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*Uncivil State: Sputtered Development and
Land Governance in the Brazilian Amazon*

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Sociology

by

Gabriel Locke Suchodolski

2024

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ABSTRACT OF THE DISSERTATION

*Uncivil State: Sputtered Development and
Land Governance in the Brazilian Amazon*

by

Gabriel Locke Suchodolski

Doctor of Philosophy in Sociology

University of California, Los Angeles, 2024

Professor Rebecca J. Emigh, Co-Chair

Professor Kevan Kimberlin Harris, Co-Chair

This dissertation examines factors affecting land policy performance in the Brazilian Amazon. It identifies the conditions and mechanisms influencing the success of weak bureaucracies in establishing property rights for rural smallholders and making land ‘legible’ (in public cadasters, survey maps, and land titles). I analyze how civil society and elites historically affected land legibility in Brazil and the contemporary functioning of Brazil’s national land bureaucracy at local levels.

Social scientists posit that a strong state bureaucracy, a strong civil society interested in policy, elite consensus, or politically empowered peasants are necessary for land legibility and property rights formalization (Scott 1999:49; Emigh, Riley, and Ahmed 2019; Kingdon 2011;

Murtazashvili and Murtazashvili 2021; Albertus 2021). Within weak bureaucracies, mission-driven bureaucrats would be necessary for organizational effectiveness (McDonnell 2020; Graizbord and De Souza Leão 2022), though the organizational mission is subject to partisan understanding and implementation (Merriman and Pacewicz 2022).

I examine how civil society and elites influenced organizational effectiveness and land policy performance in surprising ways in two neighboring states—Pará and Amazonas—each more than three times the size of California and together containing most of the Amazon Forest. In Western Pará, the policy priority region, where interested elites and strong peasants pushed for land titling, the land bureaucracy was expected to produce high titling rates but, in fact, produced the lowest. In Amazonas, a non-priority state where elites were disinterested in rural land and peasants had little political power, the land bureaucracy unexpectedly titled most smallholders. Methodologically, my dissertation leverages subnational comparisons with process tracing, ethnography, and administrative data analysis. I conducted six months of fieldwork in land bureaucracies and rural communities. I completed ninety-seven semi-structured interviews with bureaucrats, civil society leaders, smallholders, and politicians. I collected administrative datasets with twenty-five right-to-information requests and archival data from land bureaucracies, civil society organizations, and local newspapers.

The dissertation shows that in Western Pará, elites with different interests in land (politicians, agribusiness leaders, and public prosecutors) intervened and derailed the regional land bureau's operation. While rural elites publicly supported private property rights, behind the scenes, they meddled with state legibility to advance illicit land uses. In response, environmental litigation unintendedly weakened bureaucracies further. External interventions imprinted partisan polarization onto bureaucrats and corroded organizational capacity. Few Pará smallholders

received property titles. In Amazonas, a weak civil society and disinterested elites enabled the regional land bureau to function. Absent elite intervention, partisan bureaucrats increased organizational effectiveness by collaborating with smallholder civil society groups. Most Amazonas smallholders received property titles, especially in traditional communities.

This dissertation contributes to ongoing development, state capacity, and climate governance debates by arguing that weak bureaucracies require shelter from (rather than support of) political elites to operate effectively. Bureaucrats' polarization erodes organizational capacity, but moderate partisanship can foster collaboration with civil society to enhance organizational effectiveness. Furthermore, I argue that cooperative labor (rather than litigation and protests) enables local communities to achieve land legibility and environmental governance. My dissertation suggests that reorienting elite interests (or attention) away from local bureaucracies and facilitating cooperation with smallholders can implement state legibility to optimize land use and avoid climate catastrophe in Amazonia. Potential policy implications for sustainable development in environmentally strategic regions include international cooperation to strengthen local civil servants, incentives for non-predatory economic activities, and supporting environmental litigation strategies that target economic sectors rather than state institutions.

The dissertation of Gabriel Locke Suchodolski is approved.

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University of California, Los Angeles

2024

For Iman and Raj

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List of Acronyms

ACP	Ação Civil Pública (Public Civil Action)
ADA	Área de Desmatamento Autorizado (Authorized Deforestation Area)
ANOREG	Associação dos Notários e Registradores do Brasil (National Association of Notaries and Registrars)
CAFIR	Cadastro de Imóveis Rurais (Rural Property Cadaster) by Receita Federal
CAR	Cadastro Ambiental Rural (Rural Environmental Registry)
CCU	Contrato de Concessão de Uso (Contract of Use Concession)
CDRU	Concessão de Direito Real de Uso (Concession of Real Right of Use)
CIR	Cadastro de Imóveis Rurais (Rural Property Register)
CNIR	Cadastro Nacional de Imóveis Rurais (National Rural Property Cadaster)
CNJ	Conselho Nacional de Justiça (National Council of Justice)
CNS	Conselho Nacional dos Seringueiros (National Council of Rubber Tappers)
CONTAG	Confederação Nacional dos Trabalhadores na Agricultura (National Confederation of Agricultural Workers)
CPI	Comissão Parlamentar de Inquérito (Parliamentary Inquiry Commission)

CPMF	Contribuição Provisória sobre Movimentação Financeira (Provisional Contribution on Financial Transactions)
CPT	Comissão Pastoral da Terra (Land Pastoral Commission)
CUEM	Concessão de Uso Especial para Fins de Moradia (Special Use Concession for Housing Purposes)
CVSF	Comissão do Vale do São Francisco (São Francisco Valley Commission)
EMBRAPA	Empresa Brasileira de Pesquisa Agropecuária (Brazilian Agricultural Research Corporation)
FUNAI	Fundação Nacional do Índio (National Indian Foundation)
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazilian Institute of Environment and Renewable Natural Resources)
ICMBio	Instituto Chico Mendes de Conservação da Biodiversidade (Chico Mendes Institute for Biodiversity Conservation)
INCRA	Instituto Nacional de Colonização e Reforma Agrária (National Institute for Colonization and Agrarian Reform)
IPNRA	Primeiro Plano Nacional de Reforma Agrária (First National Plan for Agrarian Reform), 1985
IIPNRA	Segundo Plano Nacional de Reforma Agrária (Second National Plan for Agrarian Reform), 2003

ITEAM	Instituto de Terras do Estado do Amazonas (Amazonas State Land Institute)
MPF	Ministério Público Federal (Federal Public Prosecutor's Office)
NGO	Non-Governmental Organization
PAE	Projeto de Assentamento Agroextrativista (Agroextractive Settlement Project)
PDS	Projeto de Desenvolvimento Sustentável (Sustainable Development Project)
PIN	Programa de Integração Nacional (National Integration Program)
PPG7	Programa Piloto para Proteção das Florestas Tropicais do Brasil (Pilot Program to Conserve the Brazilian Rainforest)
PSD	Partido Social Democrático (Social Democratic Party)
PT	Partido dos Trabalhadores (Workers' Party)
PTN	Partido Trabalhista Nacional (National Labor Party)
RB	Registro de Beneficiários da Reforma Agrária (Land Reform Registry of Beneficiaries)
RESEX	Reserva Extrativista (Extractive Reserve)
RGD	Registro Geral de Imóveis (General Property Registry)

SIAPA	Sistema Integrado de Administração Patrimonial (Integrated Asset Management System)
SIGEF	Sistema de Gestão Fundiária (Land Management System)
SIPRA	Sistema de Informações de Projetos de Reforma Agrária (Information System of Agrarian Reform Projects)
SNCR	Sistema Nacional de Cadastro Rural (National System of Rural Cadaster)
SPUNET	Sistema de Gerenciamento do Patrimônio Imobiliário de Uso Especial da União (Management System of Special Use Real Estate Assets of the Union)
SPU	Secretaria do Patrimônio da União (Secretariat for Federal Patrimony)
SR15	Superintendência Regional 15 – Amazonas (Regional Superintendency 15 - Amazonas)
SR27	Superintendência Regional 27 – Sul do Pará, Marabá (Regional Superintendency 27)
SR30	Superintendência Regional 30 - Oeste do Pará, Santarém (Regional Superintendency 30 – Western Pará, Santarém)
SREI	Sistema de Registro de Imóveis Eletrônico (Electronic Property Registration System)
STF	Supremo Tribunal Federal (Supreme Federal Court)

SUDAM	Superintendência de Desenvolvimento da Amazônia (Superintendency for the Development of the Amazon)
SUDENE	Superintendência do Desenvolvimento do Nordeste (Superintendency for the Development of the Northeast)
SUFRAMA	Superintendência da Zona Franca de Manaus (Superintendency of the Manaus Free Trade Zone)
TD	Título de Domínio (Title of Domain)
ZFM	Zona Franca de Manaus (Manaus Free Trade Zone)

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BIOGRAPHICAL SKETCH

Gabriel Locke Suchodolski is a political sociologist of development and environmental governance. He is interested in how states and civil society can deliberately change natural resource use. His research analyzes land policy, politics, and deforestation in Amazonia. Gabriel draws on ten years of ethnographic fieldwork, comparative historical analysis, and quantitative data to explain social-environmental and policy dynamics. He earned an MA in Sociology from the University of California, Los Angeles, an MA in Anthropology from Columbia University, an MA in Sociology from Rio de Janeiro State University, and a BA in International Relations from the University of São Paulo. Before his PhD, Gabriel worked at the New Social Cartography of the Amazon Project (Projeto Nova Cartografia Social da Amazônia) in Manaus, Brazil, where he assisted traditional communities and social movements in mapping the social use of their territories.

Chapter 1: State performance, land legibility, and development

Introduction: State and society in Amazonian land governance

The world goes where Amazonians take it. Of the five global climate ‘tipping points’ (including the Greenland and Antarctic ice sheets, the El Niño, and the Atlantic Meridional Oceanic Circulation), the Amazon Basin is the only one vastly inhabited and historically shaped by human occupation, thus *directly* amenable to human action. Amazonia provides Southern Cone rainfall, atmospheric cooling, and carbon sinks. However, current human-led deforestation could produce a biome switch from tropical forest to a kind of savannah—an irreversible ecosystem dieback with widespread extinctions, massive hydrological changes, droughts, and colossal CO₂ emissions (Albert et al. 2023; Hecht et al. 2021; Lovejoy and Nobre 2019; Spracklen and Coelho 2023). An “Amazon’s End” would generate climate calamities and is among the most consequential issues facing the 21st century (Alencar et al. 2021). In Amazonia, land speculators convert forests into large-scale pastures and agriculture as Brazil’s globalized agribusiness advances into this socio-ecological ‘acupressure point’ (Hänggli et al. 2023; Oliveira and Hecht 2016). Land governance and property rights to smallholders and traditional communities could curb deforestation and increase socioeconomic welfare by protecting communities from encroachment, ensuring occupants adhere to deforestation restrictions, and enabling sustainable income from forests (Azevedo-Ramos et al. 2020; Reydon, Fernandes, and Telles 2020; Sparovek et al. 2019).

This dissertation examines land policy implementation—a Gordian Knot for development and deforestation in Amazonia. It identifies the conditions and mechanisms influencing the success of weak bureaucracies in establishing property rights for rural smallholders and making land ‘legible’ in public

cadasters, survey maps, and land titles (Scott 1999). I analyze how civil society and elites affect the functioning of Brazil's national land bureaucracy at local levels.

Land governance in the Brazilian Amazon

In the Brazilian Amazon, land policy shapes land use, 'rushes,' development, and deforestation (Alston, Libecap, and Mueller 2000:163; Araujo et al. 2009:2467; Robinson, Holland, and Naughton-Treves 2014). Haphazard rural property registry in Brazil relegated rural land tax to self-declared land plot value and annual assessment, amounting to an insignificant 0,11 percent of national tax revenue¹ and crippling rural municipalities' state capacity. Amazonian deforestation occurs primarily on lands with insecure property rights (Alencar et al. 2019; Azevedo-Ramos et al. 2020:2). Landowners, squatters, and speculators clear the forest to claim proprietorship under *uti possidetis* rights, prevent expropriation, and 'flip' public land into sellable pastures (Alston et al. 2000:163; Araujo et al. 2009:2465–66; Hecht and Cockburn 2011:169). Without land titles, smallholders remain excluded from downstream policies of agricultural modernization, fail economically, and must resort to clandestine economies of land, timber, cattle, and gold for social reproduction (Bunker 1982; Hecht 2014). The lack of formal land rights generates informal land deals, deforestation, and violent conflicts (Alston and Mueller 2018; Araujo et al. 2009; Blackman and Veit 2018; Brito et al. 2019; Fearnside 2001). Agribusiness flanks disproportionately clear forests for appropriation and compromise land use policies (Rajão et al. 2020). Scholars and policymakers suggest that land legibility in national cadasters and property rights 'regularization' are necessary to curb environmental destruction and promote economic growth (Azevedo-Ramos et al. 2020:3; Azevedo-Ramos and Moutinho 2018:125; Reydon et al. 2020; See critique in Baletti 2012).² Designating land for conservation and collective use and securing tenure for traditional communities and smallholders would preclude possessory clearings, make

¹ Absent land cadasters and titles, Brazil's rural land tax (ITR) is fully self-declaratory (Ferragut 2019) and underreported. See: <https://www.escolhas.org/de-r-1-bilhao-a-quase-r-17-bilhoes-em-arrecadacao-afirma-jornal-com-base-em-estudo-do-escolhas-sobre-ittr/>.

² Write out Baletti's critique, perhaps to add to territorialization debate. Note this repeats opening paragraph.

occupiers legible and accountable to deforestation restrictions (80%-50% of plots), provide access to forest-friendly income, increase investment and technical efficiency, and prevent large-scale farming (Blackman and Veit 2018:66; Campos-Silva et al. 2021; Lipscomb and Prabakaran 2020:2; L’Roe et al. 2016:199; Otsuki, Hardie, and Reis 2002; Pacheco 2009:1346; Reydon et al. 2021:15).³ Despite half-century land titling policy efforts, most Amazonian smallholders remain untitled, and existing titles are unevenly distributed.

This dissertation analyzes the conditions and mechanisms for states to govern land, make land legible, and formalize property rights for smallholders and traditional communities. I study Brazil’s *Instituto Nacional de Colonização e Reforma Agrária*—Incra (National Institute of Colonization and Land Reform)—a modern, functionally specific bureaucracy charged with one of the most contentious issues in world history (land distribution) in the most contested land use frontier. Incra oversaw the Great Enclosure of contemporary history—the privatization of 81 million hectares, an area larger than Europe, during the past six decades in Amazonia (Costa 2022:4). Brazil’s federal government seized control of massive Amazonian lands in 1971 and continuously designated these lands for colonization and land reform around new roads, unleashing social forces that embattle land governance in a low-intensity agrarian war (Almeida 1992; Hecht and Cockburn 2011). I study state attempts to govern land—Incra’s efforts to create land cadasters, survey maps, registries, and titling for smallholders and traditional communities in Amazonia. I analyze how regional elites and agrarian societies influenced the Incra federal land bureaucracy’s functioning, relationship with smallholders, and performance.

I analyze Incra’s land policy implementation in neighboring Pará and Amazonas—Brazil’s two largest states, which comprise half of the Amazon Forest—where similar Incra land bureaus produced surprising land governance results. Western Pará has been a priority target for land governance and titling

³ However, we need further studies on the effects of property rights in Amazonia. Empirical causal inference studies of how property rights affect development and deforestation in Amazonia relied on incomplete datasets, surveys, or an ‘environmental cadaster’ as proxy for property rights and arrived at contradictory results (Alston, Libecap, and Mueller 1999; Araujo et al. 2009; Azevedo-Ramos et al. 2020; Lipscomb and Prabakaran 2020; L’Roe et al. 2016; Hänggli et al. 2023).

since 2003 (Brasil 2005), with empowered peasants and agribusiness landowners agreeing on land titling policy. But Western Pará was Incra's worst-performing regional bureau and issued few titles to smallholders. Amazonas, on the other hand, with politically weak peasants and agrarian elites, nonetheless was the national champion state in Incra's "titlemeter" (in 2017 and 2018) and titled most smallholders. To explain this divergent result, I trace and compare Incra's policy implementation in Western Pará and Amazonas.

Methodologically, my dissertation leverages subnational comparison with process tracing, ethnography, and administrative data analysis. I conducted six months of fieldwork in land bureaus and rural communities. I completed 97 semi-structured interviews with bureaucrats, civil society leaders, smallholders, and politicians. I collected administrative datasets with twenty-five right-to-information requests and archival data from land bureaus, civil society organizations, and local newspapers.

Summary of findings

This dissertation shows that agrarian political economies, elites, and nonelites critically affected land bureaucracies and legibility. Over half a millennium, people in Brazil consistently advanced land frontiers using legal ambiguity and self-reporting private property claims, when convenient, in multiple, disconnected registries and cadasters. The recurring legalization of occupied public lands stimulated continuous land usurpation and grabs. Landed elites and non-elite squatters opposed state land surveyance to keep usurping public land and avoid taxation or expropriation for redistribution. Historical layers of incomplete policies encumbered subsequent legibility projects. The Brazilian state created a modern bureaucracy to colonize Amazonian hinterlands in legible smallholder settlement projects and private land concessions, which this dissertation examines in detail.

The dissertation finds that in Pará, 1960s national development policies kept Pará elites invested in the rural economy (Bunker 1985:84-5,93,114,168; Velho 2013). More than half a million migrant landless families, smallholders, and large capital moved into Pará's countryside. In Western Pará, the federal government acquired control of ~80% of the land, and Incra became the overwhelming administrative

power. A revamped rural landholding elite continuously embattled land reform and colonization projects. A robust peasant movement became influential in civil society, politics, and government. In 2000, Western Pará became the focus for infrastructural development (roads and dams), soy, environmental set-asides, and land reform. By 2003, Western Pará was the priority region for land legibility and titling—on which elites and peasants agreed. Incra created a new Western Pará regional superintendence in 2005, which became the focus of organized interests and political intervention. A strong but fragmented civil society and clashing elites (politicians, agribusiness leaders, and public prosecutors) derailed Incra's operation. While rural elites publicly supported land legibility and private property rights, behind the scenes, they meddled with state legibility to advance illicit land use. Alternating Pará elites promoted high turnover in Incra leadership and steered the bureaucracy towards different goals. Other state agencies and elites opposed what they saw as Incra misgivings. In response, environmental litigation and protests further embattled Incra and unintentionally weakened its regional bureau. External interventions imprinted partisan polarization onto bureaucrats, who became internally polarized. This corroded Incra's institutional capacity and undermined land legibility and titling. Despite shared land titling goals, elite conflict and instability weakened the land bureaucracy and undermined policy implementation. Few Pará smallholders received property titles, notably through political patronage. Traditional communities' strong local knowledge of their territories remained untapped for land legibility.

On the other hand, the Amazonas case shows that 1960s-70s development policies promoted industrialization and commercial activities in the capital city, Manaus—sidelining the rubber elite syndicate (Souza 2009:329) and uprooting Amazonas elites from the rural economy. Amazonas' rural economy dwindled, and rural exodus ensued. The federal government also seized control of massive lands, but these were ~25% of the state. Incra controlled largely remote lands—not readily accessible by road and more distant from Brazil's South and Northeast migrant-sending regions than Pará and Rondônia frontiers—and other agencies (Suframa) controlled portions of valuable land near Manaus (Schwade 2019). As a result, Amazonas elites remained relatively insulated from its rural economy and uninterested in Incra. In 2000, Amazonas elites more readily accepted environmental set-asides and Incra's 'land reform' administration

over large swathes of traditional community territories. Inca leadership enjoyed stability and little turnover. Elite inattention and stable leadership allowed for Inca's *de facto* bureaucratic autonomy (despite dwindling resources). Bureaucratic partisanship remained moderate. Partisan bureaucrats could collaborate with riverine peasant communities and civil society groups with strong local knowledge. This led to successful land legibility and the titling of most smallholders, especially of traditional communities. The Amazonas case shows that a weak civil society and disinterested elites surprisingly enabled Inca's weak bureaucracy to function autonomously. Absent elite intervention, partisan bureaucrats increased organizational effectiveness by collaborating with smallholder civil society groups and marshaling their strong local knowledge to implement land legibility and titling.

Argument

The dissertation argues that weak bureaucracies require shelter from (rather than support of) political elites to operate effectively. Bureaucrats' polarization erodes organizational capacity, but moderate partisanship can foster collaboration with civil society to enhance organizational effectiveness. Furthermore, I argue that cooperative labor (rather than litigation and protests) enables local communities to achieve land legibility. This dissertation suggests that reorienting elite interests (or attention) away from local bureaucracies and cooperation with smallholders facilitate state legibility to optimize land use and avoid climate catastrophe in Amazonia—the most human-sensitive global climate tipping point.

State and Land Governance

Territorial governance is a defining aspect of modern states (Weber 1978:54; Foucault 2007; Mann 1984; Tilly 1990).⁴ Early modern states and empires maintained outposts for military protection and customs taxes in passageways but largely relied on (patrimonial) mediators for land surveillance and taxation (Benton

⁴ But territoriality is just one element of sovereignty, not its defining element, and should not be projected back into history nor assumed extensively in the present (Benton 2009:4,23).

2009:2; Kiser and Karceski 2017:77–81; Tilly 1990:92–94). In Europe, aristocrats, local notables, and the church also undertook cadastral surveys to keep track of taxable subjects (Scott 1999:366, note 71). Premodern states mostly lacked the standards, staff, and detailed information for a synoptic view of their domain and thus were “partially blind” (Scott 1999:2). Modern states increasingly sought to ‘govern’ their population and their relationship to the territory (Foucault 2007:91–110).⁵

States engaged in ‘legibility projects’ by which a complex reality is simplified and made legible from afar, in a synoptic view for the sake of governance, coordination, and authority at large scales (Scott 1999). Legibility projects include standardized information recording and detailed maps that simplify complex social practices and ecologies into uniform grids meant for centralized monitoring, control, and provisions. Legibility enables the remaking of reality, though often far from the initially intended results (Scott 1999:2–3; Li 2014:593). According to Scott (1999:35), “the very concept of the modern state presupposes a vastly simplified and uniform property regime that is legible and hence manipulable from the center.” Land legibility (in cadastral maps, land registries, and titles)⁶ is indicative of both state performance—an *achievement* of prior policies—and an *instrument (or capacity)* for further policy implementation. Land legibility is instrumental for taxation, regional and urban planning, infrastructural development, economic zoning, redistribution of assets, allocation of population, allocation of services and utilities, and environmental preservation, and extra-local land markets. In making people and territory legible, states created specialized staff or modern bureaucracies (Kiser and Karceski 2017:81; Tilly 1990:88–89). State legibility projects of standardized and centralized information made the state a mediator of (among other things) land use, constrained customary or informal rights, and shifted power away from prior mediators (e.g., local notables). Land users would henceforth deal with land registry offices,

⁵ Add debate on territorialization—Peluso, Pacheco de Oliveira...(Peluso and Lund 2011:673)

⁶ Process of state legibility—freehold tenure in liberal states – grid, survey, map cadaster, uniform deed of title, and property register written and numbered to map linking owner to lot to pay taxes (Scott 1999:24,33,36). Cadastral map provided documentary evidence for a synoptic view of the state for taxation and for a supralocal market in land (Scott 1999:39).

surveyors, titles, judges, the judicial system, and new mediators who could take this opportunity to make fortunes (Scott 1999:48).

State power and legibility, however, are spatially variable and historically contingent (Benton 2009:2,4)—more saliently so in the global South (O'Donnell 1993:1359; Gupta 2012:45–46). Historical conditions limit land legibility. On the one hand, landed elites undermined state legibility in England (Emigh et al. 2019:412) and diverse colonial settings (Acemoglu, Vindigni, and Ticchi 2011; Banerjee and Iyer 2005; Lange, Mahoney, and Vom Hau 2006),⁷ and prevented land cadasters in places like Brazil (Carvalho 2014:350). Indeed, modern state bureaucracies emerged when landholding elites were weakened by consecutive wars (Kiser and Karceski 2017:81). On the other hand, collective forms of land use hindered state legibility (Klup 1984). Likewise, land policy depended on modes of wealth extraction. Where value extraction and taxation happened through agricultural surplus, ground rent, or wage labor, land required delimited parcellation and cadastral maps (Scott 1999:33).⁸ Where credit and merchant forms of value extraction (and taxation) prevailed, land needn't be surveyed. This was the case in early modern, mercantile, and maritime empires, like the Portuguese, Spanish, Dutch, and English empires until the eighteenth century (Tilly 1990:91–94). Colonial land settlement and administration began in the mid-seventeenth century in sparse places and narrow bands. Bounded territories became increasingly associated with imperial domains in the eighteenth century (Benton 2009:11). Imperial mapping and land surveyance became widely used means of establishing dominium and property by the mid-nineteenth century, notably in the British Empire and its commodification of land in settler frontiers (Benton 2009:11; Weaver 2003:43). Frontiers were politically and administratively produced by empires that saw areas economically unworthy of individualized land settlement (property) for extraction and imposed collective punishment as a form of rule—similarly in the 1850s-1870s across Nigeria, India, Afghanistan, the US, and Argentina (check Hopkins 2020; Weaver 2003:18)—and to where some people targeted for extraction and genocide fled

⁷ Landowners dependent on labor also prevented democratization (Mahoney 2003:147; Moore Jr. 1967; Rueschemeyer, Huber, and Stephens 1992:8).

⁸ The Netherlands was an early adopter of land mapping because of the early commercialization of land and investments in windmill drainage for land reclamation (Scott 1999:45).

(Scott 2009). Early (colonial) land property rights/arrangements produced path-dependent effects on the distribution of power, political and economic institutions, and the economic performance of countries (Acemoglu, Johnson, and Robinson 2001). However, other forces may dramatically alter developmental paths.⁹

Several areas of the global South remained economic peripheries and administrative and extractive frontiers well into the twentieth century, and many remain so today. Amazonia is one of them. In the ‘Scramble for the Amazon,’ credit and commercial extraction advanced with the 1850s-1910s rubber commodity boom, and collective land and resource use remains widespread (Hecht 2013; Weinstein 1983; Almeida 2008).

Land: contested use, property, governance, and titling

Land’s polyvalence and life-giving affordances make it crucial for human life, though land use is diverse, conflicted, and dynamic. People dispute the meaning, value, use, and control of land—including its status as a biophysical entity, cultural territory, commodity, multi-species habitat, sacredness or resourcefulness, source of livelihood or profit, or financial asset, etc. (Li 2014:591; Meyfroidt et al. 2018:63; Fairbairn 2020:10-11,18). People value land differently as place, two-dimensional surface area, three-dimensional volumes of subsoil minerals, above-ground carbon mass, or biodiversity. Land’s fixity in place makes its human use dependent on the exclusion of other uses (Li 2014:591). Property, too, entails the exclusion of others (Graeber and Wengrow 2021:159,161). Land property is produced, bounded, coerced, regulated, and legitimized in different ways—implying different ‘regimes of exclusion’ (Li 2014:591). Some land property claims and exclusions gain official status, but because their consequences are so severe for human life, these remain recurrently contested and historically contingent (Borras and Franco 2024:2; Li 2014:591;

⁹ Persistence works in the choices of immigration, education, land policies, political rights, patterns of banking, and capital formation. Colonies that started as unequal and exclusionary continue to be so; more equal and participatory colonies continue to be so. The “reversal of fortune” thesis states that less attractive colonies promoted equality and openness of property rights institutions (for colonizers), which were more conducive to entrepreneurship, innovation, and capital accumulation and promoted faster growth over centuries.

Wolford et al. 2024:18). Karl Polanyi labeled land a “fictitious” commodity and argued that its privatization generates political backlash and policies to upkeep human survival (Polanyi 2001:75-6,79), though land could be a type of commodity with specific political dynamics (Bartley 2019:5). Contests over land involve social groups, categories, philosophers, and policymakers (Li 2014:591). Competing goals, uses, and interests in land entangle land governance in complex politics.

Property rights refer to different rights like access, use, usufruct (or withdrawal/collection), management (the right to regulate use), exclusion (the right to determine who has access), and the right to destroy the property, and alienation (the right to sell, or transfer rights) (Graeber and Wengrow 2021:159,161; Ostrom 2009b:28). These rights may bundle up or not and align for the same people or not. Local and premodern customary rights are often complex and dynamic (Scott 1999:33–35 for an illustration). Roman Law tradition aligns three main rights: *usus*, *fructus*, and *abusus* (use, usufruct, and destruction) (Graeber and Wengrow 2021:161). These rights can be individual or collective. Influential scholars and policymakers propose that individual private property rights benefit investment, economic growth, and state capacity (Acemoglu et al. 2001; Berle and Means 1932; Demsetz 1967:356; Holstein 1996:24; North 1990; de Soto 2000). Ethnic property often includes collective use rights and inalienability that limit land commodification (Alden Wily 2018; Almeida 2008).

Land titling—Upstream and downstream policies

Land titling—the state’s formal recognition of specific people’s property right to a designated land plot—brings the state to mediate land use and property and provides a layer of protection for those land claimants. Land titling is the process of attributing titles, a policy of institutional modernization and legibility. Like other state legibility projects, titling is a ‘*selective* recognition’ (Loveman 2014:14) of a particular land use—that, therefore, reshapes struggles over land property (Benjamin and Raman 2011:39,40). As such, titling could protect the tenure of less wealthy or politically marginal people and enable access to further policies, as well as amplify the potential dangers of supra-local land markets and state control (Bunker 1982:573; Benjamin and Raman 2011:40; Newman 2022:268; Scott 1999). Titling officially recognizes

property rights under impersonal laws, performing legalization, thus the expectation of stability and definitiveness of land control (Peluso and Lund 2011:674).

Land titles crucially link a chain of ‘upstream’ and ‘downstream’ policies. Upstream policies include social identification, land surveyance, and recording (including measurement, registration, alienation, and adjudication). Downstream policies include tenure security for individuals or collectives, diminished conflicts over land (substituting for judicial litigations), citizenship and political autonomy from local leaders, property investments, bank credit, rural extension, agricultural productivity, food security, competitive markets for crops, secure land sales and lease markets, taxation and local government capacity, infrastructure development, environmental management, and payments for environmental services such as carbon offsets (Bunker 1982:579; Rudel 2016:197; Ganguly and Mishra 2017:2–14; Campbell 2015:5; Newman 2022:268; Robinson et al. 2014:282). Titling, however, is not a sufficient condition for downstream benefits (Holstein 1996:23). In sum, land titling is the potential trigger for great transformations.

