49-77.
- Oo, M. S. 2021. Negotiation for Life: Karen Customary Lands in Tanintharyi, Myanmar, Regional Center for Social Science and Sustainable Development (RCSD).
- Rahmato, D. 2014. The perils of development from above: land deals in Ethiopia. *African Identities*, 12, 26-44.
- Roberts, J. 2019. 'We Live Like This': Local Inequalities and Disproportionate Risk in the Context of Extractive Development and Climate Change on New Hanover Island, Papua New Guinea. *Oceania*, 89, 68-88.
- Rodríguez-De-Francisco, J. C., C. Del Cairo, D. Ortiz-Gallego, J. S. Velez-Triana, T. Vergara-Gutiérrez and J. Hein 2021. Post-conflict transition and REDD+ in Colombia: Challenges to reducing deforestation in the Amazon. *Forest Policy and Economics*, 127.
- Romijn, E., J. H. Ainembabazi, A. Wijaya, M. Herold, A. Angelsen, L. Verchot and D. Murdiyarso 2013. Exploring different forest definitions and their impact on developing REDD+ reference emission levels: A case study for Indonesia. *Environmental Science & Policy*, 33, 246-259.
- Salisbury, D. S. and C. Fagan 2013. Coca and conservation: Cultivation, eradication, and trafficking in the Amazon borderlands. *GeoJournal*, 78, 41-60.
- Scurrah, M. J. 1998. Forest conservation and human rights in Peru: The conflict over the Chaupe forest. *Journal of Iberian and Latin American Research*, 4, 37-64.
- Tarkapaw, T. N., Southern Youth, Candle Light, Khaing Myae Thitsar, Myeik Lawyer Network, and Dawei Development Association. 2016. Green Desert. Communities in Tanintharyi renounce the MSPP Oil Palm Concession.
- Wåhlin, M. 2018. Human rights impacts of the exit of Swedish investors from Buchanan Renewables Fuel in Liberia: an update. In: Blondel, A. (ed.). *Swedwatch*.
- Wendimu, M. A. 2016. *Jatropha* potential on marginal land in Ethiopia: Reality or myth? *Energy for Sustainable Development*, 30, 14-20.

Word, J., F. Mousseau and D. Cirillo 2014. Surrendering our future: Senhuile-Senéthanol Plantation destroys local communities and jeopardizes environment. The Oakland Institute.

Zaehring, J. G., P. Messerli, M. Giger, B. Kiteme, A. Atumane, M. Da Silva, L. Rakotoasimbola and S. Eckert 2021. Large-scale agricultural investments in Eastern Africa: consequences for small-scale farmers and the environment. *Ecosystems and People*, 17, 342-357.