Land titles secure property rights for smoother land markets and can transform property into capital both as secured means of production using wage labor (Marx 1992:933,940) and as abstract, fungible property (de Soto 2000). If mediated by market and mortgage mechanisms, land titles enable investments, agricultural productivity, and industrialization (Alston, Libecap, and Mueller 1999:126; Carlson 2022:702).¹⁰ Moreover, agricultural productivity could spare land for environmental conservation if accompanied by conservation restrictions (Mertz and Mertens 2017). On the other hand, collective property titles also provide increased social safety nets, participation and resource management, household investments, income, and social welfare (Peña et al. 2017; Saffon and Bertomeu 2020:209).

¹⁰ However, non-market mediated property rights enable landholders to prioritize self-sufficiency, maintain risk aversion, and dodge market imperatives for investment in productivity. Smallholders may prioritize subsistence, and large landowners may use land as secure asset and channel rents in other activities—limiting economic development in both agriculture and industry (Carlson 2022:703). These differences are akin to non-capitalist and capitalist property (Marx 1992:940).

Land titling in 20th and 21st-century development policies

Development policies included private property rights and land titling as central components throughout the nineteenth and twentieth-century land colonization and land reform programs (Bunker 1982; Marx 1992:938–39; Rudel 2009:137). Following World War II, both sides of the Cold War promoted substantial land reform. The prevailing development rationale deemed large landholdings to be unproductive and politically dangerous. Modernization theory and social engineering included land reforms as central but politically challenging policies in newly independent countries and Latin America (Gilman 2003:3; Huntington 1968). The US supported thoroughly redistributive land reforms in East Asia (Courville and Patel 2006:15–18). In lieu of redistributive land reforms, central governments in Southeast Asia and Latin America (especially after the Cuban Revolution) facing rural insurgencies embraced “colonization programs” and new “settlement schemes” to transfer landless populations to secure border regions, avoid guerrilla insurgency (often in remote forests), promote economic growth, and please a growing landless population (Rudel 2007:36, 2009:137). New state-sponsored “settlement schemes” included roadbuilding, land grants, state assistance for housing, subsidized credit, and—crucially—land titles (Rudel 2007:36). By the 1990s, most countries discontinued colonization programs, with Brazil and Indonesia as significant exceptions (Rudel 2007:36). In newly redistributed or colonized land, moreover, many governments withheld property titles from smallholders seeking political control over rural populations (Albertus 2021:121). Indigenous and traditional community rights over land also increased over this period (Alden Wily 2018; Rudel and Hernandez 2017).

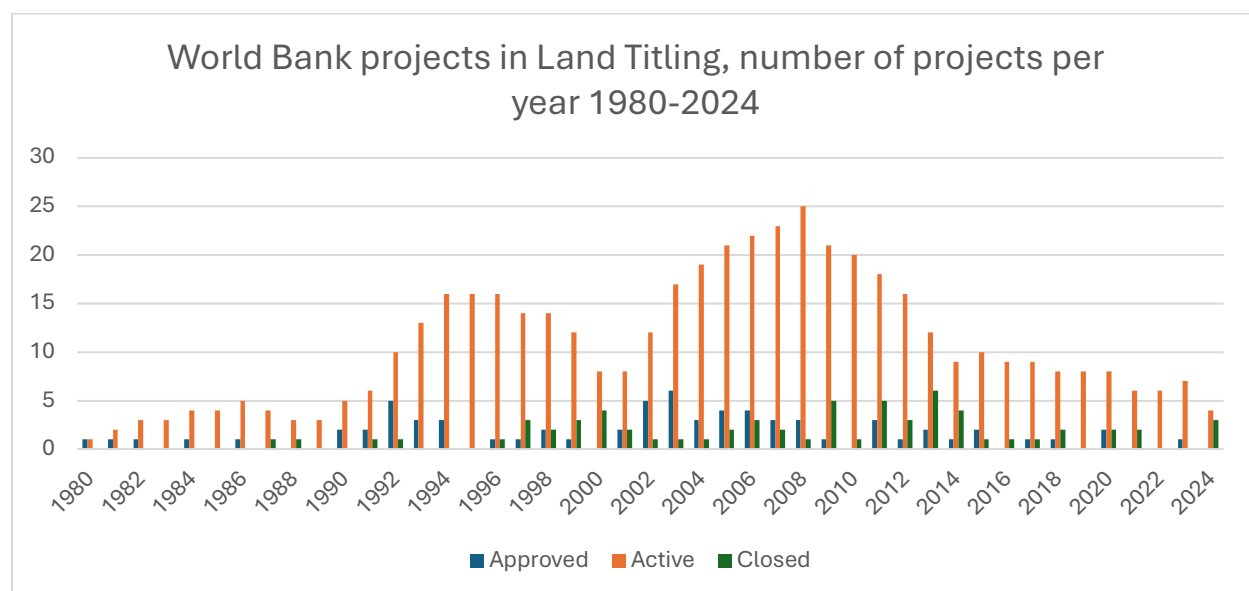
International development policies increasingly focused on land titling and registration over the second half of the twentieth century. Until 1960, the World Bank’s ‘improvement approach’ had sought technical improvements in peasant agriculture without radical change in traditional social and legal systems, which aggravated social inequalities, rural exodus, and increased social welfare expenditures (Bunker 1982:575). The Bank’s reformulated ‘transformation approach’ in the 1960s included modern institutions—land titling, land registration, and agricultural credit—in rural development programs namely to cope with

inequalities increasing due to new technologies. Modern land administration proved to be far costlier than simple agricultural technology transfer as it required elaborate administrative structures and larger trained personnel, which absorbed substantial portions of development budgets (Bunker 1982:576). Land titling also faced early critique for creating capitalist structures amenable to state control and world-system exploitation (Feder 1976). By the 1980s, neoliberal policies and corporate food regimes altered international development focus away from land redistribution, and new large landholdings improved productivity for commodity agriculture. Small-farm agriculture ceased to be a developmental goal. However, low agricultural growth and political pressure from peasant movements brought land reform back on the agenda in the 1990s (Deere 2006).

Neoliberalism, “an explicit preference for private over public control” (Centeno and Cohen 2012:317), prioritizes private property and fiscal austerity and re-emphasizes land titling as its development alternative, stripped of other state-sponsored services (Harvey 2017; Wolford 2016a:78). Hernando de Soto famously advocated for land titling as *the* capitalist development route for poor countries and populations hitherto precluded from turning assets into fungible commodities (de Soto 1989, 2000).¹¹ The World Bank increasingly focused on land titling and registration projects in the 1990s (Holstein 1996:2)—with seventy-one ‘land titling’ projects in 39 countries, adding up to 6.8 billion dollars, and 445 ‘land registration’ projects across 119 countries (World Bank Projects data, see below). These, however, include private, community, and forest legibility projects. Neoliberal ideas of private property rights for economic development, governance, and environmental management live alongside and compete with land redistribution, small family-farm support, indigenous lands, and conservation areas. Land inequality increased globally in the late 1980s and 2000s (Anseeuw and Baldinelli 2020:36; Lowder, Scoet, and Raney 2016). Beginning in 2005, the World Bank ranked countries according to land administration quality and registering property

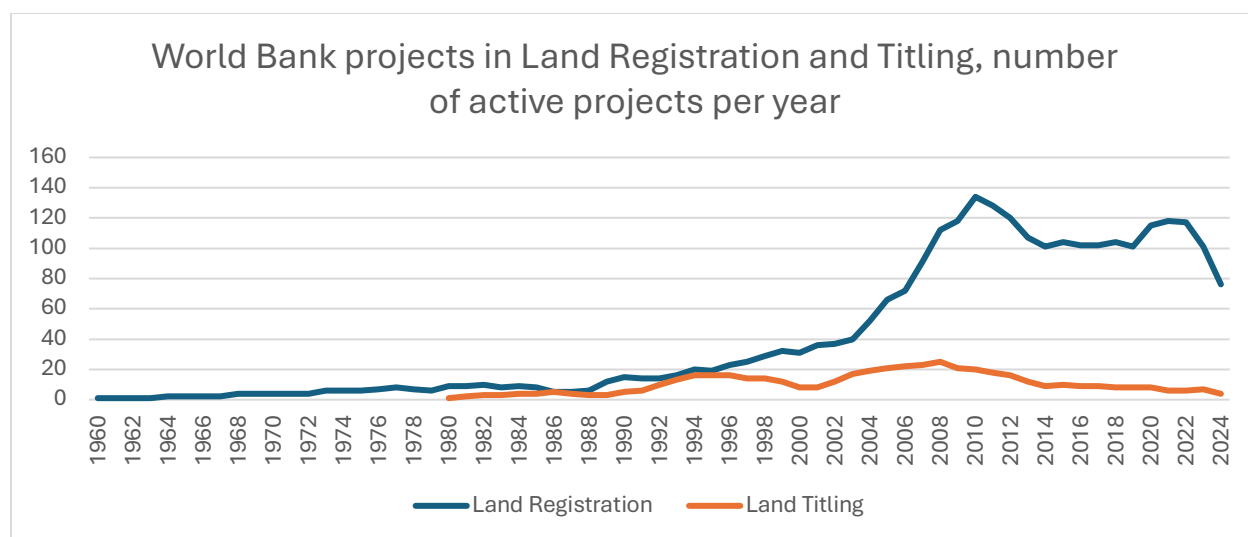
¹¹ De Soto advocated for a system of private property rights as *the* means for the poor to turn their assets into capital, thus valorizing assets, and promoting credit and market efficiency. This system of property rights must go beyond a mere inventory of ownership and provide a representation of the economic qualities of assets, unifying information and rules into one system, making people accountable, making assets fungible, networking people through connected devices, and protecting transactions .

efficiency as part of their Doing Business reports between 2005 and 2020.¹² The Food and Agriculture Organization (FAO) published voluntary guidelines in 2012 for countries to reform land tenure governance (FAO 2012). The U.N. Sustainable Development Goals adopted in 2015 include “secure tenure rights to land” with legally recognized documentation by 2030 (Target 1.4, within “No poverty” goal #1).



Data source: World Bank Projects, retrieved on 05/17/2024 from: https://projects.worldbank.org/en/projects-operations/projects-list?sectorcode_exact=BZ&title=Other%20Public%20Administration&os=0&qterm=land%20titling

¹² See *Doing Business* project at: <https://www.worldbank.org/en/businessready/doing-business-legacy>



Data source: World Bank Projects, retrieved on 05/18/2024 from: <https://projects.worldbank.org/en/projects-operations/projects-list?os=0&qterm=land%20registration>

The multiple potentials of land legibility and titling could produce different forms of land management, use rights, and distributional outcomes. Therefore, land titles are at the crux of contemporary development debates and legibility projects (Wolford et al. 2024:10). Social groups, individuals, and organizations compete and enter complex and shifting alliances (Benjamin and Raman 2011:40; Boone 2019:384). Within land titling policies, social groups and individuals (and organizations) compete for different distributions and forms of land rights. Large farmers and smallholders strive for security and speculation (Campbell 2015; Hecht 2012:11); real estate firms attempt to open or impose markets (Benjamin and Raman 2011; Jenkins 2019); ethnic groups strive for protection from commodification and expulsion (Almeida 2008; Barry and Meinzein-Dick 2014); and women strive for gender equality and security through property ownership (Agarwal 2003). Turf-controlling elites dependent on locally recognized claims may oppose titling altogether (Newman 2022:285). Landless peoples' movements have manifested against the danger of mere land titling as a means to privatize and re-concentrate land tenure (MST 2017).

A new global land rush reinforced a land titling rush in the twenty-first century. The mid-2000s commodity boom, food crisis, and the 2008 global financial crisis produced a land rush and land grabs (Fairbairn 2020:3–4; Lay et al. 2021:24). Farmland became a relatively safe investment asset with high returns, suggested by the World Bank for increased returns and agricultural productivity, and secured by investment treaties and insurance against political risk (Li 2014:596–97; Wolford et al. 2024:2). Financial management companies began to specialize in farmland investment in the U.S in the 1980s, but farmland financialization expanded exponentially and globally after 2008 (Fairbairn 2020:18–19). Investments produced widespread land grabs, dispossession, and land deals (Borras and Franco 2024; Lay et al. 2021:25). The ‘global land grab’ prompted new land titling policies and campaigns, including community-mapping efforts (Wolford et al. 2024:4). The African Union and the Food and Agriculture Organization created voluntary guidelines for land investments alongside commodity-focused certifications and agreements (Wolford et al. 2024:11). Many countries enacted new land laws and titling programs between 2008 and 2012, including Brazil, India, China, Indonesia, Kenya, and others. The World Bank’s *Rising Global Interest in Farmland* report from 2011 both identifies countries vulnerable to land grabbing and shows expected returns for potential investors (Deininger and Byerlee 2011; Li 2014:595). The financialization of land and natural resources connects global circuits of capital to remote territories by mediation of national political elites desiring investments for development and local elites creating investment frontiers while dreaming of breaking free from marginalization (Wolford et al. 2024:9,10). Land’s monetary value, however, changes dramatically over time and space (Bartley 2019:5,10), and the timing and contingencies of its uses (e.g., agriculture) are in tension with the desired predictability of financial investments (Fairbairn 2020:19).

Critical agrarian studies ambivalently engage land legibility, rights formalization, and titling for their uncertain effects on tenure security for smallholders and indigenous peoples. They indicate that rights formalization and registration could protect peasants and indigenous communities from dispossession (Fairbairn 2020:12; Wolford et al. 2024:19), but also that it tends to favor the capital-endowed, privatization, and land concentration (Wolford et al. 2024:10,19). Moreover, international donors and

multilateral agencies, by supporting land rights registration and titling, play a “role” in pushing land “into market exchange” (Wolford et al. 2024:11), and titling policymakers intentionally favor large capital (Benjamin and Raman 2011:51). Neoliberal disinvesting from smallholder farming coupled with tenure formalization policies would arguably cause smallholders’ distress sales and land concentration (Wolford et al. 2024:5). Nevertheless, land grabbing, concentration, and expanding agrarian frontiers are rampant in informal/illegal/illicit/ clandestine land markets. Net of existing market forces and smallholder farming support, it remains unclear what effects land titles have (compared to their absence, and in what policy combinations or interactions) on land tenure, distribution, concentration, or gradual change. Yet, no existing database or study has been able to systematically assess this (Wolford et al. 2024:18–19). Land legibility, such as mapping and registration, generates strategic feedback between rural tenants and land grabbers (Wolford et al. 2024:11,17). Oftentimes, states leave titled smallholders or indigenous peoples unprotected (Wolford et al. 2024:16). Critical studies notwithstanding, we must conceptually de-conflate and empirically examine the relationships between contemporary land titling policy adoption, *de facto* titling results, and its consequences on land tenure (and local development, deforestation, etc.). This dissertation empirically analyzes the relationship between policy adoption and *de facto* titles issued. (I will examine how land titles issued to smallholders affect local development and deforestation in my postdoctoral research).¹³

¹³ Analyses of land titling effects in (Deininger and Feder 2009; Galiani and Schargrodsky 2010, 2011a, 2011b; Holden, Deininger, and Ghebru 2009). A literature review finds that tenure formalization programs affect significant substantial productivity and income gains, likely through increased sense of tenure security and investments (Lawry et al. 2017). Titles *can* enhance investments, productivity, income and material wellbeing. Galiani and Schargrodsky (Galiani and Schargrodsky 2010) find that land titles significantly (and without recourse to credit through collateral) increase households’ physical and human capital investments. Holden, Deininger, and Ghebru (Holden et al. 2009) find that rural titles increase in land productivity, investment in trees, and maintenance of soil conservation structures. Conning and Deb (2007:9), speculate that if land claimants invest to defend possession, titles could lead to reduced plot-level investments. Inefficient land managers are able to rent out land securely to more efficient ones and increase agricultural productivity (Holden et al. 2009). Galiani and Schargrodsky (Galiani and Schargrodsky 2011a) find that formal land titles directly increase property value, even without a robust rental or real estate market. However, in a literature review, the same authors find that there is “little empirical evidence that land-titling programs enhance the development of land markets” (Galiani and Schargrodsky 2011b). Alienable private property is expected to increase poor people’s access to private bank credit using land as collateral. However, Galiani and Schargrodsky (Galiani and Schargrodsky 2010) find only modest effects in mortgage credit enhancement. Deininger and Feder (Deininger and Feder 2009) find scant evidence of improved access to credit due to land rights formalization. On the other hand, collective land titles such as indigenous lands, extractive reserves, community lands, and other modalities restrict land

Despite land titling policy adoption and a global land rush, rural land titles remain relatively uncommon in developing countries (Rudel 2016:197; Ali et al. 2014:1), unevenly distributed across and within jurisdictions, and, contrary to economic expectations (Alston, Harris, and Mueller 2012:746; Demsetz 1967:350), not concentrated in high land-price areas (Alston et al. 1999:126; Arezki, Deininger, and Selod 2011; Hecht and Cockburn 2011:124,168; Monkkonen 2012). In fact, insecure tenure and unregulated areas seem to attract more investment in land acquisition (Arezki, Deininger, and Selod 2015; Wolford et al. 2024:11), not least due to lower initial costs and investors' 'first mover advantage' (Li 2014:595). While several studies investigate the consequences of land titling (such as credit, capital, human capital, and soil management), few analyze the causes of land titling, and the obstacles for smallholders' titling remain unclear (Rudel and Hernandez 2017:491).

What explains state performance in land legibility and land titling? Why are some states able to govern land, make land legible, and implement land policies? How can weak states bootstrap land governance?

Explaining state performance and legibility

This dissertation argues that “the state” and “neoliberalism” explain very little. State bureaucracies implement policies but in conditions not of their choosing, to paraphrase Marx. States adopt policies that they often cannot implement, and legibility projects often fail. The common explanation for failure to

alienability, speculation, and commodification. Even so, collective tenure modalities can promote efficient use of resources (Agarwal 2018; Ostrom 2015), or allow for land rental markets. On land concentration from debt default—two studies suggest this is not a big risk since credit has not increased significantly with titles (Deininger and Feder 2009; Galiani and Scharrodsky 2010). It is unclear whether titles facilitate or impede gentrification. Furthermore, a review found no significant evidence of enhanced land markets where titles were issued (Galiani and Scharrodsky 2011b). Poor rural people may not desire to maintain rural land. It may be the case they do not want to farm or live in rural areas (Agarwal and Agrawal 2017). In conclusion, poor rural people's land tenure security and general well-being cannot be addressed simply by land titles. It is broadly perceived that land titling should be part of broader policy provision that includes infrastructure, training, extension, credit, education, and health services (Fernandes 2011; Sihlobo and Kirsten 2018) for pro-poor land reforms to be successful.

implement a policy is state ‘weakness’ or lack of ‘capacity,’ the absence of Weberian bureaucracies¹⁴ taken to be technically superior and more effective than other organizational forms (Weber 1978:223,225), and which facilitate state ‘autonomy’ (Evans 1995:49; Chibber 2002:956). The problem with that explanation is that weakness and capacity are *post facto* attributions that conflate cause and effect and ignore confounding factors. Even classic studies like Evans (1995) conflate bureaucratic structure with effectiveness. This dissertation joins recent scholarship that analyzes *state performance*, “what, for good or ill, the state is able to accomplish” (Centeno, Kohli, and Yashar 2017b:3).

This study de-conflates state performance from bureaucratic capacity by analyzing policy implementation. Policy implementation and outcomes are different from the bureaucratic structure that helps to produce them. Here, state capacity is the bureaucratic structure with *potential* for action, while state performance is the (analytically posterior) *actual* policy output (Centeno et al. 2017b:3). State performance, then, is similar to the ‘infrastructural power’ of the state—“the capacity of the state to actually penetrate civil society, and to implement logistically political decisions throughout the realm” (Mann 1984:189, see also 1993:59). State effectiveness¹⁵, the successful implementation of a state-defined policy, results from the changing interaction of bureaucracies, political coalitions, and socioeconomic factors (Centeno 1997:1598–99; Centeno et al. 2017b; Emigh, Riley, and Ahmed 2016). Explanations of state performance should include extra-bureaucratic, political, social, and economic factors (Centeno, Kohli, and Yashar 2017a:411). Extra-bureaucratic characteristics of state-society interactions can be seen as conflating or mediating variables in organizational effectiveness or configurations of mutually and dynamically constituent factors. External factors ‘imprint’ onto bureaucratic organizational dynamics. Interactions between bureaucrats and external stakeholders in the process of policy implementation help to explain state performance (Newman 2022:285).

¹⁴ With merit-based recruitment, wage-earning staff that follows uniform procedures, exert functionally circumscribed authority, obey a hierarchy, register actions on paper, follow professional promotion, and develop organizational socialization and an organizational sense of mission (Weber 1978:217-226).

¹⁵ Or state capability (Andrews, Pritchett, and Woolcock 2017).

State legibility projects are enmeshed in extra-bureaucratic factors. Societal information gathering and lay categories influenced state legibility projects (Emigh et al. 2016:11–12). For example, popular mobilization deeply influenced census categories (Emigh et al. 2016:15) and halted civil registration (Loveman 2007). Official legibility projects *selectively* recognize *some* preexisting societal categories, divisions, uses, and relationships (to the detriment of others rendered administratively irrelevant) (Loveman 2014:14). Therefore, it is important to situate implementing state agencies within its political, social, and institutional environment, which may include the international community, local populations, “but also Congress, political parties, academics, social movements, and, crucially, other public agencies inside the state (e.g., auditing and budgeting agencies)” (De Souza Leão 2022:7).

The state “consists of a congeries of institutions” (Gupta 2012:45), and bureaucracies differ widely within states. Bureaucracies that deliver everyday social services tend to be less Weberian and prone to arbitrary discretion, interference, and capture, while economic and industrial policies tend to have more Weberian bureaucracies (Mangla 2022:21). Everyday bureaucracies are more complex and encompass multiple social groups. These bureaucracies may be “shot through with contingency and barely controlled chaos” (Gupta 2012:14) as bureaucrats often make things up as they go along in interpreting policy and dealing with myriad publics (Wolford 2016a:80). Among legibility policies, land policies may be particularly challenging to implement as spatially proximate people “may be easier to mobilize... but coalitions more likely to fracture” (Bartley 2019:7).

Whereas state capacity theories argue that strong states implement land surveys and protect land property rights (Scott 1999:49; Murtazashvili and Murtazashvili 2019:253), comparative historical studies find that weak states aligned with societal interests and local knowledge could complete national land surveys (Emigh et al. 2019:419) and that land titling increased when ruling political coalitions included peasants and potential beneficiaries (Albertus 2021:25,29; Cai, Murtazashvili, and Murtazashvili 2020:2). In short, these studies argue that land titles can be implemented by either (a) an overwhelming bureaucratic force or (b) an alignment of interests or political coalitions that empower bureaucracies. Why would Brazil’s *weak* federal land bureaucracies dealing with communities with strong local knowledge fail in Western

Pará, where elites and peasant coalitions agree on land titling but succeed in Amazonas state, where elites are uninterested in rural land and peasants have little political power?

Land policy outcomes are affected by institutional, bureaucratic, political, social, and economic factors.

Economic theory of land property rights and central place theory

Economic theory suggests that monetary market exchange determines land use and administration.

Ricardian theory posits that natural endowments like land scarcity, soil quality, and water availability determine the productivity of land for potential uses and, thus, the underlying value of land, or ‘land rent.’¹⁶

Land rent is equivalent to the ‘bid rent,’ or “the maximum amount that any land user would be willing to pay for using that land” (Meyfroidt et al. 2018:56). *Central place theory* posits that land value is a function of its proximity to population densities (a central market or city) and transportation costs for products to be exchanged (Rudel 2016:192).¹⁷ More intense and valuable land uses remain closer to the central place, and less valuable and easier-to-transport products would remain further away from the central market—resulting in concentric circles of similar land uses (Meyfroidt et al. 2018:56; Rudel 2009:131). Road access, infrastructure, technology, and market conditions influence land use and land (bid) rent.

According to the *economic theory of property rights*, “property rights arise when it becomes economic for those affected by externalities to internalize benefits and costs” and gradually change, through custom and law experiments, “to accommodate to the externalities associated with important changes in technology or market values” (Demsetz 1967:350,354). Empirical studies have found that land rent increases are a condition for, or positively correlate with, demand for land property formalization, registration, and titles (Alston et al. 1999; Miceli, Sirmans, and Kieyah 2001). When land rents increase sufficiently, occupants will seek legal land titles to avoid the costs of keeping others out (Alston et al. 2012:745). More valuable

¹⁶ David Ricardo 1817.

¹⁷ First elaborated by Johann-Friedrich von Thünen in 1826.

land tends to have more demand for land and property titles and to generate more titles (Alston et al. 2012:746).

Inversely, low-value land, distance to the administrative center, and registration costs reduce the likelihood of property formalization and land titles. Low-value land in distant and inaccessible areas (frequently forested) will have decreasing market value and remain unclaimed or with insecure tenure (Rudel 2016:194). Modern land registration and titling institutions impose adaptation costs on individuals (such as registration fees and travel to the administrative center) (Bunker 1982:573). Most smallholders do not have the means to acquire secure land titles (Rudel 2016:194; Ali et al. 2014). Registration costs diminish demand for titles (Bunker 1982; Miceli et al. 2001).¹⁸ Distance to the administrative/market center (city) increases the cost and reduces the likelihood of titles (Alston, Libecap, and Schneider 1996; Miceli et al. 2001).

H1: High-value land use and connectivity to markets increase land rent, demand for land registration, and titling (Alston et al. 2012:746; Demsetz 1967:350; Meyfroidt et al. 2018:56). High-rent land uses (especially those that require large capital investments) will incentivize occupants to seek and obtain land titles.¹⁹

State capacity

State capacity theory expects strong bureaucracies to implement policy and produce land titles (Scott 1999:49; Evans 1995; Centeno and Ferraro 2017).²⁰ James Scott posits that state strength relative to civil

¹⁸ Similarly, landowners' education is positively correlated with land registration (Miceli, Sirmans, and Kieyah 2001).

¹⁹ However, it is important to note that prior studies found land value was *not* correlated with land regularization (e.g., Monkkonen 2012:281 in Tijuana, Mexico).

²⁰ Weberian bureaucracies are staffed through merit-based recruitment; staff follow uniform procedures and exert authority circumscribed to a particular function and bureau, obey a hierarchy, and register actions in papers. Accordingly, bureaucrats do not own their offices but receive a wage to exert their functions, follow a formal pattern in professional promotion, and develop a *sprit de corps*—a socialization within the organization that promotes mutual interests and a sense of the organization's mission (Weber 1978:217–26).

society explains the completion and thoroughness of state legibility projects like land cadasters (Scott 1999:49). State strength requires resources and administrative coherence (Scott 1999:24,38). Accordingly, strong states ruling over relatively weak civil societies completed land cadastral maps earlier, more comprehensively and cohesively, whereas weak states ruling over strong civil societies surveyed land later and fragmentarily (Scott 1999:49). State strength was starker in settler colonies, where indigenous annihilation and *terra nullius* facilitated uniform cadastral grids (Scott 1999:49). Popular and elite resistance required long and costly campaigns (Scott 1999:24,33,38).

H2: A strong state (characterized by a well-equipped, staffed, trained, and resourced bureaucracy) ruling over a relatively weaker civil society is necessary to title land (Scott 1999:49,24,38; Centeno and Ferraro 2017; Evans 1995).

State-society alignment/coalitions/embeddedness

State capacity is not sufficient or perhaps a necessary condition, however. Societal forces—social interests, coalitions, and local knowledge—affect land policy implementation. Emigh, Riley, and Ahmed show that state strength was unnecessary, while a strong and aligned civil society was necessary to complete land surveys (Emigh et al. 2019:420). Strong states opposed by landowners (with parliamentary representation) failed (Emigh et al. 2019:408,412), while weak states where landowners' interests aligned with land surveyance completed national land surveys (Emigh et al. 2019:419). Property formalization was successful in settler colonial cases where states were subservient to private agents who broke official restrictions and settled new land, with the state then legalizing property claims (de Soto 2000; Weaver 2003:4,21). Alignment between official policy and landholder's claim produces a smooth land titling process, but misalignments between possessors and official property rights distributions create the "potential for violence as new rules get implemented" (Alston et al. 2012:745). Relative social group power also affects

land policy. Stronger would-be-benefitted groups prevail over opponents—i.e., US settlers opposed by indigenous groups (Emigh et al. 2019:415).

Similarly, political coalitions affect land policy. Authoritarian governments opposed by landed elites are more likely to carry out redistributive land reforms (Albertus 2015) but withhold land property titles from beneficiary peasants to keep them dependent on the regime (Albertus 2021:122). Peasant-inclusive political coalitions concede secure property rights to previously redistributed land—often under democracies, permeable to societal demands (Albertus 2021:25,29). Civil society’s knowledge of land policies also facilitates implementation. For instance, Italian landowners opposed land surveys for fear of taxation (Emigh et al. 2019:418) but not fundamentally, as surveys habituated agrarian life since the Roman Empire (Emigh et al. 2019:419). Local knowledge of land survey techniques promoted private surveyance and surveys where the state was weak (Emigh et al. 2019).

Social group interests, power, and embeddedness of institutions affect policy goals and implementation. The *power resources* approach argues that the balance of class power determines policy distributional outcomes (Esping-Andersen 1990; Korpi 1985), a genre of socioeconomic determinism. The *structured polity* approach adds representational institutions, social identities and goals, and the path-dependency of prior policies as factors affecting policy outcomes (Skocpol 1992:41). These have explained national-level variation in policy outcomes (Esping-Andersen 1990; Korpi 1985; Rueschemeyer, Huber, and Stephens 1992).

Embeddedness, “a concrete set of connections that link the state intimately and aggressively to particular social groups with whom the state shares a joint project of transformation” (Evans 1995:59), allows for continuous information exchange, consultation, consensus formation, conflict resolutions, and policy adjustments—in sum, cooperation and synergy between bureaucrats and civil society groups to implement policy. Embeddedness describes state actors’ connections to civil society—i.e., business elites

(Evans 1995),²¹ or social movement activists (Bradlow 2022:118). It allows for bureaucrats to be responsive to programmatic demands by movements. Activists become office-holders in sustained alliances, or ‘programmatic configurations’ of policy implementation (Gibson 2018).

H3: A strong civil society—interested in, included in the governing coalition, or knowledgeable about land titling—is necessary for land legibility completion (Emigh et al. 2019:420; Albertus 2021:25; Cai et al. 2020:2).

Within the state-society alignment lies two issues. First, the issues of elite alignment. Second, the issue of civil society cleavages. Finally, how these two issues influence bureaucratic organizational dynamics.

Elite alignment

According to elite theory, the ability of a ‘state’ to carry out a policy is directly dependent on elite interests and alignment with policy. Elites are “rulers who inhabit distinct organizational apparatus with the capacity to appropriate resources from non-elites” and are primarily interested in defending their interests vis-à-vis rival elites and non-elites (Lachmann 2020a:26). Accordingly, even state formation was “the inadvertent by-product of multiple elites coming together to gain leverage in their conflicts against other elites and peasants” (Lachmann 2020b:467, 2020a:27). Conflicts between different elites pursuing their own interests undermine state policies (Lachmann 2020a:12). As the ‘multiple streams approach’ argued, only the alignment of interests between different elites and their agreement on an *immediate* problem and its solution would allow for policy implementation (Kingdon 2003; Lachmann 2020b:467)—or, more precisely, policy adoption (Howlett, McConnell, and Perl 2015:421). Elites rarely looked beyond their immediate interests or anticipated the long-term consequences of their actions (Lachmann 2020b:467).

²¹ An expanded model of embeddedness may include subordinate groups (Evans 1995:235).

According to Emigh, Riley, and Ahmed (2019), what allowed for state-society alignment so that the state could complete land surveys in Italy were centralizing/modernizing elites negotiating with Southern landowning elites over taxes (Emigh et al. 2019:419) and landowner elites did not pose fundamental opposition (Emigh et al. 2019:420). Under England's strong state, land surveys were undertaken only where private landowners were interested in them (Emigh et al. 2019:411), while in most places influential landowning elites defeated pro-survey elites (Emigh et al. 2019:420). In the US, elites (government creditors, politicians, and land speculators) and non-elite settlers supported land surveyance (Emigh et al. 2019:413–16). Rent-seeking and politically controlling elites resisted land titling in poor neighborhoods (Newman 2022:267,283). Powerful (rural) elites can 'legally' weaken environmental regulations and enforcement at subnational levels (Milmanda and Garay 2020:6).

Growth machine theory posits that local elites (landowners, parochial entrepreneurs, and politicians) form coalitions that promote economic growth and unequal distribution of public goods (Molotch 1976:310–18; Rudel 2009:143).²² Growth machines turn localities into “enterprises devoted to the increase of aggregate rent levels through intensification of land uses” (Logan, Molotch, and Molotch 1987:13; Meyfroidt et al. 2018:57).

However, intra-elite competition allows for “critical political realignments” of elite fractions with nonelites that produce distributive policies that benefit nonelites (for example, welfare or land) (Haggard and Kaufman 2008; Albertus 2015; Harris 2017:16). According to the *social conflict* theories of distribution, the exclusion of social groups from decisions and coordination may mean their exclusion from policy outputs and relative loss, but not if they provide valuable support for elites, electoral or otherwise. For instance, redistributive land reforms in East Asia and elsewhere were carried out by authoritarian regime elites resolute in undermining landlord opposition and *building* rural social support for a nascent regime (Albertus 2015; Strauss 2017).

²² However, without comparative parameters for elite power and distributive effects.

State elites can undermine implementation by meddling too much or too little in bureaucracies. Without political coordination, a state will become fragmented, agencies will clash, and agencies may develop clientelist ties to firms/groups they are supposed to supervise (Chibber 2002). On the other hand, political meddling (even those intended to promote institutional effectiveness) can compromise delicate networks with civil society, waste acquired technical knowledge, and disorganize the policy production line (Centeno and Ferraro 2017:86–87). Within-state elites also dispute resources, prestige, and jurisdiction—thus influencing legibility projects (De Souza Leão 2022:7). Insecure elites redistribute land but withhold attribution of formal titles to attempt to control rural citizens (thus forming a property rights gap) (Albertus 2021). Unstable government coalitions and changes in appointed bureaucratic leaders will compromise policy implementation (Berkowitz and Krause 2018:2), even when political elites have ‘the best of intentions’ (Centeno and Ferraro 2017). Political meddling in bureaucracies creates self-reinforcing mechanisms of nonresolution of key questions, continuous revision, flux, and insufficiency of policy legislation—which require a special commitment for implementation (Hochstetler and Keck 2007:17) and “constant monitoring and pressure from policy entrepreneurs (...) inside and outside the state” (Hochstetler and Keck 2007:3).²³

H4: Elite alignment (e.g., large landowners siding with bureaucrats and politicians representing smallholders and peasants) with *common and immediate interests* is necessary for implementing land policy (Lachmann 2020b:467, 2020a:12; Kingdons 2014). Local elites that stand to lose from legibility, will resist implementation (Newman 2022:285).

²³ Pay attention to: under what conditions do elites align? Or do not care?

Shelter from elites/neopatrimonial politics

Departing from recent elite theory, Erin McDonnell argues that shelter from elite intervention (and neopatrimonial politics) in decision-making and staffing is necessary (but insufficient) for effective state organizations to emerge (McDonnell 2020:141). Shelter from politicized decision-making is attained with either *autonomy from* elites (not necessarily formal autonomy) or active *sponsorship of* elites. Sufficient conditions for autonomy from elites include elite *willingness* or *indifference* derived from inattention to the organization (McDonnell 2020:141,148-9). Elite attention is limited, and elites' perception of interests is imperfect and partially malleable (McDonnell 2020:164). Elite inattention to organizations may result from the organization's few opportunities in illicit earnings, uncomfortable jobs, or small size, which makes them undesirable for patronage staffing (McDonnell 2020:149). Elite opposition would prevent the emergence of organizational effectiveness, but once effectiveness is established, external reputation and coalitions can counteract elite attacks (McDonnell 2020:158). Indeed, supporting coalitions may emerge after and depending on perceived organizational effectiveness (McDonnell 2020:161).

H5: Shelter from elite patronage appointments and decision-making is necessary for effective land governance (McDonnell 2020:141).

Bureaucratic culture

However necessary, shelter from elites is not sufficient for bureaucratic effectiveness. Bureaucracies require skilled personnel motivated to pursue organizational rather than personal goals (McDonnell 2020:159). Achieving effective 'niches' within ineffective bureaucracies requires a cluster of initial cadres with a bureaucratic ethos, who then have discretion over staff recruitment and cultivate a distinctive culture of organizational excellence (McDonnell 2020:163,165, 180). These effective 'niches' invert some characteristics of Weberian bureaucracies—for instance, autonomy from, instead of hierarchical obedience

to the larger organization (which may operate through patronage) and recruitment through clustering similar proto-bureaucratically minded persons (McDonnell 2017:497–99). Bureaucratic reformers without sanctioning power may use ‘culture-work’ to attempt to change the culture of a bureaucracy and cultivate a reformed, efficient niche—to convince to-be-reformed bureaucrats that reform is desirable, attainable, and to diminish perceived political backlash (Graizbord and De Souza Leão 2022:3,22), create distinction from inefficient parts of the state, and stave off contamination (McDonnell 2020:55–83). Additionally, public perception and legitimation of the legibility project influence bureaucratic work (De Souza Leão 2022:4).

H6: Bureaucrats must culturally partake in organizational goals for effective policy implementation (McDonnell 2020; Graizbord and De Souza Leão 2022).

Bureaucratic partisanship

Organizational goals, however, are easily politicized ideological constructs. Public administration is not isolated from politics. Bureaucratic organizations and individual bureaucrats are politicized. McDonnell seems to agree with the staff’s technical over political leanings (McDonnell 2020). Merriman and Pacewicz (2022), on the other hand, show that bureaucracies implement policies in a partisan way, swayed by partisan experts, advocates, and nonprofit workers—making them ‘partisan bureaucracies’ (Merriman and Pacewicz 2022:1227–28). Yet, Merriman and Pacewicz study politically appointed administrative personnel (that are either elected or appointed by elected agency leaders), thus politicians acting within bureaucracies with electoral or other future professional prospects outside the organization (p.1256) rather than tenured bureaucrats potentially at odds with appointed heads (p.1250) (and street-level bureaucrats, p.1259). Tenured career bureaucrats, nonetheless, bring personal values to their jobs (Sá e Silva, forthcoming).²⁴

²⁴ Public officials’ social esteem will be lower in areas of new settlement, where opportunities for profit-making abound and social stratification is unstable (Weber 1946:200).

Bureaucrats have different ‘callings,’ definitions of their work, and interpretations of policies and “negotiate to get their work done” (Wolford 2016b:25,38).

Bureaucratic culture, or norms, also differ and can be geared towards legalistic commitment to procedures or pragmatic problem-solving, producing different policy outcomes (Mangla 2022:18). Bureaucrats are pressed with multiple tasks from different policies, concerned with procedural correctness rather than goals, and lack incentives to rectify arbitrary policy outcomes (Gupta 2012:50).²⁵ Whether employees compromise goal commitment for “client-processing techniques” (Lipsky 2010), bureaucracies may systematically produce arbitrary policy outcomes across legally similar clients (Gupta 2012:6). In sum, bureaucratic procedures can subvert policy goals (Gupta 2012:23). However, where political elites did not oppose bureaucracies, these can develop pragmatic, flexible approaches to achieve policy goals (Mangla 2022:18–19).

H7: Bureaucrats implement policies in partisan ways, even when pursuing organizational goals and procedural correctness (Merriman and Pacewicz 2022; Wolford 2016b; Gupta 2012). Bureaucrats’ discretionary task management produces unequal policy outcomes across similar potential beneficiaries (Gupta 2012:14,23).

Civil society groups and contradictory effects on bureaucracy

Civil society groups can embed bureaucracies to facilitate state performance. Movements tend to be most effective in achieving goals when they become involved in the policy process (Rochon and Mazmanian 1993; Silva 2015). Weak bureaucracies that delegate enforcement to nonstate local leaders achieve greater legal compliance and state performance (Ostermann 2019). While seeking redistributive goods, social movement embeddedness produces state ‘cohesion’ across bureaucracies and levels of government (Bradlow 2022:118). Partisan lobbies and nonprofits support administrative leaders in implementing

²⁵ Mix with Mangla 2022:18 legalistic norms bureaucracy?

partisan policy (Merriman and Pacewicz 2022). Agribusiness groups can prevent environmental policy implementation at subnational levels despite conservationist presence (Milmanda and Garay 2020:20–21). Social movements also facilitate Brazilian land policy implementation. Partnerships between movements (MST or others) and Incra regional bureaus, for instance, to identify to-be-redistributed farmland and beneficiary families (Penna 2015a) and protests that bring federal resources to regional bureaus to implement policies (Penna 2015a:177). Movements also influence the media, voters, and, consequently, politicians to implement the groups’ preferred policy (Alston, Libecap, and Mueller 2010). In sum, this literature emphasizes civil society groups’ coherent effect on bureaucracies (See also Heller 2013:7-8,28).

The above literature eschews the problem of how different, competing civil society groups can produce contradictory and perhaps unintentional effects on bureaucratic organizational dynamics and, hence, on policy outcomes. High inequality, fragmentation, and cleavages within civil society undermine the broad political coalitions necessary to maintain organizations implementing complex, long-term policies (Doner and Schneider 2016:618). High social inequality undermines solidarity and collective organization (Levien 2018:228–29) and promotes personalistic patronage networks, which can mobilize to favor higher-status patrons (Auyero 2007, 2012). Inversely, homogeneous groups interacting face-to-face produce trust, solidarity, and steady collective action (Ostrom 2009a:202). Civil society participation may *not* work (Banerjee et al. 2010), and participatory bodies can bypass elected representation and facilitate elite capture (Solomon 2000).

Land policy is especially prone to civil society inequality and cleavages. Spatially proximate people easily mobilize, but their coalitions likely fracture over competing interests (Bartley 2019:7). Local politics intertwines both popular resistance to and compliance with land dispossession, with local elites playing pivotal roles (Bartley 2019:8; Levien 2018:228–29). Civil society conflict affected whether states could conduct land surveys (Tan 1999:163). When civil society is unequal and heterogeneous in occupation and culture, land claimants will use violence *and* seek state recognition (land titling) to reduce the costs of staving off competing claimants and rent dissipation (Alston et al. 2012:745–47). Wealthier land claimants have favored access to modern institutions meant to equalize opportunities (such as land titling, registry,

and subsidized credit) (Bunker 1982:592). Higher-income and civic organizations enable collective action (McAdam and Boudet 2012) by promoting ‘stay power’ (Piven and Cloward 2005).

H8: Social inequalities and heterogeneity (in wealth, income, occupation, and culture) will hamper land legibility, with land claimants having conflicting interests and identities and civil society organizations that undermine support for the organization (Doner and Schneider 2016; Levien 2018; Bartley 2019). Inversely, more equal and homogeneous populations will have aligned interests and similar identities and nurture civil society coalitions and formal organizations that can coordinate and collaborate with elites and bureaucrats (Emigh et al. 2019; Ostrom 2009a). Secondly, wealthier people will obtain more land titles because of increased access to bureaucracies, ‘stay power,’ collective action, and formal organizations to pressure, coordinate, and collaborate with elites and bureaucrats (Bunker 1982; McAdam and Boudet 2012; Piven and Cloward 2005).²⁶

Methodology

Recent contributions to state performance theory examine subnational variations in policy implementation, regulation of national laws, or policy outcomes (Bradlow 2022, Milmanda and Garay 2019, McDonnell 2017, Centeno et al. 2017, Gibson 2018) to refine national-level socioeconomic, political, or organizational explanations of policy outcomes (such as power resources and national or global regimes). The studies above have two shortcomings. First, they select high-performing cases and retroactively identify characteristics that explain successful policy implementation. Second, these studies do not compare diverse combinations of conditions, leading them to identify either bureaucratic or extra-bureaucratic factors to explain policy output—they don’t examine extra-bureaucratic factors that confound, mediate, or imprint onto organizational dynamics and policy outcomes. I aim to explain state performance and land legibility

²⁶ Inversely, poverty will hinder land titling by promoting higher rates of population exodus/migration/circulation and lower local knowledge or legibility, less access to bureaucracies, and diminished ‘stay power.’

in Amazonia, elucidate the process that produces policy implementation divergence, and provide an account of social forces, agents, and organizational dynamics that explain variations. Such an interactive configuration of factors lends to the analysis of a few cases and qualitative data.

This dissertation examines the policy implementation of a federal bureaucracy with ‘regional superintendencies’ amenable to regional elites and civil society. I employ comparative-historical analysis to explain land legibility and titling in Western Pará and Amazonas. Based first on ethnographic observation in a land titling bureau in Western Pará, I attempt the ‘dialectical comparative method’ (Emigh, Riley, and Ahmed 2020). I employ a dynamic ‘most similar systems’ (or the Millian method of difference) to subnational comparison between Western Pará and neighboring Amazonas (Harbers and Steele 2020; Przeworski and Teune 1970; Skocpol and Somers 1980).

In Western Pará’s case narrative, where state-society alignment and peasant-inclusive politics would have expected high land titling outcomes (Emigh et al. 2019; Albertus 2021), I employ negative case methodology (Emigh 1997). In Amazonas’ case, where little societal interests in rural land and absent peasant political force (Emigh et al. 2019; Albertus 2021) surprisingly enabled a weak bureaucracy (Scott 1999) to act autonomously and produce land titles, I employ process tracing to look for causal mechanisms (Mahoney 2012). I use administrative data from regional land bureaus and newspapers to reconstruct these land titling case narratives.

I conducted six months of fieldwork in land bureaucracies and settlements, observing interactions between bureaucrats, civil society leaders, and rural smallholders. I completed 97 semi-structured interviews: bureaucrats n=47, civil society leaders n=19, smallholders n=20, politicians n=9, and land policy consultants n=2 (see Annex 1 for list). I collected administrative data with twenty-five right-to-information requests and archival data from land bureaucracies, civil society organizations, and local newspapers.

Chapter outline

Chapter 2 traces how land policy and social forces shaped land legibility in Brazil from colonial times to the present. It argues that Brazil's land bureaucracies have been consistently unable to complete land legibility projects because landed elites and non-elite squatters opposed state land surveyance to keep usurping public land and avoid taxation or expropriation. It shows that Brazil's unequal and diverse society produced various land rights and agencies that constituted a complex organizational field with competing missions, overlapping jurisdictions, and incomplete legibility instruments. This chapter provides the historical and institutional context for subsequent chapters.

Chapter 3 examines Amazonian colonization, the political economy of Amazonian frontiers, and how they interact with Incra land policies and organizational dynamics. It also explains Incra's rural development policies, land settlement projects for smallholders, and titling and explains the case selection for chapters 4 and 5.

Chapter 4 analyzes Incra land policy implementation in Western Pará, a priority region for land titling where a strong civil society interested in titles was expected but failed to produce land titling (Emigh et al. 2019; Albertus 2021). It applies negative case analysis to further develop theory. This chapter shows that strong civil society support for land titling failed to overcome bureaucratic weakness because Pará elites ultimately clashed over land use, and shifting political elites ravaged the land bureaucracy for patronage spoils. Elite interventions produced intra-bureaucratic partisan polarization and weakening: a downward spiral of high leadership turnover, technically wrongful decisions, workload increase, conflicts between civil servants, and talent evasion. It argues that elite intervention and bureaucrat polarization corroded the organization and undermined policy implementation.

Chapter 5 analyzes Incra land policy implementation in Amazonas state, where a weak civil society and disempowered smallholders (Albertus 2021; Emigh et al. 2019) surprisingly enabled a weak bureaucracy to operate autonomously and produce land titles (Scott 1999; Evans 1995). This chapter uses process tracing to identify mechanisms that led to successful titling. It finds that Amazonas rural elites and smallholders remained weak and uninterested in land titling. Elite non-intervention allowed for a weak bureaucracy to develop autonomy and bootstrap policy delivery. With leadership stability and paced

decision-making, partisan bureaucrats marshaled civil society's local knowledge and labor for bureaucratic tasks—which maintained a 'policy production line' and, ultimately, successful land titling.

Chapter 6 (conclusion) discusses how the dissertation contributes to theories of state performance and land legibility by arguing that weak bureaucracies require shelter from political elite intervention and that moderately partisan bureaucrats can enhance organizational effectiveness by collaborating with civil society.

Chapter 2: Land Governance in Brazil: state and society, 1500-2022

Brazil's weak land bureaucracy, landholder politics, and illegibility

Brazil leads global agricultural production and land investment but ranks 138th out of 189 countries in “registering property.”²⁷ Why has Brazil been unable to simplify a complex land-use reality into a centralized information system including land cadaster, property registration, and titling—that is, to make land ‘legible’ (Scott 1999)? Chapter 1 showed that land legibility and titling are expected outcomes of high economic land value (Demsetz 1967:350; Rudel 2016; Alston et al. 2012:746; Meyfroidt et al. 2018:56), strong state bureaucracies (Scott 1999:49,24,38; Centeno and Ferraro 2017; Evans 1995), and state-society alignment of interests or overwhelming political forces interested in property rights (Emigh et al. 2019; Lachmann 2020a; Albertus 2021). Why has contemporary Brazil, with booming agriculture, modern bureaucracies, and politically powerful agribusiness, been unable to complete land legibility projects—to produce a national land cadaster integrated with registration and land titles?²⁸

²⁷ Brazil became a top food producer and exporter by the mid-2000s (Klein and Luna 2018:124) and the fifth most targeted country for large-scale land acquisitions, measured by area according to the Land Matrix monitoring initiative in 2016, likely underestimated (Fairbairn 2020:15), but ranked 138th out of 189 countries in “registering property” in the World Bank’s *Doing Business* 2015 report (World Bank 2014:174).

²⁸ Brazilian agriculture modernized large-farm agriculture with state-led research and development since the 1970s (Klein and Luna 2018). Land value grew consistently, especially in agricultural frontiers (Costa 2022; Costa et al. 2021; Fairbairn 2020:113). Brazilian economic bureaucracies led a relatively successful industrialization and gradual modernization of non-economic bureaucracies (Evans 1995; Kohli 2004; McDonnell 2020; Pires, Lotta, and Oliveira 2018; Tendler 1998). The gap between state capacity and social demands fueled powerful mobilizations that reformed, embedded, or halted development strategies, political representation, and institutional form (Heller and Evans 2010; Holston 2009; Khagram 2004). Landed elites and modern agribusiness mounted a powerful political organization and the largest Congressional caucus (Pompeia 2021). On registration and cadasters, see Reydon and co-authors (2020) and Chiavari and co-authors (2021).

This chapter argues that Brazil's land bureaucracies have been consistently unable to complete land legibility projects because landed elites and non-elite squatters opposed state land surveyance to keep usurping public land and avoid taxation or expropriation for redistribution. Historical layers of incomplete policies encumbered subsequent legibility projects. Modern land bureaucracies had moments of autonomy but landed elites and informal squatters often undermined their efforts. At the end of the twentieth century, Brazil's extremely unequal and diverse society produced various land rights and state agencies to support them. These state agencies constituted a complex organizational field of land management agencies with competing missions and overlapping jurisdiction. Several land bureaucracies produced partial and incomplete land information systems—unintegrated amongst each other and dependent on land claimants' self-reporting (some of them interested in continuing to usurp public land, including Indigenous and conservation areas). This chapter provides the historical and institutional context for chapters 3, 4, and 5.

Over half a millennium, people in Brazil consistently advanced land frontiers using legal ambiguity, multiplying incomplete cadasters and registries largely based on self-reported private property claims. The recurring legalization of occupied public lands stimulated continuous land usurpation and grabs. Brazil has a separate, nonstate real estate registry system and a plethora of state-maintained land cadasters without a unified cartographic base.²⁹ There is no single, unified land cadaster in Brazil, and an estimated one-sixth of the territory is absent from any cadaster (Sparovek et al. 2019).³⁰ Private property has consolidated pathways for legalization but collective-use land and smallholder property in land reform settlements remain institutionally weak and face long bureaucratic processes for formalization.

This chapter traces how land policy and social forces have shaped land legibility in Brazil from colonial times to the present. I review major land laws and secondary literature, from historiography to technical reviews of land cadasters, to present a new synthesis. This chapter is informed by my fieldwork with bureaucrats who daily confront the thicket of accumulated laws, documents, cadasters, and aggrieved

²⁹ A land registry identifies, textually, the land ownership, transactions, mortgages, and other attributes of land plot. Land cadasters identify, spatially and graphically, the place, boundaries, ownership, and perhaps environmental and soil qualities, land use, agricultural activities, constructions and value of a land plot.

³⁰ Though see critical assessment of this estimate below.

land claimants, though fieldwork observations seldom appear here. This chapter follows a chronological order according to standard political regimes in Brazilian history, which largely coincide with changes in land laws, major agrarian changes, and legibility projects. Before the six chronological sections, I briefly characterize Brazil's expanding land frontiers and irresolute land laws. This chapter analyzes land legibility failure in Brazil to contextualize the subsequent chapters in historical and analytical significance. Chapter 3 will focus on how a modern land bureaucracy (Incra) operates in Amazonia, Brazil's enduring land frontier, and chapters 4 and 5 analyze cases of land bureaus in neighboring Amazonian jurisdictions, revealing analytical surprises from subnational variations in land legibility.

Expanding land frontiers

Brazil's past and present are characterized by expanding land frontiers—of settlement, agriculture, or cattle ranching over forested lands interpreted as “empty” or “insufficiently used.” Frontiers are zones where class and ethnic differences, different land uses, and property claims coexist and produce deadly social conflict (Martins 2009:133-4,155).³¹ Frontiers historically moved (but rarely do today) due to agriculture dependent on new soil—for smallholder peasant swiddens and commercially oriented monoculture (Martins 2009:149,160). Brazil's land frontiers have advanced by both illegal and legal means—squatting over public or private land or following formal grants and property rights.

Typically, frontiers followed a sequence of two moments that correspond to modes of land use and property claims. First, a peasant squatter frontier advanced slowly over ‘vacant,’ Indigenous, or uncommodified land, without property titles, carrying deforestation, swidden agriculture, and advancing Christianity, or ‘civilization,’ and settlement in villages (Martins 2009:160). Second, an ‘economic’ frontier of capitalist relations and commercially oriented agriculture followed suit, commodified land, and displaced peasants further into the frontier (Martins 2009:138; Browder et al. 2008:1472–73). This generated a

³¹ Brazilian historiography typically called these zones *sertão*—backland or hinterland rather than frontier and its triumphant undertones in American historiography (Holanda 2018; Langfur 2023:14,308; Miki 2018:7).

migrant social structure, a ‘transhumant society’ (Martins 2009:150), and propelled long-lasting, large-scale Indigenous migrations and conflicts (Martins 2009:148).

Peasants advanced the frontier to guarantee social reproduction, not to maximize profit; they constituted a ‘surplus economy’ of family subsistence and surplus production for barter and commerce (Martins 2009:134,137,159-60). This peasant frontier relied on non-capitalist relations—of family, community, and patronage networks, and coerced labor, peonage, and violence (Martins 2009:137,151). These non-capitalist relations mediated the production of land into capital (Martins 2009:156). The peasant frontier and its non-capitalist relations (land usurpation and unpaid labor) served as a mechanism of primitive accumulation of capital (Martins 2009:161).³² Peasant frontiers characteristically lacked formal property rights over land—they were squatters or *posseiros*. As market economies disorganized the peasant ‘surplus economy,’ peasants experienced moral crises, the notion of an ‘end of times,’ messianic cults, and a search for community in new lands (Martins 2009:162–67).

Capitalist frontiers of commercial agriculture, property rights, and modern institutions (and eventually wage labor) usually followed peasant frontiers, claiming deforested land for plantations with royal land grants, property documents, and extrajudicial violence. In the nineteenth and increasingly during the twentieth century, land swindlers, large landholders, and entrepreneurs accelerated land frontier expansion and its ‘closing’ for peasants (Martins 2009:150). Beginning in 1850, capitalist frontiers often usurped public land. Public land could be usurped or purchased at low or subsidized costs (especially in areas already deforested by peasants) and turned into commercial agriculture or reserve value—a rational capital appreciation strategy that continues today (Campbell 2015; Sparovek et al. 2019; Torres 2018). In

³² José de Souza Martins (Martins 2009:157) makes an argument akin to Von Thünen, Marx, and James Scott: Distance from markets, precarious transportation and communication networks compromised profit rates for capitalist entrepreneurs; therefore, producers in the peasant frontier cannot organize production in a capitalist manner; the agency of peasants and *posseiros* is culturally mediated by a moral economy of family reproduction, not the utilitarian logic of capital. New land is occupied in a capitalist manner when land-based production can sustain capital’s average profit rate. This is somewhat similar to the argument made by Hopkins (2020). Areas beyond which entrepreneurs can remunerate capital at the average profit rate of capital will remain without capitalist institutions and relations—they will be mediated and organized by non-capitalist relations (coerced labor, family subsistence, lack of property titles).

the mid-twentieth century, capitalist frontiers began to overtake peasant frontiers; state-directed colonization began to advance faster and ahead of peasant frontiers (Martins 2009:151). In 1943, with Brazil's *March to the West* campaign, the state directly planned and created a capitalist frontier by opening roads, granting land property, and providing agricultural credit and financial incentives (Martins 2009:151). In the late twentieth century, state-directed colonization and capitalist entrepreneurs increasingly closed frontiers for peasant transhumance, flight, subsistence, and social reproduction, so smallholder peasants increasingly entered into conflict and fought for land (Martins 2009:150).

Irresolute land law

Ambiguous and contradictory land laws have made land legibility projects difficult throughout Brazilian history and consistently legalized the usurpation of public, Indigenous, and collective-use lands. The principles of effective land use, agricultural production, and homesteading have been consistent bases for claiming property, often to the detriment of official cadasters or prior designations. Land law in Brazil has been historically “dysfunctional in its own terms”, the product of a “set of intentions,” and the producer of social conflicts, extrajudicial solutions, and reliably legalizing encroachments (Holston 1991:695). Although Brazil's 1850 land law conditioned the legal status of property on official sale or seizure, land usurpation could be legitimated by homesteading and productive use (*posse*) or legalized with fraudulent documents smuggled into judicial recognition through a thicket of state-sanctioned procedures: transactions registered in notaries, wills, judicial proceedings, and land tax receipts. Brazilian elites perfected the legalization of land usurpation from colonial to contemporary times, creating large landholdings and real estate speculators (or land swindler industry), using land law as an accomplice to legalize land usurpation (Holston 1991:699). The legalization of land fraud has benefitted mostly elites who have the resources to use the law's complications (Holston 1991:708), but in the past several decades, poor people began to strategically use legal instruments (as opposed to deferring to them) to legalize encroachments (Holston 1991:696,705,722).

Brazil's notary and registry system (*cartórios*) further complicated things. Cartórios are judicial offices of lifetime grants, inheritable, regulated by the Judiciary branch, and of different types. Some cartórios function as notaries for contracts and transactions, attesting signatures. A specialized cartório registers land property—the Real Estate Registry, or *Registro de Imóveis*. A land sale contract must be notarized and authenticated by a notary, but the Real Estate Registry must transcribe the title transfer and *matrícula* for a claimant to obtain a registered title deed for official property rights (Holston 1991:699 for definitions of cartório). The motto is: ‘Without registration, no proprietorship.’ However, legality in one registry may be based on illegality in another registry (Holston 1991:701).

Land swindlers, also called *grileiros*, use legal complications to usurp and sell land. Grileiros often mimic the complexity of land law documentation and rely on the difficulty of parsing through thickets of documents and transactions across registries and cadasters across different land law regimes over time. Some *grileiros* use “reams of bona fide records—for example, sales receipts, tax documents, lot surveys, and protocols for preliminary registration—of transactions based on fraud not yet uncovered” (Holston 1991:700–701) to sell land for naïve or knowing buyers. Naïve buyers might only learn of the fraud and illegality of their claim after paying the swindler for the property and applying for a title deed (*escritura*) at the Real Estate Registry (Holston 1991:700).³³ Buyers knowledgeable of the original usurpation rely on the extralegal legitimacy of their land plots with a network of neighbors, institutions, and faith in future legalization (Campbell 2015).

Squatters rely on mobilization for legalization of land claims based on social interest as per the 1988 Constitution, and prior land laws. The irresolution of land law best serves swindlers who have the resources to entangle claims in onerous judicial proceedings and to resolve the case extrajudicially, politically, through violence and accords, or periodic legal amnesties that legalize usurpation (Holston 1991:702).

³³ The transcription of title deed, or *escritura*, can be obtained only after registering the completion of payment.

Civil society demands for Indigenous territories, environmental protection, and land reform gained expression in different land laws. In the past fifty years, different land agencies became responsible for enforcing these different land rights, with often opposing missions, jurisdictional overlaps, independent staff, and uncoordinated action. Land laws, therefore, reproduced land tenure complications and hampered legibility.

A Portuguese colony (1500-1822): royal grants, latifundium, and squatters

Portuguese colonialism in Brazil (1500-1822) extracted value predominantly from trade and promoted little land legibility (Hecht 2013:426–27; Prado Jr. 2019:340–41). Although an early adopter of absolutism, the Portuguese transatlantic state held tenuous control of its Brazilian domain and depended on intermediaries that, in daily practice, recreated imperial norms and orders (Langfur 2023:5). The Portuguese secured territorial control of ‘island Brazil’ between the Amazon and the Paraguay basins through riverine and coastal forts, entrepôts, and commercial routes (Holanda 2018:165-174,185; Hecht 2013:90–93). By the end of the eighteenth century, Brazil’s “inland sea” remained an internal frontier of lands unknown and unmonitored by the empire (Langfur 2023:2–15). Portuguese colonialism had low labor-to-land ratios and focused on extracted goods, enslavement, and constant use of virgin soils (also called land mining) for expansive and inefficient agriculture, which propelled territorial expansion, deforestation, and resource depletion (Holanda 2018:246–50; Prado Jr. 2019:27,131-4). Indigenous people were decimated in the ‘great dying’ of the sixteenth century and suffered enslavement, coerced labor, or genocide until the twentieth century (Martins 2009; Miki 2018). Portuguese and Brazilian merchants traded over five million enslaved Africans for profit and the operation of sugar cane plantations and mines.

Portuguese colonial land policy stipulated that discovered or conquered land became the king’s personal patrimony, who personally granted usufruct rights for economic exploitation and Christianization of Indigenous peoples (Holston 1991:710). Land *dominium* belonged to the king and was distinct from

useful possession (*posse útil*) (Martins 2009:152). Land did not constitute private property in colonial Brazil and, indeed, had little to no commercial value or price—land didn't appear in inheritance wills; instead, colonizers valued goods and forces of production on the land,³⁴ notably enslaved laborers (Martins 1984:64). Legal access to land depended on personal patronage from the king, who created landholder elites responsible for commercial and religious enterprise. A medieval system of royal land grants called *sesmarias* conditioned land grant validity on agricultural production.³⁵ Grant size should be limited to applicants' capacity to cultivate plots, with a specific time duration. If left fallow, *sesmaria* land would be considered no man's land devolved to the king's domain—therefore, *terras devolutas* (Nozoe 2006:588). Imperial codes authorized the expropriation of unproductive property, which could be reassigned and taxed on one-sixth of its annual production (Holston 1991:710). The Portuguese Crown sought to attract colonizers with capital to undertake commercial agriculture by removing restrictions on *sesmaria* inheritance, transforming *sesmarias* into a guarantee of future investments in export production (of sugar cane, cattle, and later coffee). Thus, the Portuguese Crown itself subverted the original *sesmarias* policy goal of effective cultivation and created the possibility of land being legally held without cultivation (Holston 1991:711).

This colonial policy created an aristocratic landholding elite geared towards commercial agriculture exports and reliant on slavery. Land was abundant, but its cultivation depended on slave labor and periodic use on new soil to maintain productivity. The Crown's agents in Brazil—*capitães*—created enormous *latifundia* of hundreds or thousands of square kilometers, landholdings larger than Portugal (Holston 1991:711; Lima 1990). After the Crown imposed an annual tax (*foro*) on *sesmaria* usufruct grants in 1695, these became thought of as property alienated from the king's domain (Lima 1990), though private property rights were only instituted in 1824 (more on this below). Large landholders often had poorer freemen living and cultivating in their *sesmaria* land and paying them a portion of their production or sales

³⁴ Then called *fazenda*, the forces of production over land and separate from the land.

³⁵ The Portuguese king instituted *sesmarias* in 1375 as personal land use grants valid for five years and conditioned on agricultural production.

(*enfiteuse* or *laudêmio* taxes) (Martins 2009:153), or peons (*peões*) indebted to them for occupying what was formally their land. Colonial rule also created ‘common public use land’ (*terra do comum uso público*), lands designated for local inhabitant use and conceded by municipal councils or the Crown (Martins 2009:174), though these were fewer and typically smaller than sesmarias.³⁶

Squatting was the modal form of land occupation and frontier advancement. Colonists without the resources to apply for royal sesmarias (personal connections or capital) simply squatted over what was formally crown land or latifundium grants (Holston 1991:714). Squatter landholdings were called *posse*, or possession; the poorer immigrants, smallholder peasantry of frontiersmen, sharecroppers, and small farmers were called *posseiros*. *Posseiros* relied on slash-and-burn agriculture for self-consumption and surplus-production trade (Martins 2009:160). Squatting proliferated alongside and in conflict with latifundia, and in tension with plantation agriculture. Both swidden and plantations depended on advancing over forests and virgin soils to maintain productivity. *Posseiros* paradoxically expanded Portuguese dominium territory and ‘civilization’ while illegally occupying large swathes of land.

Squatting, or *posse*, had an “ambiguous jural status” in colonial Brazil because although illegal (not a royal grant), *posse* abided by the sesmarias’ purpose of agricultural production, cultivated lands for long periods, and, after Marquis of Pombal’s 1769 legal reforms, could be juridically considered ‘customary’ (Holston 1991:715). Colonial courts favored *posse* legalization conditional on conversion into *sesmaria* or *aforamento* taxes. Therefore, legalization implied costs prohibitive for poor squatters, but incentivized elites to extend and legalize their possessions (Holston 1991:716).

Elites in both Portugal and Brazil strategically exploited the sesmaria system to create confusion and land illegibility to advance their interests. Portuguese elites kept an imprecise, textual sesmarias registry in Portugal (Carvalho 2014:331), and many land grants lacked well-defined boundaries—often described with ‘bow shots’ as units of measurement (Holston 1991:712)—which Brazilian elites later suspected was

³⁶ This juridical figure transformed into several collective land use designations in postcolonial Brazil, some expressed in laws (Almeida 2008).

meant to keep landed elites busy in conflict among themselves rather than plotting against the crown (Dean 1971:607; Holston 1991:712).

Brazilian elites also manipulated the sesmaria regime legislation to maintain autonomy from Portuguese elites through legal confusion and illegibility (Holston 1991:712–13; Lima 1990). James Holston (1991:713) provides a detailed example of a royal sesmaria issued in 1580 to Jesuits mission for Indigenous settlement, which in 1660 São Paulo's Regional Council authorized itself to redistribute that land in favor of colonists, and, in 1695, an appellate judge changed the sesmaria redistribution rules to fit the usurpation already in practice. Furthermore, the appellate judge ordered these colonists to pay leases (*aforamentos*), which made usufructuary rights alienable and inheritable (Holston 1991:714). Thus, Brazilian elites usurped and privatized land within still valid Portuguese royal grants (sesmarias) meant for Indigenous people. In 1733, the Crown voided the Council's rule over the Indigenous settlement, but litigation over the decision carried on until 1745, when there were few Indigenous people left in the area. The Brazilian elite used legal complications as a weapon to maintain autonomy from Portuguese rule and usurp royal patrimony and nonelite possessions. Over three centuries, this reproduced landholding elites, and produced latifundia and landless populations advancing over land frontiers. A few months before Independence, in 1822, the Council of Appeals in Rio de Janeiro formally abolished the sesmaria regime, formally recognizing what had been subverted in practice (Holston 1991:714).

Sesmarias had continuing consequences in land use and policy. Property would continue to be seen as a successful claim seized from the public domain. It created a landholding elite with enormous and unproductive latifundios, and a mass of people excluded from land—or land without people and people without land, or better yet, people at the mercy of landholding elites. Moreover, sesmarias land grants with imprecise boundaries created future legal confusion as they plagued later policies that sought to survey and create spatial cadasters of land properties. Brazilian elites contested Portuguese rule with judicial complications neutralizing colonial land policy (Holston 1991:722). Nonetheless, sesmarias continued as legitimizing beliefs for peasants staking a living at the margins of the latifundium export agriculture and, frequently still today, squatters rich or poor claim land with their labor in deforestation and/or agriculture

(Martins 2009:152). Sesmaria also contained the idea that property must exert a social function—food production, colonization, or Christian missionary work (Holston 1991:715). Ambiguities about the productive use of land, and between property and possession persist in legal instruments and land conflicts in contemporary Brazil (Holston 1991:715). The legalization of possession remained a possibility in all of Brazil's constitutions and civil codes (Holston 1991:715). Legal complication, confusion, and irresolution remain a defining trait of land law, used by elites to further their claims, and which nonelites began to also use in the past few decades.

The Brazilian Empire (1822-1889): weak bureaucracy, private property, nonstate registries, and land swindlers

Land legibility projects remained partial and increasingly incomplete in Independent Brazil under its Imperial regime (1822-1889) due to weak state bureaucracies and opposition from powerful landed elites. Independent Brazil lacked a land law from 1822 until 1850; meanwhile, landholders expanded their possessions over land unencumbered by the state. From 1822 onwards, expired Portuguese *sesmarias* and possessions would have to be legalized, surveyed, and titled—but a land law would only be approved 28 years later, in 1850 (Carvalho 2014:331,335). In this interregnum, elites claimed possession over enormous areas, greater than original royal grants, sometimes with little more than a trail or corral, confident in their later legalization (Holston 1991:716).

Private property rights were instituted in Brazil by the 1824 constitution as part of civil rights, but without detailing land rights and alienation from the public domain (*terras devolutas*). The 1824 constitution granted civil and property rights to citizens, excluding slaves and autonomous Indigenous people from citizenship and property rights, and without clear inclusion of 'settled' Indigenous people

(*aldeados*) (Miki 2018:13,30,33,36).³⁷ Indigenous people's ambiguous citizenship status made them and their landholdings vulnerable to usurpation throughout the nineteenth and twentieth centuries (Miki 2018:36).

Brazilian elites approved a *Land Law* in 1850 driven by concerns over the end of slavery and aiming to attract poor European immigrant laborers (Carvalho 2014:332).³⁸ Landholders in Congress weakened the originally reformist land law project of 1842—eliminating land taxes and expropriation of irregular landholdings, allowing immense landholdings, and minimizing prices for public land sales (Carvalho 2014:340–41). (Never would such a reformist land law be proposed in Congress again). The 1850 Land Law determined that informal, uncontested private land possessions could be legalized by proof of 'effective cultivation' and homestead (art. 5 and 6) or *purchase* (arts.1 and 14), and negatively defined public lands (*terras devolutas*) as vacant and unoccupied by private parties (art.3) (Brasil 1850).³⁹ Land would no longer be granted for free, and land property would be impersonal, not based on personal relationships to the king (Costa 1998). Historical sociologists argue that landed elites turned land into a commodity to create a rural proletariat (workers for plantations) and prevent the formation of a free peasantry (ex-slaves or poor migrants) (Ianni 1984:175; Martins 1984:64–66). Private property rights opposed *usufructuary rights* generated from labor on the land to *property rights* generated by monetary purchase (Martins 2009:153).

Brazil's Imperial state remained weak relative to landholders' power. The landed elite reacted against state legibility and possible land taxation (Centeno 1997:1573-7,1590).⁴⁰ The government created a central land bureaucracy (*Repartição Geral das Terras Públicas*) and detailing norms for the 1850 Land

³⁷ Brazil-born freedmen could own property, but African-born people were considered stateless citizens until theoretically possible naturalization (Miki 2018:33).

³⁸ The landholder-controlled Congress approved the 1850 land law just two weeks after prohibiting the Transatlantic slave trade (which conformed to the British Empire's 1845 *Aberdeen Act* to abolish the slave trade). Brazilian Congressmen were inspired by Wakefield's early labor immigration policy for Australia (not the one analyzed by Marx) that argued that an ideal land price would be low enough to attract European laborers but high enough to preclude them from turning from laborers into proprietors (Carvalho 2014).

³⁹ The government would determine deadlines for land surveyance and registration but stipulated postponing deadlines (Brasil 1850 art.7).

⁴⁰ This is arguably a cause for both the proclamation of the first Republic in 1889 and the 1964 military coup.

Law only in 1854 (Brasil 1854). The central land bureaucracy remained puny, with a few dozen employees⁴¹ in Rio de Janeiro and some provincial bureaus (Carvalho 2014:344–45). Brazil lacked trained land surveyors and engineers, and surveys over immense territories were costly. The Imperial government would rely on the Catholic Church through Parish Land Registries (*registro paroquial*, or *do vigário*) to register and report private landholdings⁴² to the central government, and provincial governments should report the remaining public land (*terras devolutas*) (Carvalho 2014:341). However, squatters refused to register landholdings out of fear of expropriation; Catholic priests and vicars, many landholders themselves, resisted land registration (Carvalho 2014:342–43). The 1854 norm did not clearly forbid informal possession; landholders interpreted property regularization as a right, not an obligation (Silva and Secreto 1999). The 1854 norm also prescribed public land should be registered *after* private possessions; and provincial governments provided little to no information on land throughout the duration of the Imperial regime (Carvalho 2014:342–43; Silva and Secreto 1999). Reformist politicians, Ministers of Agriculture, and bureaucrats repeatedly demanded the reintroduction of land taxes between 1855 and 1886 into land law, but opposition from landholders defeated them in the Lower House (Carvalho 2014:346,349). Land registration progressed⁴³ but with highly untrustworthy information; public land remained unsurveyed and subject to illegal occupation (Carvalho 2014:346). Land legibility failed, together with its goal to attract European migrants (Carvalho 2014:344).⁴⁴

The Imperial regime created *textual* real estate property registries separate from *spatial* cadasters and systematically reliant on non-state organizations to register land. First the Church's Parish Land Registries, then prebendal notary offices. The regime created the real estate property registry (Registro Geral) in 1865 (Brasil 1865), as it regulated the 1864 mortgage reform law (Brasil 1864:art.7), which

⁴¹ Machado de Assis among them.

⁴² Parish registration did not confer dominium title, which required a long administrative process with land survey, demarcation, and fees (Chiavari et al. 2021:9)

⁴³ By 1878, landholders demanded credit for agriculture but refused the costs of land registration for mortgage (when banks ceased to accept slave ownership as collateral) (Carvalho 2014:349).

⁴⁴ Italian migration began significantly in 1887, and with public money unrelated to land sales (Carvalho 2014:347). Before this, only a few 'State Colonies' were successful in attracting European migrants, especially in Southern Brazil.

mandated real estate property records to be *textually* registered in real estate registries (*registro geral de imóveis*)—privately-managed public notaries, hereditary concessions, at municipal-level (comarcas) under the purview of the Judiciary branch (Brasil 1846, 1865 art.1-3).⁴⁵ Henceforth, real estate property transactions and acquisitions required registration in the Registro Geral (also called transcription of titles) to establish formal property rights. The motto of this system became popularized as ‘without registration, no proprietorship.’ However, *spatial* cadasters and surveys were to be kept by central agencies controlled by the Executive branch. This division between textual registry (in the *Registro Geral de Imóveis* at each municipality) and spatial cadasters (of different types) remains a challenge to land legibility today.

New land-grabbing ‘pirates,’ swindlers, or *grileiros*, emerged to rival *latifundistas* and *posseiros* for land control (Holston 1991:716), boosted by the institution of alienable property in 1824. As the 1850 land law instituted land sales and purchases as a means to legitimize property, land swindlers known as *grileiros* commodified land based on fraudulent documents—that feature in land use conversion and disputes today.⁴⁶ Land swindlers enveloped land usurpation in a “cloak of legality” by building a dossier of documents that appeared legitimate—some of them issued by the state itself or prebendal notaries—and implicating many people in transactions in apparent recognition of the usurpers’ claims—accumulating transactions like tax “receipts, wills, permits, surveys, bonds, ledger pages” and others “as proof that the state and church had sanctioned them” (Holston 1991:717). This encumbers too many relations and transactions over time to avoid legalization. Fraud would become entangled in legal complications and partial recognition from the state; de facto possession would be required until political or bureaucratic conditions would legalize claims. Therefore, all parties would resort to violence to protect possession—typically with *latifundistas* and *grileiros* hiring gunmen, recruited from among undocumented squatters.

⁴⁵ The right to credit through mortgage was stipulated in 1843 and established in 1846 (Brasil 1846), thus *before* the 1850 land law regulating property rights, and included mortgage over enslaved people and animals.

⁴⁶ The term *grileiros* derives from *grilos* (crickets), which were kept in a box over fraudulent paper documents to make them look old. Grileiro is an umbrella term incorporating diverse agents seeking to usurp land through fraud, judicialization, expulsion, or violence for personal use or sale. Currently, *grileiros* also use georeferencing technologies to usurp land.

The strategy of usurpation mixes “custom, fraud, and legal complications to turn the mere possession of land—by grant, lease, seizure, proclamation, or even purchase—into property” (Holston 1991:718).⁴⁷

The Imperial regime’s weakness relative to landholders and its reliance on non-state agencies produced important consequences and path-dependent dynamics. The advent of a land law *after* rampant informal land possession (1822-1850), availability of further public land, and fear of taxation incentivized landholders’ and vicars’ resistance to registration. The inexistent land bureaucracy (in 1822 or 1850), lack of trained surveyors, and unwilling private landholders made land legibility (mapping and registering private and public lands) practically impossible, as public land registration could be contested by private occupants (Reydon et al. 2020:7). Large swathes of public land were never surveyed or registered.⁴⁸ Landed elites and land swindlers could expand private landholdings over public land by force and legalize them by forgery in cahoots with registrars. Poor squatters without access to judicial courts or registrar forgery would suffer dispossession but could appeal to possessory legitimacy and eventually legalize land occupations, though this rarely occurred until the mid-twentieth century. The organizational split between *textual land property records* under local, prebendal real estate registries and *spatial land cadasters* kept by central agencies propelled a mismatch between textual and spatial forms of land legibility, institutional drift, and facilitated appropriation of public lands. Recognizing possession and pathways to legalization facilitated usurpation—favoring large landholders and land swindlers, but eventually smallholders too (Chiavari, Lopes, and Araujo 2021:10; Holston 1991:696; Ianni 1984:175; Secreto 2007; Silva 1996). Brazil was locked in a path of land illegibility and land property insecurity.

In 1889, the Imperial government proposed a land survey to assess and tax unproductive latifundia, aiming at redistributing land to recently freed slaves,⁴⁹ and sent it to Congress as an amendment to the 1890 Budget Bill (Rezende de Carvalho 1998). The next month, the landed oligarchy, in alliance with the military,

⁴⁷ James Holston identifies at least sixteen types of frauds in land claims, some of them quite sophisticated and involving complex judicial proceedings (Holston 1991:720–21).

⁴⁸ Some until today (Azevedo-Ramos et al. 2020).

⁴⁹ André Rebouças, a black engineer and the Emperor’s right hand drafted the project.

responded with a coup against the emperor and proclaimed a Republic. Rural property tax remains minimal in Brazil: all rural property tax (ITR) in Brazil is a negligible fraction of overall state revenue (0.02%).

The First Republic (1889-1930): decentralization, land barons, and land swindlers

Brazil's first republic (1889-1930), a coalition of landed oligarchs and the military, formed a federal system that devolved power to *states* (ex-provinces) beholden to regional elites. The liberal-inspired 1891 constitution guaranteed private property rights and only allowed land expropriation conditioned on public utility and prior compensation. The 1850 land law remained in force, but public land ownership and cadasters devolved from the central to newly created *state* governments. States then owned *terras devolutas* and were supposed to create their own land laws and institutes to map, survey, register, and manage land. However, state governments beholden to land barons largely left their *terras devolutas* unregistered to enable further private appropriation free of cost (Reydon et al. 2020:7). Moreover, state governments granted land to acolytes formally and informally.⁵⁰ Indeed, state governments exchanged land grants for elite political support (by *coronéis*) (Leal 2012:44f; Martins 2009:162). Formal land property creation accompanied large real estate interests following the expansion of export-oriented agriculture (mostly coffee) and railroads (Martins 2009:153).

These formal and informal grants without surveys made it nearly impossible to establish an effective cadaster. States themselves acted illegally by not registering public lands. The liberal finance minister, Ruy Barbosa, attempted to install the Torrens registry system,⁵¹ but prebendal notaries (*cartórios*) protested the reform, and the land administrative system remained mixed in Brazil.⁵² The federal

⁵⁰ See example of São Paulo state granting land for a private citizen to create a parceled agricultural colony (Holston 1991:718).

⁵¹ And the property regimes of Australia, the US, and Canada—deemed more advanced than those of Europe (Barbosa 1891).

⁵² The Torrens registration would be granted by judges if the petitioner met several requirements.

government attempted to distinguish public from private land and definitively title possessions under the Torrens system in 1913 (Decree N.10,105), but this was suspended in 1915 (Chiavari et al. 2021:10–11).

The 1916 Civil Code re-empowered prebendal and decentralized Real Estate Registry offices (*Registro de Imóveis*) in each municipality (or comarca) for property validation.⁵³ Henceforth, only transcription of title in the registry office would configure formal property rights, though this registration is costly and burdensome (Chiavari et al. 2021:18,22).⁵⁴ The Civil Code also made the state become an owner like other private parties. Public lands continued to be prey for adverse possession as squatters and land swindlers advanced over the territory (Reydon et al. 2020:7; Silva 1996). Several property transfers remained unregistered due to costs and burdensome procedures in notaries; many property registrations legalized usurped lands. Notaries and registries allowed self-declared land property claims in text and without verification or spatial records—producing overlapping property claims, sometimes with several layers of illegality that mimicked legal procedures—which land swindlers turned into a highly profitable activity (Holston 1991). There were few official attempts to distribute land to smallholders, and Indigenous people continued to suffer dispossession.⁵⁵ State governments beholden to landed oligarchies, informal land grants, unregistered public lands, private notary land property registration, adverse possession, and land swindlers exploiting the disjointed land regulations further promoted land illegibility during the republic. The land frontier advanced largely over fraudulent claims that legalized possessions but kept rural land illegible.⁵⁶

⁵³ Additionally, land sale contracts and other transactions must be notarized and authenticated in other public notaries.

⁵⁴ Brazilian civil law distinguishes posse from property: “In general terms, Brazilian law considers property as a juridical power or a bundle of rights including use, profit, alienation, and indemnity which does not have to be exercised to continue valid. By contrast, it views possession as a factual power that must be actively exercised. Property includes possession as its effect, but the cause of possession is not always property: e.g., a thief has possession but not property of stolen goods, a lessee has usufruct but not ownership, and so forth” (Holston 1991:715).

⁵⁵ Indigenous people suffered dispossession despite the outcry and creation of Serviço de Proteção ao Índios e Localização de Trabalhadores Nacionais in 1910, which took over public land designated for “indigenous colonization” in the 1850 land law and aldeamento in 1854 decree, and sought official expeditions to settle indigenous populations in agricultural colonies. SPI separated from LTN in 1918 but continued to seek to “integrate” and settle indigenous people.

⁵⁶ Authoritarian, racist thinkers like Oliveira Viana have praised grileiros as agents of civilization that established property rights where there was none: “Esse formidável assalto à floresta tem dois batedores originaes: o “bugreiro” e o “grilleiro”. Um e outro se completam e são criações desse mesmo espírito de conquista a todo transe, que caracteriza

The Second Republic (1930-1964): modernizing state, colonization, but convoluted frontiers

The Brazilian state under Getúlio Vargas' centralizing government (1930-1945) sought to modernize, colonize the hinterlands, and integrate the country. Pressured by reformist military officials (*tenentes*), the 1934 constitution stipulated that private property rights were not absolute and that social or collective interests would prevail if in conflict. The 1934 Forestry Code, 1934 Water Code, and 1940 Mines Code limited private property rights over land use and disposal. The 1937 Estado Novo constitution guaranteed property rights (to be specified in law). The regime launched the "March to the West" campaign in 1937 to occupy and colonize Brazil's hinterlands with agricultural colonies in the Center-West and North, seen as demographically void, and integrate these regions with roads and airports. In 1938, the Ministry of Agriculture created the *Divisão de Terras e Colonização* to distribute 20- to 50-hectare plots on public lands and provide credit and technical assistance to smallholders. In 1943, Getúlio's central government seized control of vast borderlands from states to create "federal territories" in Amapá (from Pará), Rio Branco (from Amazonas, currently Roraima), Guaporé (from Mato Grosso, currently Rondônia), Iguassú (currently part of Paraná) and Ponta Porã (currently part of Mato Grosso do Sul) (Decree-law n.5812/1943). The regime created the *Fundação Brasil Central* agency in 1943 to coordinate the March to the West focused on Brazil's Center-West and southern Amazonia, building airfields, planned towns, agricultural colonies, and large cattle ranches—with the intent to occupy and increase wealth production and consumption in the

a nossa moderna expansão para o oeste. (...) É ao "grilleiro" que cabe resolver esta dificuldade. Elle é que vae dar ao colonizador progressivo, cheio de ambição e de capitaes, o direito de explorar este thesouro infecundo. Para isto, crea, pela chicana e pela falsidade, o indispensável título de propriedade: "*Opera as maiores falcatruas; falsifica firmas, papeis, sellos, falsifica rios e montanhas; falsifica arvores e marcos; falsifica juizes e cartórios; falsifica o fiel da balança de Themis, falsifica o céu, a terra e as aguas; falsifica Deus e o Diabo. Mas vence. Divididas as glebas em lotes, vendem-nos os grilleiros à legião de colonos que os seguem como urubus pelo cheiro da carniça. Cinco, dez annos depois, a flor do café branqueia a zona e a incorpora ao patrimônio da riqueza nacional*" [Citing Monteiro Lobato, *A Onda Verde*, p.29]. O bandeirante antigo, preador de índios e prêador de terras, rude, massiço, inteiriço, brutal, desdobra-se pela propria condição do meio civilizado, em que repousa: e faz-se "bugreiro" insidioso, eliminador do íncola inútil, e "grilleiro" solerte, salteador de latifúndios improductivos. Exercem ambos, porem, duas funções essenciaes à nossa obra de expansão colonizadora: e a ferocidade de um e a amoralidade de outro tem assim, para excusal-as, a magnitude incomparável dos seus objectivos ultteriores" (Oliveira Viana 1938:129–31).

hinterlands (Garfield 2013:206–9). This internal colonization over lands deemed unoccupied and thus public (*terras devolutas*) created conflicts with prior occupants—Indigenous peoples, squatter peasants, and explorers, and further aggravated conflicts between squatters (*posseiros*) and land swindlers (*grileiros*). Meanwhile, the regime excluded rural workers from the 1943 Labor Law protection and benefits.

The re-democratizing 1946 constitution stated that property use should seek social welfare, that further laws could promote a “fair distribution of lands,” and that the government could expropriate land based on public utility or social interest—though prior and fair compensation made land redistribution impractical (Silva 1996). The federal government again sought to survey and register public lands (Decree-law n. 9760/1946) without results (Chiavari et al. 2021:12). Regional states sold lands with dubious title and without surveys, sometimes the *same* land several times over, to different parties (Martins 1990:249).

The government created major regional planning entities for the São Francisco Valley (CVSF) in 1948, the Amazon (SPEVEA) in 1953, the Southeastern borderlands (SPVERFSP) in 1956, and the Northeast (SUDENE) in 1959. In 1953, the government also instituted the ‘Legal Amazonia’ region, including the Amazon biome and part of the Cerrado and Pantanal,⁵⁷ for development policies.

Over the 1950s, rural agitation for agrarian justice, like the Peasants League, increasingly mobilized for land reform and property rights for poor squatters. A national conference of agricultural workers in 1954 voted for “democratic land reform” with the delivery of “property titles for those who work the land” and extinguishing latifundia (Almeida 2015:21). Several economists posited that land reform was necessary for agricultural productivity and economic development (Klein and Luna 2018:356).

Democratically elected Juscelino Kubitschek’s government (1956-1960) sought to interiorize the population and integrate an internal market (with access to raw materials and consumers for industrialized goods in the hinterland) while promoting industrialization via import-substitution (ISI). Kubitschek’s government moved the national capital from Rio de Janeiro to Brasília. It opened roads connecting Belém-Brasília and Cuiabá-Acre in 1958-1960—the first overland mass transportation connecting the Amazon

⁵⁷ Comprising the states of Amazonas, Pará, and Acre, as well as Amapá, Roraima, Rondônia (then federal territories), Tocantins (then part of Goiás)—thus, Northern region of Brazil—and part of Mato Grosso and Maranhão states.

region to the rest of the country. The roads made new land frontiers attractive for capitalist farmers and land swindlers, pitted directly in conflict with peasant squatters (Martins 1990, 2009). The Jango government (1961-64) included land reform in its *reformas de base* and proposed a constitutional amendment to expropriate land without prior compensation, which Congress rejected. Without reforms, peasants began to occupy properties. Rural workers and peasants' mobilization in the late 1950s and 1960s threatened land rent and the political pact between landed elites and the military for modernizing and industrialization since 1930 (Martins 1990:251). By then, amidst the Cold War and after the Cuban Revolution, land reform lurked of communism to US policymakers, who then backed a military coup in Brazil in 1964.

In sum, the modernizing Brazilian state between 1930 and 1964 increased central control over territories, advanced agricultural colonization, and created new bureaucracies to deal with land and settlement, but without significant change in land legibility. Starting in 1943, the March to the West and new roads advanced a modern, capitalist frontier over a recent peasant frontier—in fact, propelled both peasant and modern frontiers—increasing land conflicts and deteriorating the legal basis for property security.⁵⁸ Despite a modernizing state and bureaucracy attempting to colonize land, a convoluted and conflictual frontier propelled land illegibility.

The Military Dictatorship (1964-1988): high-modernist, colonizing, yet failed legibility

The military regime (1964-1988)—a coalition of military, land barons, and industrial and financial capital—undertook an ambitious, authoritarian, and 'high-modernist' project (Scott 1999:4–5) of land legibility that entailed rural modernization, colonization, and land reform while repressing rural social movements. The military regime instituted a capitalist rural development model comprising of road integration, colonization

⁵⁸ Colonization in Mato Grosso do Sul, for example, is central to current agribusiness opposition to recognizing Indigenous land rights as applicable to lands occupied by Indigenous peoples in the past but not at the moment of the proclamation of the 1988 constitution (Cunha 2021).

of public lands through state agencies and private companies, land titling (including surveys and registration), rural extension, bank loans, agricultural production and sales, and loan repayment and new loans. This rural development model⁵⁹ had been attempted on a smaller scale in the March to the West but gained systematic state support and multi-agency involvement with the military coup (and has remained essentially the same since 1970).

The military regime instituted the Land Statute (*Estatuto da Terra*) in 1964, seven months after the coup,⁶⁰ the most ambitious and wide-sweeping land legibility program in Brazil's history, which is still valid (with amendments) in 2024. The military regime sought to depoliticize the peasant struggle for land and disempower leftwing leadership, like the Communist Party and Peasant Leagues (Martins 1990:249). The Land Statute's land reform ostensibly aimed at social justice and increased agricultural productivity within the law-and-order of a capitalist model—to “democratize capital.” It posited the “rational colonization” of public lands to “eradicate the evils” of unproductive latifundia or minifundia (Brasil 1964 art.11). The statute conditioned land property rights to fulfilling their “social function”—maintaining the welfare of owners and laborers, threshold levels of productivity, natural resources conservation, and fair labor relations (Brasil 1964 art.2).⁶¹ The statute instituted the expropriation of unproductive latifundia and progressive land taxes (Brasil 1964 art.50), but neither was substantially implemented. The Land Statute maintained the legitimacy of adverse possession (by effective cultivation and homestead) (Brasil 1964 art.11), allowing possessors to informally occupy public lands (Reydon et al. 2020:8).

A national rural lands cadaster (*Cadastro de Imóveis Rurais*) was formulated in the 1964 Land Statute—including information on the area, boundaries, location, occupancy, proprietorship, land use, labor employed, productivity, land value, and others (Brasil 1964 art.46)—which would guide further policies like planning, taxation, and expropriation for redistribution. The government organized the 1965 “Land

⁵⁹ Similar to the US rural extension model.

⁶⁰ Under pressure from the Alliance for Progress and ostensibly fulfilling international commitments made in the Punta del Este meeting (Martins 1984:71).

⁶¹ President-dictator Castelo Branco amended the constitution to compensate landowners for land expropriation with public bonds, which prior presidents had been unable to accomplish.

Week” cadastral campaign in partnership with municipalities for land occupants to self-declare their properties, which produced over three million declarations (Nascimento 2007:932). This cadastral information was not audited or reliable. It included private property and possession. By 1967, self-declarations in the cadaster would serve for paying rural land tax (ITR) and a condition to legalize property from public lands and accessing other governments (Brasil 1966 art.22). In 1972, the government created the National System of Rural Cadaster (SNCR), which included the *Cadastro de Imóveis Rurais* and others, to be managed by Incra (Law 5.868/1972). Incra would issue a CCIR Rural Property Registration Certificate for registered properties, which would be required for any land transaction like mortgage, rural credit, parceling, rental, or sales. Squatters on *posse* should also register and receive the CCIR and pay ITR land taxes (though ITR remained low).

The military regime could not implement the Land Statute’s redistributive land reform due to the lack of a capable bureaucracy and opposition from landed elites in Congress (Alston et al. 1999:40). Landed elites in Congress had blocked land expropriation for redistribution without prior cash payment and had successfully exempted “agricultural enterprises” from expropriation, loosely defined, in the statute. President-dictator Castelo Branco amended the constitution to include government bonds for expropriation and enable land redistribution, but this increased costs for land reform. Once the military government dismissed Congress in 1968, it again amended the constitution to compensate expropriations by a value to be set by the government or, if the landowner preferred, by the land value declared for tax purposes (which was notably underreported). Congressional demise, however, transferred landholder oppositional interests from politicians to different bureaucracies within the administration. Inter-agency and ministerial disputes reflected landholder interests and ultimately blocked land reform (Alston et al. 1999:41). To undertake land distribution, appease rural unrest, and fulfill geopolitical objectives, the military regime then turned to colonization of the Amazon.

The regime planned an extensive land colonization of the Amazon region with roadbuilding, capitalist enterprises, and the settlement of landless people—a subject I treat in detail in the next chapter. The government conceded large tax breaks for capitalist groups to invest in agricultural enterprises and to

establish large estates in Amazonia—essentially subsidizing real estate formation—through the Amazon Regional Development Superintendency (SUDAM) (Ianni 1979; Martins 2009). In response to continuing rural unrest, the regime also sought to settle one hundred thousand families of landless people on Amazonian “lands without people.”

The Brazilian state created the National Institute for Colonization and Agrarian Reform (Incra) in July 1970⁶² to undertake a triple, contradictory mission in federal lands: distribute public land for smallholders (typically in 80–100-hectare lots), sell large land parcels to capitalist enterprises, and formalize property to prior occupants (*posseiros*). The triple mission included herculean tasks of surveying land, identifying prior occupants, adjudicating legitimate property claims, transporting colonists from other regions, providing housing, subsidies, rural extension, education, health services, and cooperatives. Incra also became responsible for managing the national cadastral map of lands, mentioned above.

The military regime’s high-modernist land legibility project, however, imbued modern bureaucracies with different societal interests and pitted bureaucracies against each other. Within the colonization program, Incra’s smallholder settlements competed with SUDAM’s large-scale farms for land near roads. These colonization policies contradicted the 1965 Forest Code (which required maintaining half of the property’s forested areas in Amazonia). The agrarian policies of Incra and SUDAM officially recognized deforestation as “effective” land use to claim property, but not forested areas (Benatti et al. 2008:86). Diverse Incra norms identified productivity and the ability to claim land as dependent on deforesting the plot.

The military regime made land registration more burdensome and costly. A new Public Registries Law (N. 6.015/1973) maintained the prebendal system but made the transfer of property rights more bureaucratic, long, and costly (for requisites, see Chiavari et al. 2021:23). All federal real estate (*terras da*

⁶² Decree-law 1110, July 9, 1970. Incra predecessors: Instituto Nacional de Imigração e Colonização (INIC) in 1954 and the Serviço Social Rural in 1955 to promote rural development. In 1962, these were combined into the Superintendência de Política Agrária (SUPRA). In 1964, the military government created the Instituto Nacional de Desenvolvimento Agrário (INDA) and the Instituto Brasileiro de Reforma Agrária (IBRA). INCRA combined INDA, IBRA, and the Grupo Executivo da Reforma Agrária (GERA) in 1970, merging their personnel. INCRA was an autarchy whose president would be named by the President of Brazil and indicated by the Ministry of Agriculture.

União) that had been identified and surveyed (including *glebas*) would have to be henceforth registered in the Real Estate Registry (RGI) (Law N.5.972 of 1973). Until 1973, the União had only an administrative cadaster of public property, many not registered in the real estate registry, which created a discrepancy between *Secretaria do Patrimônio da União* (SPU) cadasters and the Real Estate Registry (RGI)—a discrepancy that persists today.

The military also tried to identify and distinguish private and public lands—restating a task set by the 1850 land law 126 years later. Law 6.383 of 1976 mandated Incra to identify, survey, and register (*discriminação* and *arrecadação*) federal public lands (*terras da União*). Incra should distinguish legitimate private ownership, regularize legitimate *posses*, and make public lands available for specific use (i.e., agriculture, Indigenous lands, environmental preservation, or land reform).

As detailed in the next chapter, the military regime was incapable of making Brazilian lands legible or maintaining an orderly colonization of Amazonia. Incra was burdened by herculean surveying and registration tasks, an explosive land frontier, and mounting budgetary, technical, and political difficulties.

By the mid-1970s, the regime decided to shift priority to private colonization projects, with an emphasis on agriculture and large-scale ranching (Hecht and Cockburn 2011; Ianni 1979). Amazonia was overtaken by both squatter peasant and entrepreneurial capitalist frontiers simultaneously. For the first time, capitalist farming enterprises advanced *directly* over Indigenous lands, *before* the peasant frontier (Martins 2009). These land frontiers produced a protracted, low-intensity agrarian civil war, with organized massacres and genocidal epidemics of Indigenous peoples, and the assassination of hundreds of peasants and traditional community leaders. By 1980, embattled land frontiers encouraged military personnel to sideline civilian agencies and take over control of vast areas in Amazonia—the militarization of the land question (Martins 1984; Almeida 1994)

Squatters, landless peasants, Indigenous peoples, rubber tappers, and traditional communities fought against dispossession and organized movements to demand land and land rights (Almeida 2008, 2015; Hecht and Cockburn 2011). The Kayapós and Xavante, for example, fought back and reoccupied ranches that had recently encroached on their land (Martins 2009:148). The landless workers movement

(MST), founded in 1984, occupied ranches, especially in southern Pará. Rubber tappers initiated a movement to guarantee traditional territories, promote social justice, and preserve forest resources (Allegretti 2008). Indigenous peoples, some old enemies, allied to face encroachment and built coalitions and an Indigenous movement to guarantee land rights. Poor people, too, claimed rights and learned to use legal complications to hold their grounds and legalize land encroachment and squatting (Holston 1991:722).

The democratic transition government (1985-1988) produced the first National Plan for Land Reform (PNRA) in 1984-5 under a newly created Ministry for Land Reform and Development (Almeida 2015), but twelve revisions within the government a fierce landholder opposition in Congress reduced the PNRA to mere further colonization of public lands in Amazonia (Silva 1987; Skidmore 1988:301).

The New Republic (1988-2022): a plurality of land rights, land agencies, and cadasters

Brazil's democratic New Republic (1988-) established a plurality of land rights, agencies, and cadasters. The 1988 constitution reaffirmed the 'social function' of land property, including environmental preservation (Brasil 1988 art.187). The 1988 Constitution enshrined land rights for indigenous people, *quilombola* communities, traditional communities, squatters, and landless people (land reform), and imbued the state to define and protect environmental conservation areas (Brasil 1988). The constitution also determined that public lands should be compatible with agricultural policy and the National Plan for Agrarian Reform, and limited public land privatization to 2,500 hectares.⁶³ Land reform policy was the most contentious issue in constitutional debates, and the constitutional text remained ambiguous and contradictory about land distribution, making its implementation challenging (Chiavari et al. 2021:15). Indigenous people would be entitled to "lands they traditionally occupy," with 'traditionally' remaining

⁶³ The legal privatization of plots larger than 2,500 hectares would require congressional approval.

undefined and interpreted maximally as any time in the past, or minimally as lands occupied on the day the constitution was approved.⁶⁴ The constitution reaffirms that land reform beneficiaries will receive land titles—*títulos de domínio* or *concessão de uso*—which would be non-alienable for ten years (Brasil 1988 art.189). The constitution enshrined the legalization of land possession as a constitutional right—conditioned on homesteading, productive use by family labor, and in rural areas of up to 50 hectares (Brasil 1988 art.191).

These plural constitutional land rights were instituted through specific laws and norms, managed by different state agencies, and with multiple land cadasters and registries. As land became the subject of rights and regulations, new cadasters were created for those attributes (Chiavari et al. 2021:20). See table 2.1, below. Land management became a complex organizational field even within the state.

The Brazilian state owns large land extensions designated for different uses and through different agencies and cadasters—at the federal, state, and municipal levels. The Brazilian federal government (*União*) owns much land and oversees its administration by specialized entities with their separate administrative land cadasters. The *União*'s vast land patrimony includes registered public lands and land reform projects administered by Incra, Indigenous Lands (TIs) demarcated by Funai, federal conservation areas (UCs) administered by the Brazilian Forest Service (SFB), terrains belonging to the navy along the entire coast and estuaries, federal-river margins, flood lands, and islands administered by the Navy and SPU, and military areas administered by the Military and Ministry of Defense. Each organization maintains its own administrative land cadasters. The federal government's Secretaria do Patrimônio da União (SPU) oversees its land patrimony administration by these specialized agencies and separate cadasters with specific information pertaining to their mission goals (Chiavari et al. 2021:31). These specialized agencies are supposed to feed their land cadasters into two general systems kept by SPU⁶⁵, but the different databases

⁶⁴ The agribusiness caucus defends a minimal interpretation of 'traditionally occupied' to securing private property over lands from which Indigenous people had been expelled in the twentieth century (Cunha 2021).

⁶⁵ The SPIUNET (Sistema de Gerenciamento do Patrimônio Imobiliário de Uso Especial da União) for real estate with specific uses and SIAPA (Sistema Integrado de Administração Patrimonial) for real estate without specific use, like concessions and grants (aforamentos, Concessão de Direito Real de Uso—CDRU, and Concessão de Uso Especial para Fins de Moradia—CUEM).

don't integrate, overlap, and are unreliable. To solve agencies' jurisdictional overlaps, the SPU heads a conciliation chamber in Brasília, which may keep areas under an administrative freeze for years on end.⁶⁶ The federal government launched a modernization scheme to integrate public real estate management in 2012, but administrative systems remain fragmented (Chiavari et al. 2021:32). Like private property, public lands should be registered in the prebendal Real Estate Registry (including federal or state *glebas*). Undesignated and unregistered public lands (*terras devolutas*) may lie outside any cadasters or registry, which Sparovek and co-authors (2019) identified as one-sixth of the national territory.⁶⁷

In addition to federal lands, provincial states and municipalities also own lands, with as much legal plurality, administrative complexity, and typically inferior organizational capacity. In some cases, state land institutes lack digitized cadasters and cannot, or will not, comply with federal agency demands for information.⁶⁸

Private rural land must abide by five different federal cadasters (Chiavari et al. 2021:20).⁶⁹ None of these, however, guarantees rural property rights—which only the *Registro Geral de Imóveis* registry can do. A rural land proprietor may have to inscribe her property into five cadasters, often providing the same information; for a rural property without agricultural use, it may be as few as two cadasters. See the complex yet simplified Van diagram below for types of plots and how they fall within these cadasters—see Figure 2, replicated from Chiavari and co-authors (Chiavari et al. 2021:21). Some public lands must also abide by these cadasters. Incra's land reform settlement projects should be in all five cadasters mentioned above.⁷⁰

⁶⁶ Fieldwork notes and interviews in Incra.

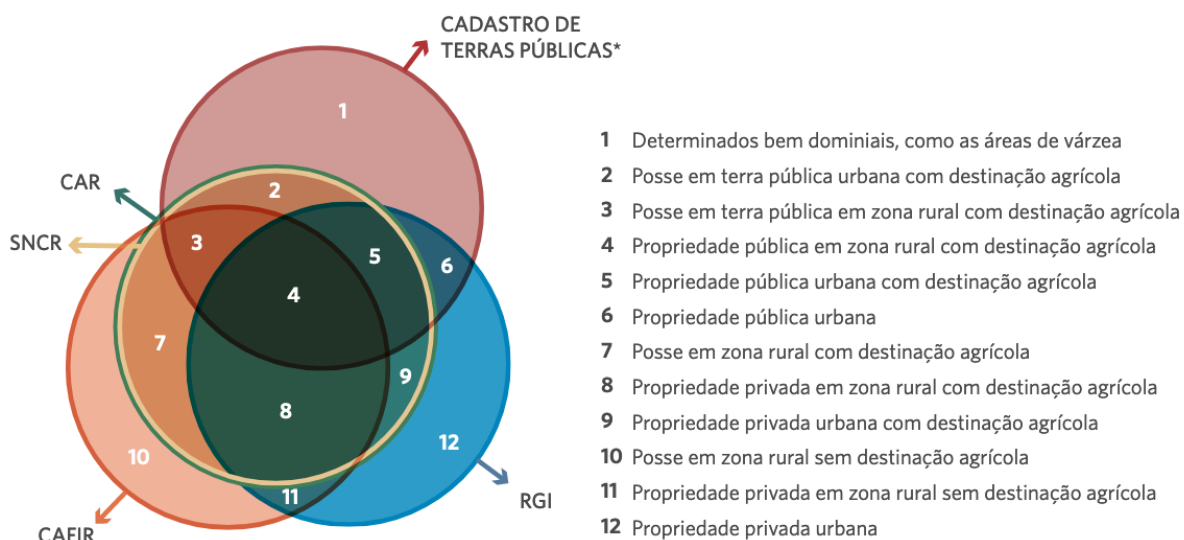
⁶⁷ My fieldwork findings, however, contest that this claim is overblown. The largest portion of unidentified public lands is in Amazonas, where the state land agency repeatedly fails to provide information on state *glebas* to Incra and its database—reported to me by the Incra chargé. Therefore, Sparovek et al.'s supposition that absent data configures lack of registration is wrong; part of the answer lies in the complex governance environment shared by multiple organizations.

⁶⁸ See note above on Amazonas' SECT noncompliance with official Incra demands for land information.

⁶⁹ The CIR within SNCR, explained earlier, and the SIGEF, CAFIR, ADA, and CAR, explained below.

⁷⁰ Land reform settlements must pass a high bar of registration and surveillance before emitting titles to their land reform beneficiaries.

Figura 2. Sistema de Registro e Cadastro de Imóveis Rurais



* Não existe um único cadastro reunindo informações de todas as terras públicas, mas diversos cadastros (conforme Tabela 1 adiante). Para fins didáticos, esta figura representa todos estes cadastros em apenas um círculo.

Fonte: Climate Policy Initiative adaptado de Chiavari et al. 2016

Source: Replicated from Chiavari et al. (2021:21).

A renewed land rush and legibility efforts: georeferencing and self-reporting

A renewed land rush in Brazil—and symptomatic land grabbing, conflicts, and deforestation—prompted new land legibility policies. By the end of the twentieth century, Brazil’s large-scale farming modernized and developed highly productive grain cultivation in the hinterlands that increasingly supplied global food regimes and China’s growing demand for food (Klein and Luna 2018:124,408-10). A land rush and a protracted, low-intensity agrarian civil war continuously swept the countryside from the 1980s to the 2020s (CPT 2021). Advancing capitalist agriculture and land swindlers continued to usurp public land and dispossess smallholder squatters. Incra estimated that *grileiros* had illegally usurped 100 million hectares of public land and canceled the cadaster number of hundreds of illegal property claims (INCRA 1999). Incra proposed changes to land registration and cadaster systems (INCRA 1999:35). Congress conducted a special inquiry on land theft in 2000 (*CPI da Grilagem*). In many municipalities in Amazonia, real estate

registries had eight to ten times more land registered than the municipal area (Chiavari et al. 2021:19). The Judicial Branch began to revise real estate registries and propose changes to the registry system.⁷¹

In response, the government attempted to modernize land cadasters and registration and promote ‘territorial ordering’ to avoid land conflicts. To address the issue of overlapping land claims, swindles, and conflict, a 2001 federal law required georeferencing property claims for future transfers and cadasters (Brasil 2001). Henceforth, real estate registry offices must provide georeferenced information on property boundaries to complete land transfers, sales, parceling, or other alterations. Registries should report any changes in properties to Incra. The 2001 law also created the georeferenced National Rural Property Cadaster (*Cadastro Nacional de Imóveis Rurais*, CNIR), which would join information from Incra, the Brazilian Federal Revenue Service (*Receita Federal*), and their main cadasters—SNCR and CAFIR.⁷² CNIR would integrate structural data from SNCR and CAFIR cadasters and the Real Estate Registry (RGI), with or without graphical information, to help identify public land, regularize land possessions, diminish land conflicts, and increase rural security of property (Chiavari et al. 2021:27). The CNIR georeferenced cadaster began to show a landownership mosaic in 2010 (Reydon et al. 2020:10).⁷³ The government has repeatedly extended mandatory registration into CNIR, until at least 2022 (Chiavari et al. 2021:27).

The federal government attempted to modernize the Real Estate Registry (RGI) by digitizing and integrating information from local registries into a national system—the *Sistema de Registro de Imóveis Eletrônico* (SREI)—stipulated by law n.11.977 in 2009 but regulated by the CNJ in 2015 (Chiavari et al.

⁷¹ In 2004, a federal judge ‘corrected’ prebendal notaries under its jurisdiction in Amazonas state to cancel over 48.5 million hectares of illegally usurped land in 14 *comarcas*; an injunction canceled the entire correction. The Judicial National Council (CNJ), however, revised prebendal notary concessions and reassigned them to new private licensees in southern Amazonas. In 2010, the CNJ canceled 5.5 thousand land registrations in Pará over an area thrice the size of the state. Still, the Supreme Court (STF) accepted an injunction against the CNJ’s decision, later overturned by a Supreme Court judge (Luiz Fux) in 2016 (Chiavari et al. 2021:19).

⁷² CAFIR is the Revenue Services’ (Receita Federal) rural property cadaster for fiscal purposes, to pay ITR land taxes, created in 1992 and updated in 2001. From 1990 to 1992, the Revenue Service used Incra’s SNCR outdated information to collect ITR land taxes (Nascimento 2007:936).

⁷³ Incra’s *Acervo Fundiário* (Land Data Collection) and visualization tool integrates with FUNAI’s and ICMBio’s shape files, covering over 61 percent of Brazil’s territory (Reydon et al. 2020:10)

2021:24). The National Association of Notaries and Registrars (ANOREG) has also engaged in this modernization effort.

Contradictory pressures on the federal government to curb deforestation and legalize possessions in Amazonia generated a temporary land legibility program called Terra Legal (2008-2018) (Law 11,952/2009), which the next chapter describes in greater detail. Terra Legal sought to regularize and title small private possessions (initially up to 400 ha, then up to 1500 ha in 2017) in public land unassigned to specific uses (*glebas federais não destinadas*) in Amazonia. This excluded private claims in land reform settlements, conservation units, and Indigenous lands. In 2009, Terra Legal expected to title 300,000 land possessors (informal land occupants) over 67 million hectares by 2012, but greatly underperformed its expectations. The Terra Legal agency, *Serfal*, soon realized it must first conduct ‘territorial ordering’ or legibility—identifying, georeferencing, and digitizing federal lands—to later regularize and title land claimants over public land. By 2015, Terra Legal had georeferenced 10 million hectares and titled 11 million hectares to private holders, 17 percent of their initial target (Reydon et al. 2020:11).⁷⁴

The Terra Legal program created the SIGEF georeferenced cadaster (*Sistema de Gestão Fundiária*) in 2013 to enable modern, consistent land legibility. SIGEF would receive, validate, organize, regularize, and publicize georeferenced boundaries of land properties provided by private parties or Incra—to enable land titling for occupiers of public land in Amazonia (Chiavari et al. 2021:25). SIGEF substituted paperwork with digital georeferencing certification. Nevertheless, SIGEF is based on self-reported information provided by private land claimants or government subcontractors (for smallholders and Incra land settlements), which SIGEF operating staff (in Terra Legal and Incra) later verify in the online geospatial database. In practice, however, private land claims were approved if they didn’t overlap with other claims or with designated, georeferenced public lands (e.g., land reform settlements, certified Indigenous lands, and conservation units). Incra staff approved them due to insufficient personnel to verify each claim. Private

⁷⁴ Another response to the 2007 land rush was that Brazilian political elites used the “foreignization” of rural land controversy to cover up for land speculation, domestic land grabbing, and the concentration of land into immense estates—and culminated in a new regulation restricting the amount of property that foreign investors could acquire (Fairbairn 2020:19).

land surveyors (with special certification to input information in SIGEF) who submitted fraudulent land claims (operating land grabs) were advertised for malpractice but were never suspended from inputting new information into the system as of 2022.⁷⁵ Consequently, surveyors could adapt fraudulent land claims until they fit the mosaic. SIGEF's format prevents estate overlaps but allows for estate misallocation, oversizing, claims over right-bearing third parties absent from the platform, and registration of mere expectation of possession (as opposed to only dominium) (Santos 2022:11). Critically, most Indigenous lands, conservation units, land reform settlement projects, and *glebas arrecadadas sem destinação* remain outside SIGEF because they lack georeferencing or digital input into SIGEF.⁷⁶ By 2020, SIGEF had certified 629 thousand rural properties over 210 million hectares, or one-fourth of Brazil's territory (Chiavari et al. 2021:25). Consequently, the system accumulates inconsistencies.⁷⁷ Whereas SIGEF was meant to reduce agrarian disputes and liberate civil servants' time to accelerate certification of rightful land claims, it may have produced the opposite result (Santos 2022).

SIGEF's success in depicting a georeferenced landholding mosaic through users' self-reporting rendered prizes and inspired new national georeferenced cadasters. Incra technicians developed SIGEF within the Terra Legal program in 2013, initially meant to last five years and serve Amazonia, only. Over time, SIGEF faced serious infrastructural limitations for data, presented overlapping claims, and expanded its territorial scope. Incra staff proposed SIGEF II in 2018 as a georeferenced, integrated, and dynamic cadaster based on ISO 19152 (Land Administration Domain Model-LADM). This proposal later evolved into the *SIGEF Titulação* and *Plataforma de Governança Territorial* (PGT), made operational in 2021.

⁷⁵ Interviews and fieldwork observations in Incra offices, March and September 2022.

⁷⁶ A meeting between Terra Legal and public notaries suggested the inclusion of these territories into SIGEF in October 2015—III Oficina de Diálogo dos Órgãos de Terra da Amazônia, Programa Terra Legal and Associação dos Notários e Registradores (ANOREG-TO) (Santos 2022:11).

⁷⁷ SIGEF has produced three kinds of problems. First, there have been plots with mere declaration of occupation “georeferenced” over public lands—i.e., in PAEs, federal riverine islands, or in isolated dense forests (Santos 2022:10). Second, technical output documents (*planta* and *memorial descritivo*) are used in land sales, bank mortgage, and with state agencies for environmental licensing, land regularization, or registration in notaries, even when they have alert ‘tags’ (“pendente de fiscalização ou de titulação”). The Tribunal de Contas da União claimed SIGEF serves as an instrument for an illegal land market for land grabbers in the Amazon (BRASIL 2020a apud Ronaldo Santos, 2022, p.11). Third, once the area is claimed with georeferencing, it is blocked to other users, even if they are the legitimate owners and title holders—which increases administrative litigation between claimants (Santos 2022:11).

Another self-reported, georeferenced cadaster, the Rural Environmental Cadaster (*Cadastro Ambiental Rural*—CAR), was instituted nationally by the new Forestry Code of 2012 (Brasil 2012). Environmentalists initially developed CAR to contain and monitor deforestation; other actors later expanded it for land use planning. In 2005, the Environmental Ministry ‘blacklisted’ top-deforesting municipalities in Amazonia, blocking agricultural credit to these municipalities until they curbed deforestation and registered all rural properties with georeferenced boundaries, land use, and ownership information. The initial success in curbing deforestation made Mato Grosso and Pará states adopt CAR. CAR initially succeeded in curbing deforestation and enabling the flow of agricultural credit, and transfer of deforestation between registered properties. The agribusiness caucus in Congress embraced CAR as a viable solution that allowed for further agricultural development and placebo for environmental concerns, nationalized in 2012. CAR requires landholders to self-report land perimeters, use, and preservation areas, through hired private surveyors (though smallholders had access to state-provided surveyors). Although CAR does not constitute formal property rights, land swindlers used CAR’s self-reported georeferenced claims within a public cadaster to advance property claims over public land.⁷⁸ Without a preventive filter, CAR allowed self-declared plots over public non-designated areas and legally protected areas like Indigenous lands (Azevedo-Ramos et al. 2020; Santos 2022:8). Though the 2012 law stipulated a one-year deadline for CAR registration, a 2019 law (n.13.887) suspended any deadline for inclusion. CAR missed the opportunity to consolidate information across rural land cadasters (which could have been obtained by demanding SNCR inscription and SIGEF georeferencing).

Bureaucrats working in cadasters, registries, and titling in Amazonia initiated federal government reform for greater land legibility through integration between cadasters and registration and harmonized laws, but uptake has been slow. Civil servants in the Terra Legal program, Incra, state land institutes, and the National Association of Notaries and Registrars (ANOREG) met in 2015 and signed a formal letter with

⁷⁸ See, for example, the investigation by Barros and Barcelos, 2016, “Crime e grilagem com o uso do CAR” Agência Pública, <https://apublica.org/2016/08/crime-e-grilagem-com-uso-do-car/>. Several academic studies also use CAR as a proxy for private properties given the absence of another georeferenced database as complete as CAR’s (Azevedo-Ramos et al. 2020; Azevedo-Ramos and Moutinho 2018; Lipscomb and Prabakaran 2020; Sparovek et al. 2019).

proposals for federal and state governments based on FAO's voluntary guidelines for land governance (Anon 2015; FAO 2012). In response, the federal government instituted an optional system to integrate cadasters and registration, fiscal, and geospatial information of rural and urban real estate in the entire national territory into a single database called SINTER (*Sistema Nacional de Gestão de Informações Territoriais*) in 2016 (Decree N.8.764/2016). However, state agency and registry adherence to SINTER remained optional, thus unlikely due to lack of capacity, incongruent geospatial criteria, and high investment necessary (Chiavari et al. 2021:22). A revised SINTER project in 2022 maintained adherence through agreements and technical cooperation between entities like federal agencies, state land institutes, and municipalities (Brasil 2022).

In sum, modern land legibility projects in Brazil—cadastral and registration reform—employed georeferencing technology and attempted to link cadasters and registries but systematically relied on self-reporting from private land claimants and opt-in from many land agencies. Land property is still registered in prebendal, nonstate real estate registries overseen by the Judicial branch, while many state agencies under the Executive branch maintain spatial cadasters. Rural private property must be inscribed in up to seven different federal cadasters, of which six are self-declaratory. At least eight federal agencies own and manage rural land or maintain unique spatial cadasters yet must register their properties in the prebendal real estate registry. To complicate things further, twenty-six subnational states have their own land management agency, and every municipality (N=5,568) defines its urban area and should keep its cadaster. There is no single agency that centralizes spatialized land cadasters across land use types and levels of government or connects to judicial bodies that textually register real estate property (Reydon et al. 2020:8). Notably, there is no link at all between the largest federal land agency, Incra, and municipal urban-area cadasters. Several land agencies have split yet overlapping jurisdictions and lack communication between their cadasters.

Analysts of land governance point to a lack of 'political will' or a 'capable agency' to integrate land cadasters of various agencies (Chiavari et al. 2021; Reydon et al. 2020:8). This complex organizational field weakens land rights and generates cumbersome bureaucratic processes to secure land rights. Without administrative solutions, land-claim disputes become judicialized, take several years to reach a decision,

and must be dealt with concretely and by force in the interim, often to the detriment of poorer claimants and traditional communities (Indigenous people, riverine communities, rubber tappers, *quilombolas*, etc.) whose collective use rights depend on state agency management. Brazil's divided and loosely integrated land governance field facilitates land conflicts, environmental degradation, dispossession, and advancement of the agrarian frontier.

Table 2.1: Land registries and cadasters in Brazil

Type of land legibility	Legibility tool	Year created	Purpose	Managing Org.	Fed into	Citizen self- reported?	Recogniz es formal property right	Required for
Textual registration, by non-state organizations	Registro paroquial (do Vigário)	1850/1854	Textual registry of private holdings	Catholic Church	central bureaucracy	mix	yes	
	Registro Geral de Imóveis (RGI)	1865/1916	Textual registry of real estate mortgage, transactions, and title deeds	Cartórios, CNJ	municipal/Co marca-level	yes	yes	
	Sistema de Registro de Imóveis Eletrônico (SREI)	2009/2015	Digitized and integrate textual registries	CNJ	national system	yes, but verified	yes	
	Cartórios/ Tabelião de notas/ public notaries		Validating signatures, documents, contracts, etc.	CNJ			no	
Spatial cadasters for private citizens	Cadastro de Imóveis Rurais Brasileiro, part of SNCR	1964/1972	spatial, geographic characteristics, juridical situation, ownership, and land use for agrarian and agricultural planning and land reform	INCRA	CNIR	yes	no	bank loans, registry transactions
	Cadastro de Imóveis Rurais (CAFIR)	1966/1996	fiscal, to improve rural land taxation (ITR)	SRF		yes	no	transactions in the RGI
	Ato Declaratório Ambiental (ADA)		declare environment interest areas for ITR tax exemption	IBAMA		yes	no	exemption from rural tax
	Cadastro Ambiental Rural (CAR)	2012	monitor/control deforestation, plan land use	SFB		yes, then purportedly verified by enviro. secretary	no	transactions, agricultural credit, environmental licensing, deforestation permits
	Sistema de Gestão Fundiária (SIGEF)	2013	Georeferenced rural real estate info for governance	INCRA		yes, then purportedly verified by Incra employee	no	property transactions and boundary changes
	Cadastro Nacional de Imóveis Rurais (CNIR)	2001	integrate structural data from SNCR and CAFIR, and real estate registry (RGI), to identify public land, regularize land possessions, land reform, diminish land conflicts, and increase rural security of property	INCRA and SRF		no	no	
	Sistema Nacional de Gestão de Info. Territoriais (SINTER)	2016/2022	integrate registry, cadastral, fiscal, and geospatial information of rural and urban real estate in entire national territory, though public agencies opt in or not	SRF		by other agencies	no	
Spatial cadasters for federal land-- Administrative cadasters over public real estate (bens Imóveis da União) -- based on Chiavari et al. 2021:31	Sist. de Info. dos Projetos da Reforma Agrária (SIPRA)	2001	Land reform policy	INCRA		no, by INCRA staff	no	
	SPIUNET or SIAPA		Acquired public lands (surveyed terras devolutas)	INCRA		no, by INCRA staff	no	
	Special 'book' in SPU		Indigenous Lands	FUNAI	SPIUNET	no	no	
	Cadastro Nacional de Unidades de Conservação (CNUC)		Conservation units	ICMBio	SPIUNET	no	no	
	Cadastro de Florestas Públicas da União (CGFPU)		Public forests	SFB		no	no	
	Sistema OPUS (Army)		Military areas	Military		no	no	
	SIAPA		Terrenos de marinha, terrenos marginais, federal flood lands, CDRUs, CUEMs	SPU		no	no	
Spatial cadasters for subnational state entities	SPUNET	tba, 2012	all federal land patrimony			no	no	
	26 states and thousands of municipalities with own cadasters			Subnatio nal land intitutes		no	no	

Conclusion

Land legibility projects in Brazil—efforts to simplify a complex land-use reality into a centralized information system—produced a thicket of property claims, land rights, registries, cadasters, and titles that rival the complexity of the social and ecological reality they sought to simplify. Land legibility failed to produce a centralized, unified system because landed elites and non-elite squatters opposed (or avoided) surveyance and registration to continue usurping public land, minimize taxation, and avoid official expropriation. Far from innocuous, however, land legibility projects helped to shape land use, land claiming tactics, and political action—with great social-environmental and economic consequences.

Social groups consistently entangled land legibility projects into strategies to control land and facilitated legibility when it favored them. During the colonial period, Brazilian elites used legal complications and confusion over land policy to maintain autonomy from Portuguese rule and amplify control over landless nonelites (Holston 1991:722), creating latifundia. Squatter peasants—poorer migrants, people fleeing slavery or latifundia—slowly expanded agricultural frontiers. In independent Brazil, the advent of private property rights without land laws (for a three-decade lawless hiatus) boosted informal land appropriation. The Brazilian Empire's bureaucratic weakness and reliance on a prebendal registry system boosted land swindlers, who began to make fortunes from land usurpation and developed the art of legal complication to legalize usufructuary possession into property (Holston 1991:722). Legal complications propelled land conflicts to the advantage of resourced elites, though poor squatters could take some advantage. The First republican period devolved power to regional landed oligarchies, who benefitted from state-granted lands with little legibility, and more complex registry systems facilitated land swindles. After 1930, a modernizing and centralizing republic sought state-led colonization efforts in frontiers, which the 1964 military regime greatly amplified. State planning and modern bureaucracies notwithstanding, capitalist enterprises and landless squatters overwhelmed orderly land colonization efforts on the frontiers, especially in Amazonia.

In reaction to expulsions, deforestation, and conflicts, nonelites mobilized to guarantee land and, eventually, land rights under the 1988 democratic constitution. Civil society struggles for land reform, Indigenous territory, and environmental conservation generated different land rights and state agencies, but these have conflicting missions, overlapping jurisdictions, and different cadasters. These agencies constituted a complex organizational field of land legibility. Land reform settlements, Indigenous lands, and conservation units hamper private land usurpation but are often barred administratively. Over time, land law developed largely to legalize prior usurpation and generated confidence in legalizing land seizures. Usurpation continues today, with periodic land laws that propose amnesty over prior encroachment. Land swindlers refined their fraudulent techniques—from document falsification and destruction of records to long-term judicial strategies (Holston 1991:720) and georeferencing technology (Carrero et al. 2022; Santos 2022; Torres 2018). Self-reported land claims into georeferenced cadasters (like CAR and SIGEF) and registries continue to enable usurpation today. So different social groups promote the specific legibility projects that favor them, essentially claiming land without promoting a centralized information system that unifies cadasters, registries, and titles.

Twenty-first century Brazil became a global leader in food production and export and investments in land, but despite land governance modernization efforts, continues to be ranked 138th out of 189 countries in “registering property” (World Bank 2014:174). Despite having the largest extensions of Indigenous lands, environmental conservation units, and land reform projects in the world, Brazil is also a deforestation and land conflict champion. The next chapters analyze these contradictory dynamics in the region that drive the superlative numbers above—Amazonia. Chapter 3 examines how Brazil’s central land bureaucracy (Incra) created ‘settlement projects’ and attempted to title land to smallholders in Amazonia. Chapters 4 and 5 analyze Incra’s land titling success and failure in neighboring Amazonian jurisdictions.

Chapter 3: Sputtered development in Amazonian frontiers: the political economy and organizational dynamics of smallholder land titles

This chapter argues that the Brazilian state consistently perceived Amazonia as a frontier to be colonized and organized through land property rights managed by the National Institute for Colonization and Agrarian Reform (Incra), a modern and specialized land bureaucracy. Despite Incra's initial promise, remained too weak to shape strong societal forces advancing a tropical frontier. Initially conceived as a state autonomy project, Incra was soon co-opted by landed elites and came to depend on contentious collaboration with non-elite clients and local knowledge for task completion. The chapter demonstrates that state-society configurations shaped policy performance over time and across space. It highlights that Amazonia remains a dynamic agrarian frontier, where land tenure innovations and governance struggles reveal the state's attempts to control land use amidst diverse societal forces. The analysis focuses on Incra's role in managing land legibility and titling, revealing its organizational dynamics within the broader political economy of Amazonian land frontiers. By examining Incra settlements, the chapter evaluates land legibility and titling, underscoring variations in state performance and the relevance of land titles in rural development. The chapter also considers the unique historical and socio-environmental conditions of the Amazonian frontier, noting how Incra's struggles with political intervention and underinvestment are partially mitigated by civil society and local organizations. This chapter sets the stage for a detailed examination of Incra's performance in subsequent chapters.

The focus on Incra's "settlement projects" in Amazonia stem from their social and environmental significance and analytical value. Amazonia stands out for its vast territorial size, environmental

importance, social conflicts, numerous “land reform settlement projects” and settled families, and extensive areas of unregistered land. Incra is the central agency controlling land and land titling in Brazil, particularly in Amazonia. Incra settlements present both challenges and opportunities for social justice and environmental conservation, where land titles are a necessary (though insufficient) condition for providing the social reproduction of over half a million peasant families and potentially halting deforestation. Since 1964, land titles have been central to Brazil’s rural development program, becoming a nearly exclusive policy focus in 2016.

Methodologically, Incra’s institutional uniformity across Brazil’s federal system allows for comparisons between subnational jurisdictions while controlling for laws, procedures, organizational structure, and employee hiring pool (in national public exams). Incra’s permeability to regional civil society produces significant variations in policy performance. Unlike other land legibility systems analyzed in Chapter Two, Incra’s information system (SIPRA) provides a reliable denominator (land reform beneficiary families) by which to evaluate state performance in land titling rates (land titles issued per beneficiary families).

This chapter has three sections. The first section traces the evolution of Amazonian colonization from river-based to agrarian-based economies, highlighting the region’s role as a frontier and center of innovation in land tenure regimes, organizations, and legibility projects. The second section analyzes the centrality of land titles in rural development programs, how they are situated in the policy stream, and how their absence promotes predatory development. The third section analyzes Incra’s structure and its interactions with civil society. Lastly, the chapter presents an analysis of Incra’s land titling performance in settlement projects in the Amazon and sets the stage for the case selection and analysis in the following chapters.

Amazonian colonization, frontiers in the long and short *durées*

Amazonia is both a frontier and the center of the world. Amazonia is a “frontier” in an ideological sense because pre-Columbian Indigenous people have occupied and co-created the Amazonian biome for at least twelve millennia, as suggested by the extensive Arawak and Tupi signatures on the landscape. Indigenous people bio-geoengineered urban-forest civilizations with planned cities, roads, mounds, and canals (Erickson 2014; Heckenberger et al. 2014); they created fertile *terra preta* soils; cultivated agroforests and domesticated manioc, cacao, açai, rubber, vanilla, sarsaparilla, Brazil nut, etc., and nurtured forest diversity (Fausto and Neves 2018; Levis et al. 2017; Neves and Heckenberger 2019). European contact, epidemics, and violence, however, killed 90% of the Indigenous population across the Americas in the ‘great dying’ of the sixteenth century—resulting in forest regrowth of over 55 million hectares, immense carbon capture, and the Little Ice Age, when winters were 1-2 degrees Celsius lower in Europe between 1600 and 1850 (Koch et al. 2019). European explorers in the sixteenth century marveled at Amazonian urban concentrations larger than European cities, but by the mid-eighteenth century, expeditions saw sparsely inhabited floodplains.

Amazonia is objectively a frontier, nonetheless, because people actively claim new land property over territory, and different land claimants rely on extrajudicial means and violence—where social classes and ethnicities with radically different land uses coexist in tension and deadly social conflict (Martins 2009:133-4,155).

Amazonian frontiers and colonization stem from long-durée histories of geopolitics, economic exploitation, and post-independence nation-building. Portuguese colonialism attempted to secure ‘island Brazil’ across the Amazon and Paraguay River basins from the Spanish empire since the sixteenth century (Hecht 2013:90–93), with a northern colony directly linked to Lisbon and separate from southern Brazil. Since Brazil’s Independence in 1822, Amazonia became a colony of a post colony (nominally the *Grão-Pará* province of the Brazilian Empire), reinforcing slave labor. Amazonians rebelled against colonial submission and slavery under the new Brazilian Empire in the regional *Cabanagem* revolt of 1834-1840

and suggested an independent *Paiz do Amazonas*, but were ultimately defeated in massacres that decimated the population, separated a new *Amazonas* province (1850) from *Grão-Pará*, and induced autonomous communities in the lower Amazon basin (Gonçalves 2001:28; Hecht 2013:274). Brazilian state elites have been permanently concerned over sovereignty, territorial occupation and integration, and resource extraction in Amazonia. Foreign powers, chartered companies, and entrepreneurs scrambled for Amazonian territory, especially during the 1870s-1900s rubber boom following the scramble for Africa (Hecht 2013:85,99-102,173). Brazil's Amazonian borders were only settled with neighboring countries by 1909 and then redrawn with Peru in 1919 (Hecht 2013:106; Hecht and Cockburn 2011:112). Nationalist concerns about foreign greed (*cobiça*) remain present—periodically spiking during the World War II US-sponsored rubber campaign, the 1960s guerrilla movements, the 1980s environmental push, the 2000s commodity boom and land rush, and the current scramble for minerals and carbon credits. National elite concerns over population, labor, the environment, and alignment with regional Amazonian elites (whether in support or opposition) varied over time and shaped development policies in different periods.

Land colonization of the Amazon happened slowly over centuries and fast during the past six decades, producing two dominant spatial organization patterns: a *river-floodplains-forest* pattern based on forest-extractive economies and, from the 1960s onwards, a *road-dryland-subsoil* pattern based on agrarian economies (Gonçalves 2001:79).

Riverine colonization

Initial colonization focused on forest extractive economies of medicinal plants (*'drogas do sertão'*) and rubber, river transportation, and riverine cities as centers of commercial, financial, and political power (Gonçalves 2001:79). The nineteenth-century rubber boom intensified this pattern. Steam-ship commercial navigation upriver in long, rubber-rich Amazon tributaries began in the 1860s (Hecht 2013:402–3). Between 1870 and 1910, an estimated 300,000 to 500,000 people migrated from northeast Brazil to Amazonia to work in rubber groves. Credit and mercantile forms of value extraction relied on control over commercial access and labor coercion rather than formal land property rights (Leal 2020:58; Hecht

2013:368).⁷⁹ Land registration and provisional titles for rubber and Brazil-nut groves (*seringais* and *castanhais*) began in 1869 as provincial authorities sought taxation and rubber bosses engaged in violent conflicts (Leal 2020:59–65). A few dozen private land surveyors flocked to demarcate rubber estates starting in 1860 (Leal 2020:77–83). Land surveyors delimited and registered rubber estates, seizing public land—almost always fraudulently in Amazonas province to minimize taxes—and many surveyors became rubber bosses themselves (Leal 2020:84–85). One surveyor became governor (Silvério Nery) and believed that natural resource legibility in numbers would attract the labor force necessary for economic progress (Leal 2020:88). Private land concessions and titles for rubber and Brazil-nut extraction, geographic isolation, and monopoly trade-based extraction produced highly oligarchic and unequal social forms based on labor coercion—not atypical in other frontier areas (Martins 1990:250, 2009:161).

The rubber economy bust, regional demographic decline, and insecure borderlands paved the way for state-led land colonization in the mid-twentieth century. A sharp decline in global rubber prices beginning in 1913⁸⁰ bankrupted many Amazonian rubber patrons and produced a free peasantry engaged in subsistence agriculture and regional produce markets (Martins 2009:152). Many large rubber estates were abandoned and devolved to public dominium while peasant smallholdings proliferated (Costa 2022:3). Between 1920 and 1940, Amazonia had a 14 percent negative migration—Pará and Acre had 3.8 and 12 percent demographic declines, while Amazonas had a 20 percent populational growth, primarily concentrated in Manaus (Garfield 2013:152). By 1940, three-fourths of Amazonians lived in small communities along rivers (Garfield 2013:191). The flailing regional economy relied on seasonal forest extractive products, chiefly Brazil nuts and rubber (still), at the mercy of commercial speculative schemes (Garfield 2013:11). Regional elites sought the federal government’s help to revive their economy (Garfield 2013:26,186-7). The great dying of the 16th century and the populational decline after the rubber bust made

⁷⁹ Rubber tappers controlled their means of production, but not of reproduction—the food and supplies necessary to live in rubber groves year round (Garfield 2013:86)

⁸⁰ Caused by British smuggling rubber-tree seeds and successfully growing rubber plantations in Malaysia.

the region seem demographically void, up for grabs, and its wilderness to be tamed, civilized, occupied, transformed, and integrated by settlers and modern institutions.

Agrarian colonization

State-led development policies in the mid-twentieth century shifted Amazonian colonization from a riverine to an agrarian mode. President Getúlio Vargas' 'Speech on the Amazon River' in Manaus, 1940, pledged to support colonization, "rationalization of production," and improved transportation (Garfield 2013:14,21). During the Second World War, the US demanded rubber, creating a rubber supply campaign with planned labor migration, infrastructural development, a credit bank, and state agencies⁸¹ that served as a basis for later state-led colonization (Garfield 2013:209). The military was to create military colonies near borderlands. Agronomic engineers dreamed of 'organizing' the Amazon for production and efficiency with state-directed land colonization (Garfield 2013:37,41). In 1943, the government federalized large Amazonian territories—now Amapá, Roraima, and Rondônia states; Acre had been a federal territory since annexation from Bolivia in 1903 (Garfield 2013:30).⁸² Also in 1943, the regime created the *Fundação Brasil Central* agency to coordinate the March to the West focused on Brazil's Center-West and southern Amazonia—building airfields, planned towns, agricultural colonies, and large cattle ranches—with the intent to occupy and increase wealth production and consumption in the hinterlands (Garfield 2013:206–9). In 1953, the government instituted the 'Legal Amazonia' region, including the Amazon biome and part of the Cerrado and Pantanal,⁸³ and an Amazonian regional development agency (SPEVEA) to subsidize and coordinate regional development programs. Amazonas elites successfully lobbied for a free-trade zone in Manaus under SPEVEA in 1957. The opening of roads connecting east and western Amazonia to the rest of Brazil for the first time in 1958-1960—connecting Belém-Brasília and Cuiabá-Acre—sparked the first

⁸¹ A tentative New Deal for Amazonia.

⁸² In 1943, Getúlio's central government seized control of vast borderlands from states to create "federal territories" in Amapá (from Pará), Rio Branco (from Amazonas, currently Roraima), Guaporé (from Mato Grosso, currently Rondônia), Iguassú (currently part of Paraná) and Ponta Porã (currently part of Mato Grosso do Sul) (Decree-law n.5812/1943).

⁸³ Comprising the states of Amazonas, Pará, and Acre, as well as Amapá, Roraima, Rondônia (then federal territories), Tocantins (then part of Goiás)—thus, Northern region of Brazil—and part of Mato Grosso and Maranhão states.

land rush. As provincial states granted millions of hectares near planned roads to acolytes or to fill coffers, land swindlers from southern Brazil violently confronted squatter *posseiro* migrants from Piauí and Maranhão who had migrated in the 1940s along the Tocantins River in anticipation of the Belém-Brasília road (Bunker 1985:100; Foweraker 1981:19f; Hecht and Cockburn 2011:112; Martins 1990:248). Brazilian land frontier dynamics and conflicts extended into Amazonia before the 1964 military regime, which ultimately aggravated these dynamics despite a scholarly emphasis on the military regime-induced nature of Amazon frontiers (e.g., Schmink et al. 2019:380).

The 1964 military regime implemented a geopolitical plan for a military and economic takeover of the Amazon with the strategic goals of national integration, occupation, efficient resource use, and modern production “to inundate the Amazon forest with civilization,” in the words of its grand strategist (Hecht and Cockburn 2011:116). This included extensive land colonization—settlement and agriculture over what was deemed vacant, sparsely populated, and inefficiently used territory, a “vast emptiness” pliable to outsiders or internal agitators. A new agrarian economy would be based on land property, timber, cattle, agriculture, and mining structured around roads crossing previously inaccessible land and generating new urban centers. A *road-dryland-subsoil* pattern of territorial occupation would override erstwhile *riverine-floodplains-forest* spatial occupation (Gonçalves 2001:79). This authoritarian, high-modernist plan ignored Amazonian Indigenous and riverine peasant communities, their land uses, and forest economies deemed as primitive, inefficient, and illegible. Land colonization dominated Amazonian development from 1970 onwards. Existing but weak policy provisions for Indigenous people, environmental conservation, and squatter peasants ultimately propelled strong reactions and political organization in the 1980s.

The military regime announced its grand strategy, *Operation Amazônia*, in 1966, touting capitalist entrepreneurs to invest in the region aided by fiscal incentives, subsidized credit, labor in-migration, and abundant land around planned ‘development poles’ (Hecht and Cockburn 2011:117–19). The regime reformed the SPVEA regional planning agency, seen as captured by clientelist regional elites, into the new *Superintendência de Desenvolvimento da Amazônia* (SUDAM) in 1966 to oversee subsidized investments and land acquisition for agriculture and industry. The erstwhile Rubber Bank (Banco da Borracha) was

reformed into the Amazon Development Bank (BASA) to dish out cheap loans. The military grand plan greatly expanded the Manaus free-trade zone into an industrial, commercial, and agricultural pole under a new agency, the *Superintendência da Zona Franca de Manaus* (SUFRAMA), in 1967. These initiatives, planers exalted, would modernize Brazil and double its per capita income by 1980 (SUDAM 1973:6 apud Wolford 2016:27). SUDAM enthused Southern capitalist entrepreneurs to invest in Amazonian real estate with *de facto* negative interest rates, 50-100 percent tax breaks from operations elsewhere, and 12 to 17-year tax holidays (Hecht and Cockburn 2011:120), effectively converting capitalist corporations into large landholders in Amazonia and capital into landed property (Martins 1986:86). By 1968, only forty percent of 140 SUDAM-approved projects were in agriculture; most were industrial (Cardoso and Müller 1978:156). Nonetheless, capitalist investment in ranches and farms near roads triggered a second wave in Amazonia's great land rush, increasing inflows of squatters, land swindlers, and land conflicts—especially along the Araguaia and Tocantins rivers. SUDAM-approved landholdings used state and private violence to expel peasants and Indigenous peoples. A communist guerrilla movement, the regime's nemesis, sprang in Araguaia in 1970.

The new Incra bureaucracy: smallholder colonization, roads, seizure, and state autonomy in 1970?

The military regime then initiated a massive smallholder settlement (colonization) program to populate Amazonia's "vast emptiness," favor the rural poor, and quell rural unrest—an alternative to land redistribution in other parts of Brazil, stipulated in the 1964 land statute but blocked by landholder elite opposition and lack of bureaucratic capacity (Alston et al. 1999:41). The military regime sought to depoliticize the struggle for land and disempower leftwing leadership over peasants (Martins 1990:249), especially the Communist Party (PCB) guerrillas in Araguaia, landless Peasant League insurgencies in Brazil's Northeast, and smallholders marginalized by soybean and mechanized agriculture in the South. The regime's coalition of military, industrialists, and landed elites had contributed to socioeconomic

disparities and rural unrest. Amazonian colonization was the authoritarian regime's autonomous effort for internal and external legitimation (Bunker 1985:107–8; Millikan 1992). High-modernist plans would distribute 'vacant' public land in Amazonia to small farmers and landless peasants from across Brazil, especially the Northeast along a colossal Transamazon road connecting coastal Brazil to Peru and providing "land without men to men without land," as touted by President Médici.⁸⁴ Peasant frontiers had advanced into Amazonia earlier, increasingly along built roads, and colonization projects were stipulated in 1968 and earlier (Cardoso and Müller 1978:139–40; Neves and Lopes 1979:80). However, smallholder colonization became a systematic and 'autonomous' project for the military regime in 1970 (Bunker 1985:107). Beginning in 1970, Amazonian colonization would become a deliberate 'escape valve' for poverty, social tensions, and land inequality arising elsewhere in Brazil (Cardoso and Müller 1978:141). Henceforth, every land reform effort in Brazil transmuted into state-sanctioned smallholder colonization in Amazonia (Le Tourneau and Bursztyn 2010).

The *Programa de Integração Nacional*—PIN designated massive land for smallholder colonization around roads connecting Amazonia to the rest of Brazil in 1970. The federal government announced the Transamazon and Santarém-Cuiabá road construction in 1970 and ten kilometers from either side for colonization and land reform (Brasil 1970c), declared all municipalities along the Transamazon as a priority for land reform (Brasil 1970a), declared a six-million-hectare polygon for expropriation where the Transamazon and Santarém-Cuiabá roads met (Brasil 1971a; Cunha 2009:27), and, in March 1971, 'federalized' 100 kilometers from either side of roads planned or under construction, to be designated for colonization or industries according to the National Security Council (Brasil 1971b). PIN's land seizure from state governments brought approximately 30 percent of Brazil's territory under federal control

⁸⁴ Plausibly, President Médici decided to build the Transamazon road to benefit Northeastern peasants, many landless—a 'social turn' in colonization. The Transamazon road was not included in the 1967 National Road Plan and was announced shortly after Médici's visit to drought-stricken Northeast (Cardoso and Müller 1978:169). Three-fourth of the 100,000 settlers along the Transamazon were to come from the Northeast.

(Cardoso and Müller 1978:157; Carrero et al. 2022:2; Hecht and Cockburn 2011:124)—see Figure 3.1, below.⁸⁵

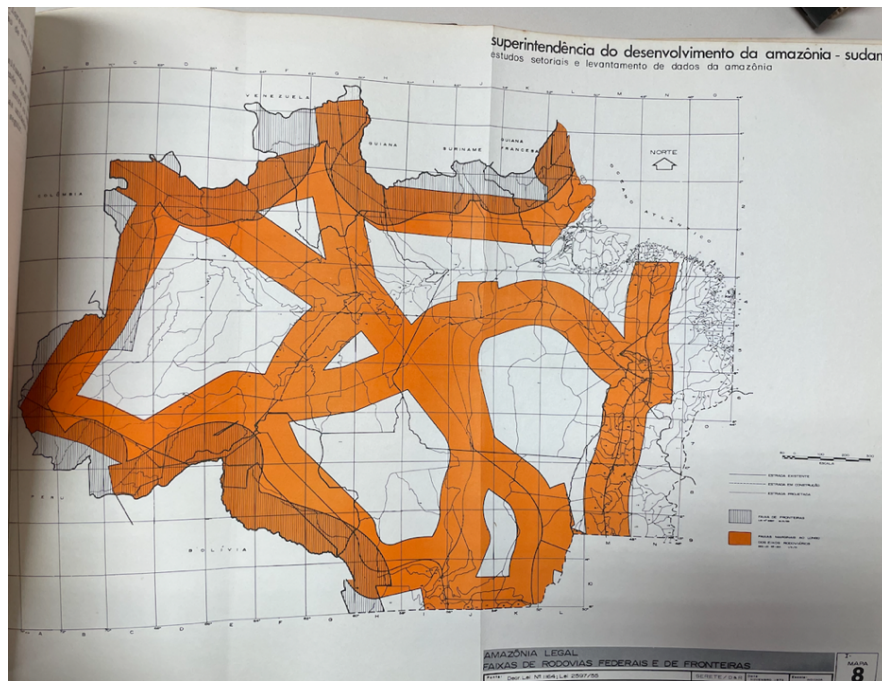


Figure 3.1 Area ‘federalized’ by decree in 1971—source: SUDAM, 1978.

A new, empowered bureaucracy, the *Instituto Nacional de Colonização e Reforma Agrária* (Incra)⁸⁶ would oversee the colonization program and manage federal lands. Incra became the central land agency in Brazil and was responsible for surveyance, tenure classification, colonizing or selling, and titling. Incra became

⁸⁵ Decree-law 1164/1971 deeply affected Amazonian states by seizing control of land and expropriating public lands, though impacts were uneven across states: Pará had approximately 70 percent of its land seized, and only Amazonas maintained most of its territory under state control. Almost all land in Acre, Rondônia, Roraima, and Amapá were federalized, though these were federally controlled territories then. Decree-law 1164/1971 mentioned planned roads totaling 24 thousand kilometers in extension. Many roads were never completed. Decree-law 2375 in 1987 devolved to states the part of federalized lands that had remained unregistered into Union patrimony. This back and forth between federal and state entities and lack of registration added to land management uncertainty and conflicts (Chiavari et al. 2021:14). PIN was supposed to respect Indigenous lands as per the 1967 constitution; as well as state titles issued prior to federalization. Some states contested federalization and continued to issue titles over federalized strips.

⁸⁶ Incra combined three lesser agencies created after 1964—the *Instituto Nacional de Desenvolvimento Agrário* (INDA), the *Instituto Brasileiro de Reforma Agrária* (IBRA), and the Grupo Executivo da Reforma Agrária (GERA), which operated in Amazonia (Cardoso and Müller 1978:156). These were preceded by the *Superintendência de Política Agrária* (SUPRA), created in 1962, which, in turn, had merged the *Instituto Nacional de Imigração e Colonização*, created in 1954, and the *Serviço Social Rural*, created in 1955 to promote rural development.

the regime's torchbearer for a national 'civilizing mission' to conquer the Amazon, uplift, and modernize the rural world. Incra's mission included settling landless peasants and small and medium farmers and selling public land to larger landholders—which would generate antagonistic constituencies—not least in competition with SUDAM's projects for land close to roads and with environmental protection and Indigenous lands.

Incra was legally self-governing (*autarquia*), with its president appointed by the minister of agriculture and named by the president of Brazil, though the National Security Council would decide its policy (Brasil 1970b, 1971b). Merging the personnel of three lesser agencies, Incra also offered thousands of jobs for young agronomists, topographers, rural extensionists, and other professionals, many out of school and as voluntary workers in a nationalist campaign mode to build a new Brazil (Wolford 2016b:27). In the 1970s, many agronomists joined INCRA voluntarily in Amazonia for patriotism and professional advancement (Moran 1976). Some Incra personnel have been dedicated to poor rural families and small farmers (Pompermeyer 1979:235). Women were encouraged to apply (Wolford 2016b:27). Before 1988, as in the rest of Brazil's civil service, Incra employees did not have guaranteed tenure. Incra had the discretion to hire its servants and organized in-house exams for specific careers (Interview JP 2022). Incra focused on Amazonia and opened its first Regional Office in Belém in late 1970.

Incra announced it would settle 100.000 landless families along the Transamazon road in planned rural-urban communities and cities (hierarchically ordered into rurópolis, agrópolis, and agrovilas) called *Projeto Integrados de Colonização* (PIC) (Cardoso and Müller 1978:157).⁸⁷ PICs required Incra to identify landless colonists, transport them to Amazonia, provide road infrastructure, housing, an initial six-month household subsidy for families to ease into their plots, food subsidies, initial credit, agricultural subsidies, rural extension, education, health services, set up cooperatives, and recreation like sports facilities, and events (Neves and Lopes 1979:87–88). Incra was an all-powerful institution in PICs, imbued with *prefeitura* (mayorships) and police powers (Interview Silvio 01/Oct/2018).

⁸⁷ PICs were created also in Rondônia, along BR-364 and BR-319 in 1970-72 (Cardoso and Müller 1978:142; Neves and Lopes 1979)

These colonization projects happened over nominally vacant but actually used territories—by Indigenous communities and peasant squatters old and new; planned roads often crisscrossed Indigenous trails (Martins 1984:72). Incra’s high-modernist settlement grids, popularly dubbed “dumb rectangles,” ignored the physical landscape and cultural landscape of prior land occupation (Indigenous, *seringueiros*), many in steep hills, lacking water sources, or, more often, with poor soils.

Incra received herculean tasks over a land mass more extensive than most national territories: (1) land survey, (2) distinguishing private from public land (*discriminação*), (3) registering public land (*arrecadação*), (4) prior occupancy identification, (5) legitimate possessor adjudication and regularization through titling, (6) national land cadaster management (SNCR), (7) demarcation and mapping, (8) selling land in tracts up to 3.000 hectares and sale of larger lots subject to congressional approval, (9) smallholder settlement projects, and others (Alston et al. 1999:56; Bunker 1985:110).

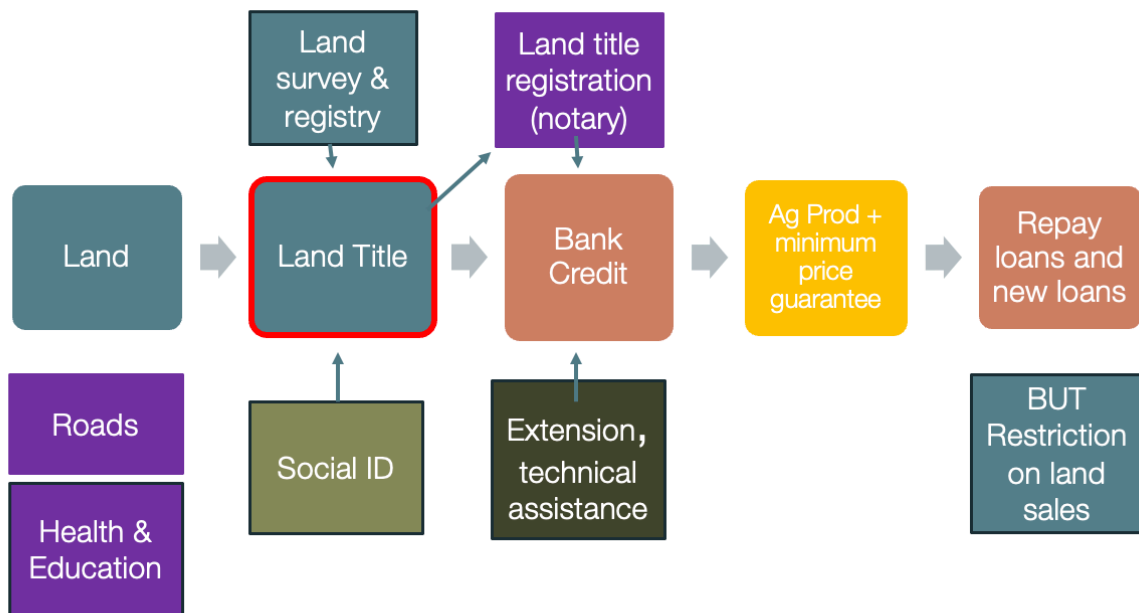
Land titles for rural development

State-led Amazonian colonization applied a capitalist model of rural development centered on individual property rights, bank loans, rural extension, and market-oriented agricultural production⁸⁸—except it contained an anticapitalist clause restricting land sales within smallholder ‘settlements projects.’ The model relies on the interdependence between several modern and functionally specific institutions (Bunker 1982)—see diagram 3.1, below. Incra would provide public land, land surveys, and registration (blue). Incra or other agencies would provide road access, health and education services (purple). Beneficiaries/colonists should provide a series of social identification documents obtained from different civil registries (green). Land surveys and registration and social identification were requirements for Incra to issue land titles. Incra-

⁸⁸ Based on the US county-agent model. Modeled on US extension and credit, present in prior colonization projects, and detailed in the 1964 land statute. Banco do Brasil demanded titled land or capital invested in titled land for mortgage for agricultural loans—with the exception for short-term loans limited to subsistence crops (rice, beans, corn) (only marginally profitable) and only with a temporary Incra title called *licença de ocupação* (later CCU).

issued land titles should then be registered in public notaries (a prebendal office) by both Inkra and land beneficiaries. The land title could be used as a collateral guarantee for a bank loan (red), often requiring approval from a rural extension service. With the loan, colonists/farmers would produce and rely on market sales or other public agencies for purchases (for some time with a minimum price guarantee—yellow). Supposing colonists produced a surplus, they would repay their loans and restart the capitalist agriculture production cycle. Settlement project plots and land titles, however, did come with the anticapitalist clause of forbidding land sales until ten years after the settlement was ‘emancipated.’ A colonist could legally seek Inkra approval to sell their “benfeitorias,” work and goods on the land, not the land itself. Inkra-issued ‘definitive titles’ only became freehold deeds if ten-year restriction clauses were fulfilled, the value of the plot was paid to Inkra, and, finally, it was registered in the Real Estate Registry.

Rural development model, INCRA settlements



Land titles were central to the development model—necessary for obtaining credit, plot investment, and engaging in economically sustainable agriculture—but few were delivered, producing disastrous

consequences. Incra issued land titles to less than half of the smallholders in the high-priority PIC colonization projects (Bunker 1982:581, 1985:163). The development model above was premised on interdependencies between modern, functionally specific institutions. However, each institution demanded bureaucratic procedures, documentation, stamps, signatures, proofs of documents, and public notary recognition—at their own pace and in offices hundreds of kilometers or days of travel away from the new settlements—for which individual colonists had to shoulder the costs (Bunker 1982:578,582, 1985:165). Serious planning errors, construction delays, and diverse funding arrangements for agencies impeded the coordination between Incra and other agencies. Poor road and communications infrastructure often impeded Incra staff from communicating with regional headquarters in Belém or accessing their assigned areas. Costs of inter-agency miscoordination were passed down to colonists. Without coordination between institutions, the cost to fulfill these requirements far outweighed the benefits colonists received (Bunker 1982:578–79). Many colonists were landless peasants hailing from other states and lacked the social identification documents necessary to obtain titles (Bunker 1985:163). The modern institutions meant to equalize opportunities in colonization schemes formed a bureaucratic gauntlet that produced inequality in favor of the better-endowed colonists (Bunker 1985:173–74). A minority obtained titles and long-term credit lines and were able to produce agriculture for sale. Most colonists lacked titles or credit, produced agriculture below their economic reproduction costs, tried to sell their products to faraway markets, and failed (Bunker 1985:175; Hecht and Cockburn 2011:127). Rural development projects remained incomplete from the beginning and failed to title smallholders (Bunker 1982; Cardoso and Müller 1978:147). Of the original 100,000 expected colonists, only eight thousand stayed in PICs (Hecht and Cockburn 2011:124). Most colonists failed, sold their lands, and migrated to cities or ventured further into the frontier (Hochstetler and Keck 2007:146).

Colonists helped to advance the land frontier over forests and boost a clandestine land market. Colonists in Incra settlements were barred from legally selling their land. Even colonists with “definitive titles” would have to wait until the settlement was “emancipated” from Incra. Definitive titles were not freehold deeds legally transferable in the Real Estate Registry. Colonists could transfer use rights to others

after Incra's approval, appraisal of improvements made to the plot (mostly deforestation), and selection of a substitute colonist, who could not be a prior Incra beneficiary. Consequently, failed colonists either abandoned their plots or sold them illegally to better-off neighbors or larger landholders. This led to cycles of land sales and high attrition rates, favoring more capitalized migrants from the south and land concentration. Incra titles, too, though not freehold deeds, were precious documents in a growing illegal land market. Thus, titled colonists also illegally sold their titles.

Land-capital reaction: curtailing smallholder settlement and embedding Incra in the mid-1970s

Societal, political, and institutional pressures shifted the government's agrarian policy in Amazonia. Pressure from large landholders, corporate capital, and political and ideological shifts within the military government interrupted Incra's moment of 'autonomy' and forced its turn away from ambitious smallholder colonization. SUDAM and its capitalist projects competed with Incra settlement for public budget allocated for Amazonian development. SUDAM and the capitalists it benefitted reacted to PIN (the umbrella program for smallholder settlement) taking 30 percent of income tax revenues for fiscal incentives previously controlled by SUDAM for capital investment projects (Bunker 1985:112). SUDAM and the minister of planning defended a corporate investment strategy to develop Amazonia. On the ground, smallholder settlements competed against capitalist projects for prime land close to roads and infrastructure. SUDAM, private interests, and the Ministry of Planning pressured Incra to make land available for private investors and raise size-ceiling restrictions for land sales (Bunker 1985:111; Cardoso and Müller 1978:157). The minister of agriculture resigned over interference in the colonization policy in 1972. Paradoxically, the Ministry of Planning argued that small farmers were environmentally destructive and justified capitalists' appropriation of land and resources (Cardoso and Müller 1978:158; Schmink et al. 2019:381).⁸⁹

⁸⁹ Early analyses from the political left were also critical of the colonization program in favor of the existing squatter peasants. Velho ([1972] 2013:164) suggested a mass settlement policy should be more modest but inclusive of peasant

The regime amplified pro-capital *Operation Amazônia* with the *Poloamazônia* program in 1974 for livestock, agriculture, and mining (Hecht and Cockburn 2011:128-9,304-5). SUDAM began to advocate cattle ranching as the ideal investment and development path for Amazonia and shifted investment projects away from industry to prioritize cattle ranching in 1973 (Cardoso and Müller 1978:158-61,164). Cattle would become Amazonia's 'vocation.' The new 1974 capital benefits package increased tax breaks proportionally to landholding size and initial corporate capital (Costa 2022:4).⁹⁰ Multinational and national corporations in industry and finance (e.g., Volkswagen, Georgia Pacific, Nestlé, Swift, Mitsubishi, Bradesco, Varig, Mappin) opened hundred-thousand-hectare cattle ranches in northeast Mato Grosso, southern Pará, and northern Goiás (Cardoso and Müller 1978:161), clearing equivalent amounts of forest. SUDAM no longer accepted ranching projects smaller than 25,000 hectares to guarantee profit rates in extensive, low-productivity cattle herding (Cardoso and Müller 1978:162). SUDAM effectively subsidized and compensated capitalist enterprises for immobilizing productive capital in undertaking deforestation and farm-opening, thus allied large-capital interests to landholding in Amazonia (Martins 2009:153).⁹¹

Internal and organizational factors incentivized Incra policy revisions away from smallholder colonization. Incra dedicated the bulk of its activities and budget to the ambitious PIC settlements from 1971 to 1974 (Bunker 1985:111), but the frustratingly slow and expensive settling of a few thousand migrants made the initial goal of settling 100,000 migrants unrealistic. By December 1972, Incra had begun selling large land plots (of up to 3000 hectares, the constitutional limit), another of its missions, to private capital in immense areas near Marabá and in Rondônia (Cardoso and Müller 1978:157). As an *autarquia*, Incra's revenue increased with land sales and tax collection, which incentivized large land sales (Bunker 1985:110). In 1974, with the change of government, Incra embraced a new strategy (Cardoso and Müller

squatters: provide road-building aid, credit, minimum prices for produce, agricultural aid, and health and education services, and guarantee land possession.

⁹⁰ Fundo de Financiamento da Amazônia-FINAM, Decreto-lei n.1.376 de 1974.

⁹¹ This policy contradicted the regime's 1964 Land statute, which defines colonization as primarily geared toward family-operated farms and cooperatives: "Colonização, toda a atividade oficial ou particular que se destine a promover o aproveitamento econômico da terra pela sua divisão em **propriedade familiar** ou através de cooperativas."

1978:158) and reduced its original goal of 100,000 settler families to 20,000 (Bunker 1985:112). In 1975, the government instructed Incra to reduce personnel in its colonization program; colonist assistance was left to other agencies, and Incra concentrated on surveying and titling plots—also with long delays (Bunker 1985:112). In 1976, two presidential decrees authorized Incra to title plots of up to 60,000 hectares for large enterprises and 3,000 hectares for medium enterprises (Bunker 1985:113). Incra could sell up to 500,000-hectare plots for private colonization corporations to build roads and parcel and resell plots. Incra approved 25 private colonization projects by 1980 in northern Mato Grosso and southern Pará (Bunker 1985:113; Schmink and Wood 1992). These private colonization projects were much closer to consumer markets in the south and expanded from existing commercial centers than the remote Transamazon was.

Incra focused on public land alienation, leaner smallholder colonization projects, and divestment from PICs despite overall budgetary increases. Incra initiated *Projetos Fundiários* in 1976 to keep up with migration flux (Neves and Lopes 1979:82–83). *Projetos Fundiários* for land regularization and titling would legalize legitimate squatters and sell large tracts of public land in freehold deeds alienable and usable for credit collateral. By the mid-1970s, Incra moved away from the ambitious PICs and toward other settlement types (PAR, PAD, etc.) with leaner programs and fewer expenses and focused on settling Southern smallholders and medium-sized farmers in Rondônia. The National Security Council (CSN) in 1976 defended that Incra recognize “property titles *irregularly transcribed* to real estate registries,” thus incentivizing land swindling *grileiros* (Almeida 1991:99).

Incra also began to decentralize and include local elites in land policy. Incra created Regional Superintendencies at the state level—at least fifteen of them by 1976, including Pará, Amazonas, Rondônia, Mato Grosso, and Goiás. In 1979, Incra began to appoint local elites as directors of *Projetos Fundiários* (as opposed to career employees), who re-entrenched class and clientelist interests in land allocation (Bunker 1985:230). Incra staff often aligned with capitalist land claimants rather than with poorer squatters in disputed land regularization and titling procedures (due to cultural biases), and used accusations of political subversion to disincentivize peasant protest or resistance to land expulsions (Schmink 1982). Incra

employees became influential political figures and patrons in themselves, winning mayoral elections in several municipalities (Hoefle 2000).

An agrarian big bang: migration, land claims, and conflicts

The military regime's roadbuilding, official colonization, public advertisement of free land, and financial incentives for corporate ranches produced a 'Big Bang' of migration, land appropriation, conflicts, and deforestation in Amazonia (Costa 2022:3). Road openings and promised land attracted more than a million migrant families to the Amazon in the 1970s and 1980s.⁹² Brazil's highly unequal land tenure structure, rural poverty, and landlessness propelled emigration from other regions, while cheaper or free land in Amazonia attracted migration. In the 1960s, devastating frosts in southern Brazil coffee plantations and rising global prices for vegetable oils transitioned production to soybeans mechanized production and displaced sharecroppers and rural workers. In the 1970s, modernized agriculture based on heavy machinery, chemical fertilizers, biocides, and high-yield seeds outcompeted many small farmers in Brazil's Center-South, undid tenant-farming and share-cropping arrangements, reduced use of seasonal workers (*bóia-frias*), and created rural-to-urban and Center-South to Amazonia migration. More than 2.5 million rural workers left the state of Paraná alone in the 1970s (Browder et al. 2008:1474). Much of the migrants coming from the east into southern Pará met immense corporate ranches enclosing the frontier.

Land claimants enclosed 65 million hectares of public land between 1970 and 1985—twice the German territory and 80 percent of all land privatized in Amazonian history, according to agricultural census data (Costa 2022:3). Much of this happened in highly unequal, informal, or illicit ways. Of those 65 million hectares enclosed, 62 percent were in landholdings larger than 1,000 hectares. Public lands were privatized via mortgage instruments and title guarantees to outside investors. Land value increased by 500

⁹² The Transamazon road fully opened in 1974, Cuiabá-Santarém in 1976, and BR-364 connected Cuiabá to Porto Velho in 1960 but was changed in 1966 and paved in 1983. Even before full opening, squatter peasants and land swindlers advanced into frontiers that would soon be served by roads.

percent in two years in the early 1970s and, in some areas, by 10,000 percent (Almeida 1991:97). By 1985, SUDAM-corporate projects had appropriated 12 million hectares with fiscal incentives, imbricating Fortune 500 companies and traditional Brazilian *latifundista* families in Amazonian real estate and land policy (Costa 2022:4). Real estate companies set up to facilitate SUDAM projects reported yearly liquid profits of 44 percent and millions of dollars (Costa 2022:5). Land swindlers in cahoots with local real estate registry offices boosted a fraudulent *land title* market, for which possession would be enforced on the ground. Official colonization policies favored migrants over the local informal occupants but unintendedly increased the ratio of squatting *posseiros* to formal property owners nationally (Martins 1984:69). Informal squatting greatly outnumbered formal proprietorship in Amazonia, making up 54 percent of landholdings in 1975 and 34 percent in 1985 (Alston et al. 1999:44–45). Squatters rich and poor (land swindlers and peasants) often moved quicker, ahead of settlement policies, and produced lawlessness. Incra’s policies advanced before and over the jurisdictions of the lesser-resourced Indigenous National Foundation (FUNAI) and the Forestry Agency (IBDF). They overrode Forestry code limitations (of 50% deforestation until 1992, later 80%) and prior occupation by Indigenous peoples. Societal disruptions overwhelmed state-led colonization, and Incra’s policy reversal meant migrants would remain landless. Nonetheless, many corporate ranches remained uncultivated and unused, inviting peasant occupation and conflicts, and later forcing Incra to step in and expropriate these estates (Alston et al. 1999:43).

Amazonia’s *Big Bang* land frontier generated enormous social conflicts between corporate ranchers, colonists, traditional peasants, and Indigenous peoples. Colonization advanced over territory previously occupied by Indigenous people and traditional peasants (Almeida 1991:92). Roadbuilding reached Indigenous peoples in drylands far from navigable rivers that had suffered centuries of colonization. Thirty-four ‘new’ Indigenous peoples or tribes were ‘contacted’ from 1965 to 1995, with 26 new contacts between 1970 and 1975 (Martins 2009:143). Some of them were contacted for the first time by road construction crews, like the Kreenakarore in the BR-163 (Martins 2009:142–43). Peasants spearheaded the land frontier in the 1970s, but by the 1980s, large corporate firms directly contacted Indigenous people (Martins 2009:154). New contacts induced genocide, sometimes actively by the state. Indigenous people in

Amazonia suffered at least 92 organized attacks between 1968 and 1987, mainly by large landholders and hired gunmen (Martins 2009:132–33). Indigenous people attacked large farms and residential settlements at least 165 times, often using bows and arrows (Martins 2009:132–33). In 1984, the Kayapós held a 42-day battle against farmers and the military government, successfully closing the BR-080 road that cut through their territory (Martins 2009:133). Indigenous people like the Xavante and Bororo imagined they were civilizing the incoming whites (Martins 2009:145). Indigenous people sometimes co-opted whites for their inter-Indigenous warfare strategies (Martins 2009:148). Local populations like Indigenous people and traditional peasants usually lost land conflicts, but struggles between squatters and swindlers were less predictable (Millikan 1992:52).

Land swindlers and corporate ranchers employed gunmen and state police forces to expel squatter peasant *posseiros*. More than six hundred peasants were assassinated in conflicts in Amazonia in 1964-1985 (Martins 2009:133). Peasant families habituated to moving along the frontier and expecting to move once or twice in their lifetimes until the 1950s could hardly stay for three years in the same plot without being expelled by capitalist farmers or state-led colonies (Martins 2009:153,174). Repetitive dispossession along the frontier marked squatter peasants' life stories, habitus, and political outlook (Martins 1984:68).

For smallholders, conflicts and lack of definitive titles produced high tenure insecurity, little credit access, and little investment in plots. Colonist's economic land-use calculations favored extensive livestock and new clearings. Annual crops (maize, rice, beans) were labor-intensive; perennial tree crops (coffee, cacao, and rubber) required considerable capital and labor inputs, often agricultural credit, nonhousehold labor, and expensive fertilizers (Millikan 1992:55). Thus, cattle provided superior returns from little and manageable household input. Cattle pasture in dryland Amazonia tends to degrade soils, therefore, new forest clearing once productivity levels decline (Hecht 1985). Official policy exacerbated land rushes and speculative deforestation by recognizing forest clearing as a means of claiming land under 'effective use,' while deeming forested areas as unproductive. Smallholders could hardly stake out a living from agriculture and engaged in extra-agricultural wages—in deforestation labor for ranchers, timber exploration and

sawmills, wildcat gold prospecting, illicit land markets, and extensive cattle ranching advancing over forested frontiers.

New agrarian questions: militarization, Amazonian civil society, and socioenvironmentalism in the 1980s

The military bypassed Incra's civilian bureaucracy to take direct control of land policy to regularize land and appease a diffuse agrarian war (Martins 1984). The military's *Grupo Executivo de Terras do Araguaia-Tocantins* (GETAT) sought insulation from the competing interests affecting Incra and its policy focus on agricultural production in 1975-1980 (Alston et al. 1999:44). GETAT titled more than five million hectares of land in highly unequal ways in southern Pará and Tocantins in 1980-1988 (Hecht and Cockburn 2011:132). The regime's *Grandes Projetos*, an offshoot of *Poloamazônia*, included pharaonic hydroelectric dams (Tucuruí and Balbina) and mines (Program Grande Carajás), which generated mass migrations and temporary jobs but provided little long-term employment and heightened land speculation. The government resorted to World Bank funding to pave roads and colonize Rondônia in 1981-1983, the *Polonoroeste* project for orderly smallholder colonization by Southern Brazilians, supportive of 'sustainable farming systems' of perennial tree crops (coffee, cacao, rubber), though it propelled massive conflicts and deforestation that brought international attention and the World Bank's environmental conditionalities on loans (Millikan 1992).

Peasant political organizations emerged from land conflicts and Catholic Church support. Local clergy had mediated conflicts; starting in 1975, the Land Pastoral Commission (CPT) attempted broader conflict mediation and remediation in the countryside. Catholic parishes helped to organize rural families into 'communities' to represent place-based social and political organizations (Brondizio et al. 2021:69–70). Rural Worker's Unions (STRs) sprang up slowly in the late 1960s and 70s, incentivized by the government as social service offices, taking longer, particularly in Amazonas and Acre (Almeida 1991:95). STRs, however, were politicized in many areas. Peasants' repetitive expulsions, conflicts, contact with

power structures, and organized occupations of unused corporate ranches facilitated broader perceptions of peasant causes as political. In 1979, the National Confederation of Agricultural Workers (CONTAG) and the National Congress of Rural Workers accused government policy and land swindlers of causing conflicts and, in contradistinction, embraced environmental visions of smallholder agroforestry (Almeida 1991:101). CONTAG estimated two hundred thousand peasants had been in land conflicts in 1980 and demanded the extinction of the military's GETAT and GEBAM (Almeida 1991:102–3). CONTAG's Fourth National Congress in 1985 mobilized thousands of peasants. Later that year, Amazonian rubber tappers, with international aid, founded the *Conselho Nacional dos Seringueiros* (CNS) and began to push for alternative development policies that catered to Amazonian peasant needs—uniting claims for social justice and environmental sustainability for new land use policies (Hecht and Cockburn 2011:207). Amazonian peasants in alliance with Indigenous peoples, began to mobilize as ‘peoples of the forest’ (Almeida 1991:106) and demanded policy changes that became known as ‘socioenvironmentalism.’ The Landless Workers Movement emerged in 1984 to, absent land reform, occupy areas to force Incra and the government to expropriate owners and redistribute land. In reaction, that same year, landowners created the *União Democrática Ruralista* (UDR) to defend landed property in government and by armed militias.

The 1985 National Plan for Agrarian Reform (IPNRA) was the new democratic-transition government's response to peasant mobilizations. IPNRA's initial goal was to expropriate 100 million hectares from *latifundia* nationally and redistribute them to 1.5 million families; in the Amazon, ten million hectares would be redistributed to 140 thousand people. Incra substituted colonization for a redistributive focus. However, the military National Security Council, landholder interests in Congress, and the Executive government minimized redistribution in practice (Almeida 1991; Alston et al. 1999:49; Silva 1987). Of the new “land reform settlement projects” created in 1985–88, one-third of the area and capacity to host families were created over public land in Amazonia (SIPRA 2022). The *Projeto de Assentamento* modality (PA) became the predominant type of settlement project in 1985 (see graphs below). Many of these settlements were created in remote areas with great logistical difficulties, distant from consumer centers, and intermittent isolation for beneficiaries—producing smallholder precarity, land abandonment, violence, and

land concentration. This simulated the “settlement” of poor peasants but ultimately allowed for disorderly and illegal land appropriation (Schwade 2020:289). Less than 5.000 families were resettled in Amazonia. In turn, fear of expropriation made landowners deforest more to prove effective land use (Hecht and Cockburn 2011:135).

Incra underwent various political attacks and support in the 1980s, eventually paving a tense mutual dependency with peasant organizations. The military bypassed Incra, suspecting its inefficiencies and contradictory interests, and took its attributions over large regions with GETAT and GEBAM in 1980. Incra employees suspected of political and leftwing activism were persecuted and fired (Interview JP 2022). Then, land reform activists and social movements sidelined Incra staff from the redistributive land reform plan formulation in 1985 (Ferreira 1994; Silva 1987). The government officially began dismantling Incra in 1984, before the democratic transition; the Sarney government officially dismantled Incra in 1987 as part of a maneuver to shape the 1988 constitution in favor of landowners, making expropriation more difficult (Alston et al. 1999:51–52; Wolford 2016b:29). Incra employees reacted to its dismantling with protests. Peasant and agricultural workers' organizations—CONTAG, the Catholic Church, and the Landless Workers Movement (MST)—joined protests in support of Incra and won its reinstatement in 1989 (Wolford 2016b:30). After the new 1988 Constitution and the change in the civil service regime, all civil servants began to be hired by a public entrance exam and have job tenure security (Maia 2021:677), while pre-1988 employees had internal exams (Penna 2015b:28). Post-1989, peasant organizations pressed Incra to redistribute lands in different regions rather than colonize public lands in Amazonia (Wolford 2016b:30). CONTAG, MST, and CPT began to occupy areas and, through conflict, attracted government attention and Incra's policies.

Incra was permeable to landholding elites and politicians and was riven by nonideological factional politics but began to open its offices to peasants in 1985, according to Moacir Palmeira, social anthropologist and appointed Incra director in 1985. Incra staff had a complex politics of nonideological factions—interpersonal alliances between employees that disregarded ideology or different conceptions of what agrarian reform should be (Palmeira 1994:53–54). Elites had easy and ongoing access to Incra offices

and procedures—lawyers and representatives of large farmers from the south and politicians with favors with employees cruised corridors and entered offices (Palmeira 1994:53–54). Incra personnel set up private practices as lobbyists and fixers (Palmeira 1994:53). Palmeira argues that by his administration opening office access to rural workers in 1985, Incra staff became scared, and only then could impersonal access to the bureaucracy be put into practice (Palmeira 1994:55). Additionally, by appointing outside staff to leadership positions, reformers bypassed internal factional politics (Palmeira 1994:55).

Amazonian peasants incorporated environmental concerns in proposals for new land use regimes that unified social justice and environmental causes. A system of environmental conservation units already existed in Amazonia, thanks to a small cadre of government scientists who convinced generals of the importance of nature set-asides for national patrimony, pharmaceutical research, and biotechnology (Freitas 2020; Garfield 2013:218). However, few areas had been set aside from colonization, and they implied that humans could not enter those areas. Deforestation and land conflicts in the 1970s-80s generated a political backlash and the creation of land regimes alternative to individual property: nature conservation set-asides, Indigenous lands, and communal types of land settlements meant to ‘tame’ land frontiers.

Amazonian rubber tappers and riverine peasants organized in CNS struggled to create “extractive reserves,” communally owned lands for forest-extractive activities, empowerment, and social justice—a socioenvironmental policy innovation. These would be communal settlements of public ownership and community usufruct rights, given as concessions. CNS worked with Incra to create the *Projetos de Assentamento Extrativistas* (PAE) in 1987.⁹³ CNS pressured the Environmental Institute (IBAMA) to create the *Reserva Extrativista* (RESEX) conservation unit type with similar community usufruct rights in 1989, after the assassination of Chico Mendes. Widespread creation of PAEs and RESEXs, however, would have to wait until 2003 (see below). The federal government created the *Nossa Natureza* program in 1989, a national response to international and domestic environmental pressure after Chico Mendes’ assassination. For the first time, a regional plan for Amazonia recognized ‘forest dwellers’ and *garimpeiros* and proposed

⁹³ Portaria Incra n.627 de 30 de julho de 1987. Changed in 1996 by Portaria n.268, de 23 de outubro de 1996.

communal land titles (as opposed to individual, private titles), agroecological zoning, and a larger amount of conservation units. Nonetheless, large dams and roads continued to be built under state sponsorship.

Democratization and neoliberalism: environmentalism and movement-led land reform, in 1990s

Democratization and social movements' demand for land reform, territorial rights, and environmental conservation were constitutionally enshrined in 1988. The end of the Cold War, US neoliberal hegemony, and fiscal crisis undermined the Brazilian state's ability to continue large-scale infrastructural projects, financially compensated land reform, or fulfill the promises of 'socioenvironmentalism' as envisioned by leaders like Chico Mendes. Conservation and Indigenous land demarcation expanded in the 1990s while foreign aid helped to create environmental 'sacred groves' and stalled finance to erstwhile developmentalist projects like hydroelectric dams, paved roads, colonization projects, and industry (Oliveira and Hecht 2016). Agribusiness expanded into the Amazon through state-developed agricultural technologies like adapted soybeans (by EMBRAPA) and road infrastructure but created a major political-economic force that promoted neoliberal economic policy.

Environmental concerns gained wider expression in the 1990s, with a shift to environmentalist and sustainable development language. The international and national outcry over land conflicts, violence, displacement, fraud, and corruption associated with deforestation linked to the construction of the Transamazon and the BR-364 (Cuiaba-Porto Velho) roads created enormous political problems within Brazil and for its international reputation, including the rise of environmental conditionality on World Bank international loans and widespread mobilization of civil society. International lenders withholding financing for roads in forests, new environmental licensing procedures, and local political volatility and violence hampered new road construction in Amazonia in the 1990s. BR-319 road, connecting Manaus to Rondônia and paved in the 1970s, was abandoned and unsurpassable in the 1990s. International aid for Brazilian

environmental policy—the Pilot Program to Conserve the Brazilian Rainforest (PPG7)⁹⁴—helped to create protected areas, demarcate Indigenous lands, monitor deforestation, support environmental and Indigenous organizations, and help local sustainable development initiatives (Brondizio et al. 2021:69).

Incra suffered capacity setbacks from neoliberal elite opposition but became adversely embedded by peasant movements in the 1990s—forming a tense, long-lasting ‘partnership’ relation (Rolemberg 2022:5)—and driven by urgent land conflicts. Incra completed its decentralization with a “regional superintendence” for every state.⁹⁵ Incra’s staff was halved in 1991 as part of President Collor’s effort to reduce civil servants (Alston et al. 1999:60). Courts judicially blocked Incra from expropriating farms between 1990 and 1993, drastically reducing the pace of land reform settlement until 1994. At Incra’s faster settlement pace of the 1980s, it would take 100 years to settle Brazil’s 2.5 million landless families (Alston et al. 1999:52). Older land reform activists thought mass land reform had become historically impossible in Brazil. However, the landless and peasant movements exerted political pressure on the ground to hasten land reform by occupying properties. The MST began systematic occupations of farms and unused plots, sometimes using violent conflicts as tactics to draw public attention and force government action for land redistribution. Incra would then expropriate occupied areas and create land reform settlements. Under political pressure from the landless movements, the government held a national entrance exam for Incra to hire more staff in 1994. MST helped to save Incra from extinction again in 1998 when reelected President Cardoso sketched a “new rural world” post-Incra institutional framework for land reform based on cooperatives, credit, market mechanisms, and decentralized services (Cardoso 1998:254–60; Wolford

⁹⁴ PPG7 combined the agenda and resources from the G7 (seven wealthiest) countries, the Brazilian government, the World Bank, and various INGOs. Launched in the 1990 G7 meeting in Houston, but officially inaugurated during the United Nations Environment and Development Conference, Eco-92, in Rio de Janeiro, 1992. PPG7 helped to demarcate 43 million hectares of Indigenous land, half of all indigenous areas in the Amazon (Menezes 2020:3). At the conclusion of PPG7 in September 2009, more than 100 million hectares of protected areas in the Amazon and Atlantic forests: 2.1 million hectares in extractive reserves, 44 million in demarcated indigenous lands, 72 million hectares of ecological corridors, sustainable forest management (including lumbering), support for Amazon-adapted productive associations and sustainable fisheries with agreements between fishermen and companies (Menezes 2020:4). PPG7 benefitted hundreds or thousands of communities with local projects until 2012 (Brondizio et al. 2021:69).

⁹⁵ Tocantins received its SR in 1991, after becoming a separate state in 1988. Other, sub-state SRs were later created.

2016a:82,91). Following squatter organizations' lead to expropriate properties and designate settlement projects became the *de facto* land reform policy (Alston et al. 1999:53). Landless movement occupations successfully won hundreds of Incra settlements between 1995-2002, mostly of PA type, with a significant number and most area in Amazonia (see graphs 3.1 and 3.2). Throughout the 1990s and 2000s, Incra's performance was judged based on the number of settlements and families initially settled, not the quality of settlement, land titles issued, or whether families stayed on the land (Alston et al. 1999:59). The Eldorado dos Carajás massacre of MST cadres near Marabá in 1996 (by Pará state policemen) prompted Incra to open a sub-state Regional Superintendency in southern Pará (SR-27).

Uneasy coexistences: socioenvironmentalism and agrarian extractivism in the 2000s

The federal government renewed economic growth plans for the Amazon with infrastructural projects, soy monoculture, and mining, but also with 'sustainable development' counterparts in environmental conservation, land reform, and land regularization policy—a socioenvironmental frontier. President Cardoso's *Avança Brasil* plan included paving the BR-163 road (connecting Cuiabá to Santarém), soy ports and waterways, plus interoceanic roads, which President Lula's Growth Acceleration Plan (PAC) amplified. New massive mines were developed in Juruti and other parts of Pará. Infrastructural projects connected the high soy-yielding region of the Cerrado to Amazonian rivers for exports, and facilitated soy plantations in Amazonia. Soy plantations—high-tech high-input “neo natures” that survive by drenching biota and water systems with pesticides. Very lucrative returns to soy drove land use conversion and deforestation in southern Amazonia and quickly spread to western Pará thanks to the Cargill soy port installed in Santarém and plans to pave BR-163 (Oliveira and Hecht 2016; Sauer 2018). Speculative land grabbing and land swindlers followed the prospects of increasing land values associated with lucrative land uses.

Socioenvironmentalism, on the other hand, influenced significant policy implementation. President Cardoso and Lula, especially, created unprecedented amounts of environmental conservation areas, demarcated Indigenous lands, and created mixed-use socioenvironmental settlement projects—extractive

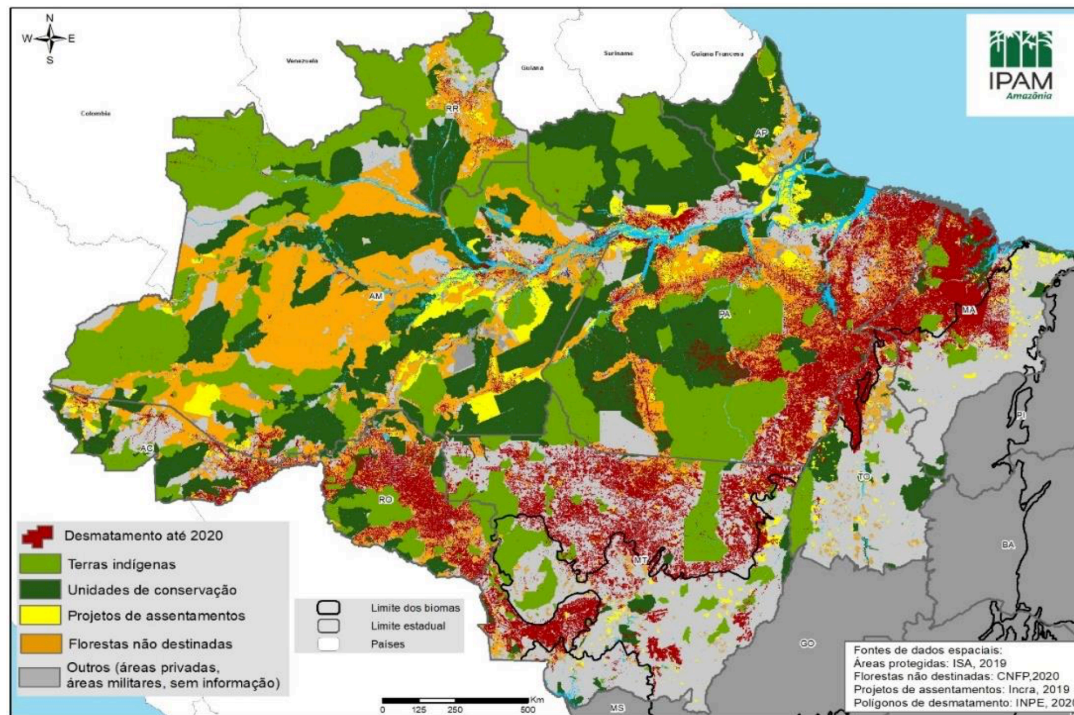
reserves and sustainable development settlements.⁹⁶ The PPG7 program concurred with these results, but the development outlook had turned away from the simple expansion of agriculture to prohibiting deforestation by enforcing the Forest Code limitations (stipulating a 20% max deforestation per property in most of the Amazon, and seizing large areas for exclusive conservation—a form of ‘green grab’ (Schmink et al. 2019:384). Socioenvironmentalism supported ‘green economies’ of sustainably produced forest commodities in agroforestry systems (including coffee, rubber, nuts, cacao, açaí) that would provide environmental services and social equity (Brondizio et al. 2021; Costa et al. 2021). Hundreds of pilot projects embarked on agroforestry and fishery systems and produced a few pockets of success. Neoliberal conservation alternatives also emerged from Amazonian organizations as climate change and major endowments to environmental groups made large-scale acquisitions more feasible. Carbon cap and trade, environmental services payments, and REDD (Reduced Emissions from Deforestation and Degradation) were mechanisms developed for adding economic value to a standing forest. The ability of a neoliberal conservation economy to provide profits in Amazonia has depended on a slowly built globalized constituency, contingent multilateral finance, and an ability to monitor remote and tenure-secure areas. These socioenvironmental initiatives, green economies, and neoliberal conservation projects produced complex coalitions between grassroots, NGOs, and other forces. Timber and livestock swarmed in the interstices of these vanguard economies.

A socioenvironmental ‘shield’ faced the agrarian extractive frontier. By the end of the Workers Party government in 2016, about 48% of the Brazilian Amazon was under a protected area (Kauano et al. 2020).⁹⁷ In between the agrarian extractive frontier and the socioenvironmental shield lay many Incra land

⁹⁶ The “Projeto de Desenvolvimento Sustentável” PDS, was Incra’s SR-01 in Pará’s innovation to bring land reform policy benefits for Amazonian peasants that used primary forest areas—created by Portaria n.88, 1999 do Ministério Extraordinário de Assuntos Fundiários.

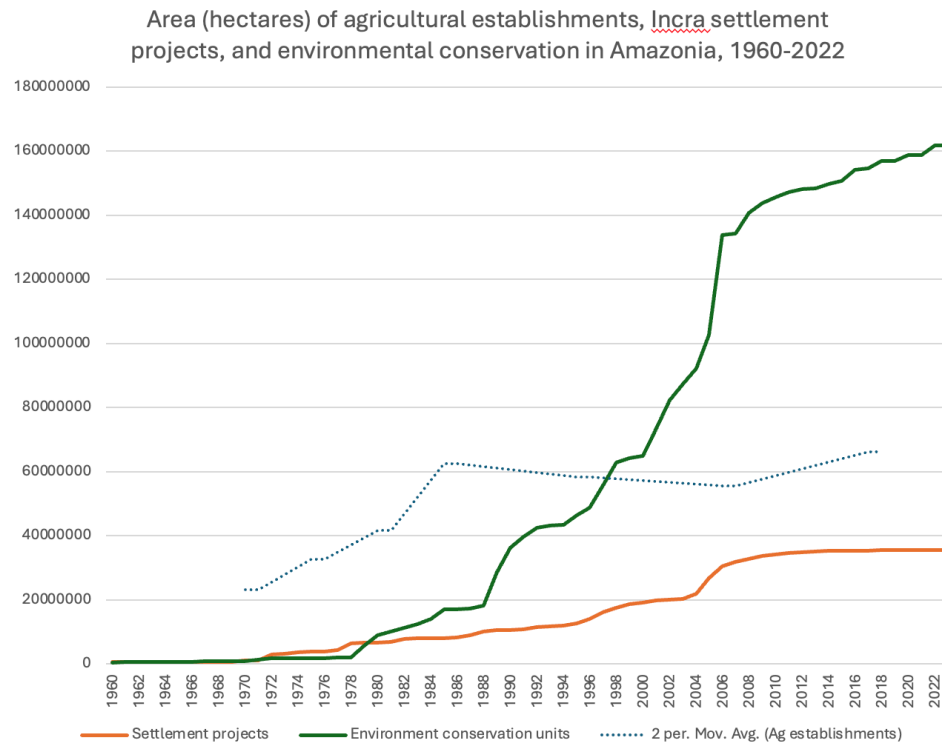
⁹⁷ By 2004, private land covered 24% of Legal Amazonia region, protected areas and Indigenous territories 29%, and another 47% was federal land, much of it unassigned (but partially occupied by squatters and land speculators); deforestation had taken up 19% of original forest area, 680,000 km², of which 25% was abandoned or underused; cattle pasture occupied ~80% of deforested areas, and predominantly in large and medium landholdings (West and Fearnside 2021:2). Soy cultivation increased rapidly. Clandestine roads by illegal loggers into forests and clearing to claim land and sell real estate. Most deforestation happens within 10km of roads.

reform “*projetos de assentamento*” (See map and graph below). These constituted a land use field of five basic types of occupants or constituents in conflict and complex coalitions: large landholders, smallholders and peasants, Indigenous people, environmentalists, and traditional communities with collective claims to land.⁹⁸ All of these groups progressed institutionally and territorially in the 2000s.



Source: IPAM 2021

⁹⁸ <https://g1.globo.com/ma/maranhao/noticia/2022/11/13/pesquisador-e-liderancas-de-comunidades-tradicionais-do-maranhao-analisam-tema-da-redacao-do-enem-2022-visibilidade-aos-povos-que-ficam-na-invisibilidade.ghtml>



Land reform without titles

The Second National Plan for Land Reform (IIPNRA), adopted in 2003, was the newly elected Lula government’s response to electoral support and pressure from social movements for land reform. Landed elites (agribusiness and the rural caucus) within the broad coalition backing the Workers’ Party government derailed structural land reform (with expropriation and redistribution) (Sauer 2019). Despite MST admonishments against settlements in Amazonia, Incra created hundreds of ‘land reform settlement projects’ in Amazonia in 2006-2007 (see graphs above and below). Nonetheless, many settlements were of communal-type property (PAE and PDS). Lula’s government included traditional communities like *quilombolas* and riverine peasants within Incra’s mission.⁹⁹

⁹⁹ “There was no mention of quilombolas and ribeirinhos here [in Incra western Pará] before Lula” (Interview Silvio 01/Oct/2018).

The Workers Party sought to increase Incra's capacity and direct it politically. Workers' Party cadres and land reform activists occupied Incra leadership positions and as regional superintendents. The government created a new Incra Regional Superintendence in Western Pará (SR-30) in 2005 after the global repercussions of the killing of Sister Dorothy Stang, who defended smallholders expelled by land swindlers. The Workers' Party government sought to re-equip Incra to carry land reform, hiring two thousand new civil servants through national entrance exams in 2005 and 2006 to replace retiring Incra staff (Penna 2015b:28; Wolford 2016b:32). Incra also hired agronomy engineers to undertake technically complex tasks in-house. By 2010, half of the recruits from 2005 and 2006 had left Incra for other jobs (Wolford 2016b:37). Another exam was held in 2010 to fill out 550 job posts (Penna 2015b:28).

Incra barely issued land titles, despite large settlement project increase. IIPNRA and the government strengthened "family agriculture"¹⁰⁰ policies with subsidies, cheap credit, technical training, and government purchase schemes. IIPNRA also aimed to title half a million smallholders, especially in western Pará by 2007 (Brasil 2005:23–24). However, titling results were dismal. Workers' Party's political leadership in Incra commanded land reform settlement creation, registering families as beneficiaries, and distributing supportive policies like credit and housing, but they gave no priority and, for some time, intentionally withheld titles to land. The Incra president in 2008 affirmed they would not distribute definitive titles in land reform settlements to prevent privatization and land reconcentration, and ideologically favored temporary usufruct concessions (GIZ 2009). As titling was part of the rural development program, some titles were issued throughout the period. However, most families in settlement projects remained without titles.

Federal and state elites, politicians, and businessmen strongly opposed limitations to the agrarian extractive land frontier and demanded land titling (Capobianco 2021:19,62). Amazonian state governors met with ministers in 2008 to ask for Incra's extinction after realizing that it would take Incra 400 years to regularize land possession and title eligible lands at the current pace. Governors opposed conservation units

¹⁰⁰ A category meant to include smallholders, peasants, landless workers, traditional communities, and Indigenous people.

and Indigenous lands. Minister Mangabeira Unger suggested extinguishing Incra, once again. A political compromise was reached with Unger's Terra Legal program (PTLA), a temporary program to regularize private landholdings in public land. Terra Legal in 2009 would regularize land possessions occupied until 2004 on public lands that had not yet been gazetted¹⁰¹ for 'settlement projects' or conservation units up to 400ha free of charge and 401-1500ha for a cost. Terra Legal mimicked Incra's administrative structure with parallel but temporary offices, without career bureaucrats, and borrowed Incra personnel for years at a time, to Incra's operational loss. Incra ceded 104 fonctionnaires and 61 vehicles from its Regional Superintendencies (SRs) to PTLA on January 2010 (Pereira 2017:10).¹⁰² Incra fonctionnaires' union heavily criticized PTLA as an attack against agrarian reform—substituting redistribution for mere land regularization.¹⁰³

The agrarian-extractive forces began to crumble the precarious 'green détente' of socioenvironmentalism. New economic incentives and political hegemonies within the government advanced agrarian extractivism and deforestation from 2014 onwards. Soybean expansion and commodity prices, together with new infrastructural projects (mega dams, mines, and roads) and growing ruralista caucus dominance, made new areas available for land frontiers. Soybean planters, cattle ranchers, and timber merchants continued to find ways to circumvent environmental regulations and territorial restrictions (Carvalho et al. 2019). Agribusiness interests financed politicians who undercut restrictions to cattle ranching in the region (de Area Leão Pereira et al. 2020). Landed elites and the military grew resentful of the Workers' Party's support for Indigenous land demarcation (Castro 2021; Pompeia 2021). On the other hand, sustainable development alternatives to predatory activities remained unforthcoming (West and Fearnside 2021:10). Many smallholders and peasants were swayed by "the precarious nature of the current green détente, given persistent obstacles to land reform, the political-economic strength of agribusiness, the

¹⁰¹ Undesignated public lands (*glebas federais não destinadas*).

¹⁰² Portaria No 16, de 13 de janeiro de 2010.

¹⁰³ Confederação Nacional das Associações dos Servidores do INCRA "Mais um atentado à reforma agrária." Disponível no endereço eletrônico da Confederação Nacional das Associações dos Servidores do Incra: <http://sindsepdf.com.br/upload/arquivos/0364104001265050694.pdf>

limited impact of outreach programs, and growing resentment against heavy-handed command-and-control governance measures” (Schmink et al. 2019:381). Many sustainable income projects remained in pilot phases, not widely available, or hampered by the lack of state capacity and investment.

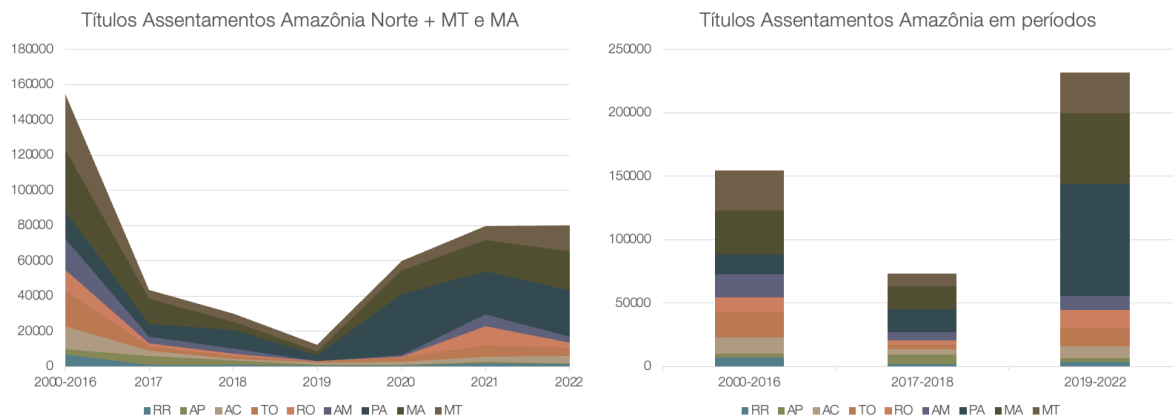
The government’s harsh fiscal austerity in 2015-2022 weakened the feeble institutional capacity in Amazonia and undercut public sector jobs, especially relevant in predominantly rural municipalities. As a result, people on the frontiers began to manifest their frustration and desire to partake in booming illicit economies of timber, gold, cattle, and land. The 2016 impeachment ousting the Workers’ Party from government and drastic policy changes boomed illicit economies again, and even more so with Bolsonaro in 2019-2022 when Amazonia saw deforestation rates rise dramatically.

Neoliberalism and the hard-right: Land Titles, nothing else, 2017-2022

The federal government, under right-wing president Temer, changed national policy to incentivize land titling in 2017. Incra prioritized land titling within settlement projects to the detriment of most other land reform policies (such as settlement creation, settling families, providing housing, credit, technical assistance, etc.). The 2017 policy changes facilitated titling and full alienation of lands within Incra land reform settlement projects.¹⁰⁴ To incentivize titling target fulfillment, Incra created a “titlemeter” competition between regional superintendencies that rewarded title-issuing champions with bureaucratic fanfare and a laptop computer for the office. Incra’s budget was earmarked for titling and drastically reduced, making any other policy nearly impossible.

¹⁰⁴ LEI Nº 13.465, DE 11 DE JULHO DE 2017. Henceforth, Incra could emancipate land reform projects whether having implemented ‘structuring policies’ or not fifteen years after provisional land titles were issued, and plots within projects could be sold ten years after its first temporary title (not definitive, as before) was issued. Effectively, this would allow for Incra settlements to enter the land market and undermine redistributive goals. The law also increased the amount of land Terra Legal could title (2.500 hectares) to a single beneficiary and deregulated procedures.

In 2019, Bolsonaro’s extreme-rightwing government made titling an exclusive priority, a matter of ‘liberty’ and ‘safety’ for rural populations, to the detriment of other land reform policies.¹⁰⁵ Unlike environmental and Indigenous agencies, Incra would serve Bolsonaro’s ideological orientation of land colonization and privatization, much like pre-1985 Incra, under military and agribusiness leadership. Bolsonaro extinguished the *Terra Legal* program and created the *Titula Brasil* program instead. PTLA’s staff partially rejoined Incra. Titula Brasil enabled partnerships between crumbling Incra offices and municipal prefectures to decentralize tasks and speed land titling, though these partnerships barely showed results by the end of 2022. Under Bolsonaro, Incra issued a record number of titles within settlement projects—See graphs below for Amazonia.



Rural development in Incra settlement projects: sustainable or sputtered?

The Brazilian government consistently targeted Amazonia for colonization and land reform policies that spawned complex socioeconomic problems and solutions. Rather than redistribute land in other regions, despite land reform activism, state policies have prioritized settling people over public land, often in remote

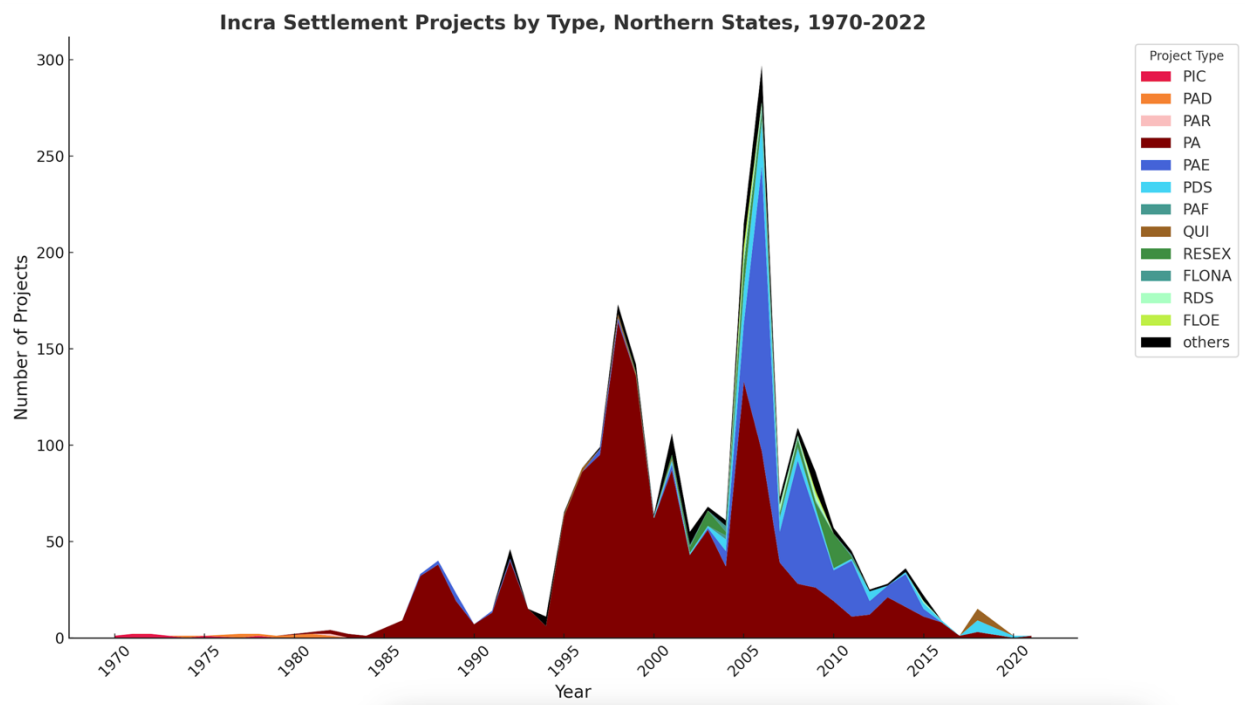
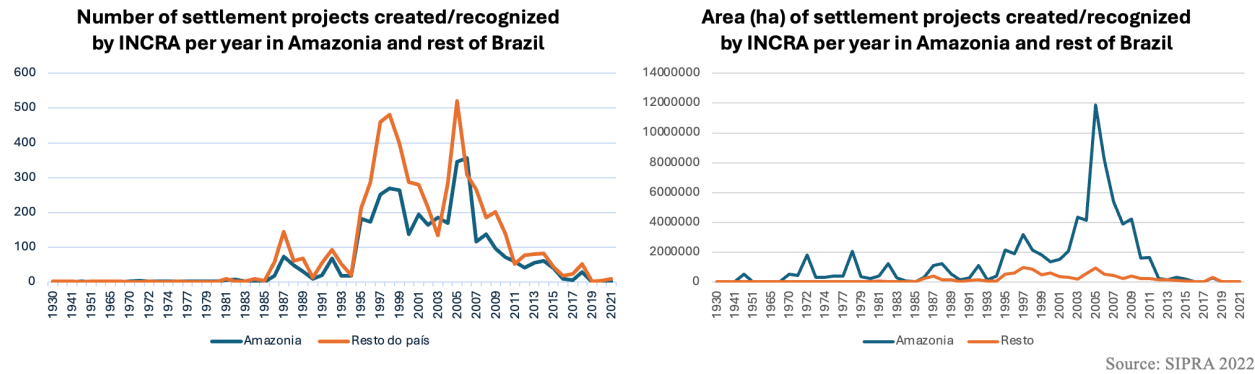
¹⁰⁵ Other policies would rely on the murky “emendas de relator” political pork-barrel at the disposal of congress members – check CNASI 2022: <https://www.cnasi.org.br/index.php/noticias/item/1487-incra-suspende-atividades-no-governo-bolsonaro-por-falta-de-verba>

parts of Amazonia. Of Brazil's nine thousand "land reform settlement projects" and one million settled families between 1930 and 2022, Amazonia hosts 40% of these settlements, 87% of their area, and two-thirds of benefitted families (SIPRA 2022).¹⁰⁶ Within Amazonia, 80% of Incra settlement area was created over public land;¹⁰⁷ only 16% was expropriated from private parties (SIPRA 2022). Colonization of public land prevailed over redistributive land reform—for which analysts denounce the use of Amazonia as an 'escape valve' for rural problems elsewhere (Cardoso and Müller 1978; Ianni 1979; Martins 1984; Torres 2016). Nonetheless, latifundia, land speculation, ranching, and soya plantations have competed with and displaced smallholder peasants further into the frontiers. "Land reform" settlement creation notwithstanding, land inequality in Amazonia is similar to Brazil's extremely high inequality as measured in land Gini coefficients—perhaps higher (Costa 2022:1) or lower (Hoffmann and Jesus 2020:30). Compared to already unequal rural Brazil, smallholders in "family agriculture" in Amazonia occupy an even smaller share of the cultivated area, employ a larger share of the agricultural workforce, produce less value, and receive less technical assistance.¹⁰⁸

¹⁰⁶ By 2022, Incra had created (or recognized for land reform policy) 9,433 'settlement projects' and registered 965,554 families as land reform beneficiaries nationwide. With two-thirds of Brazil's territory and 13% of its population, Amazonia contains nearly 40% of settlements, 88% of settlement areas, and 67% of land reform beneficiaries.

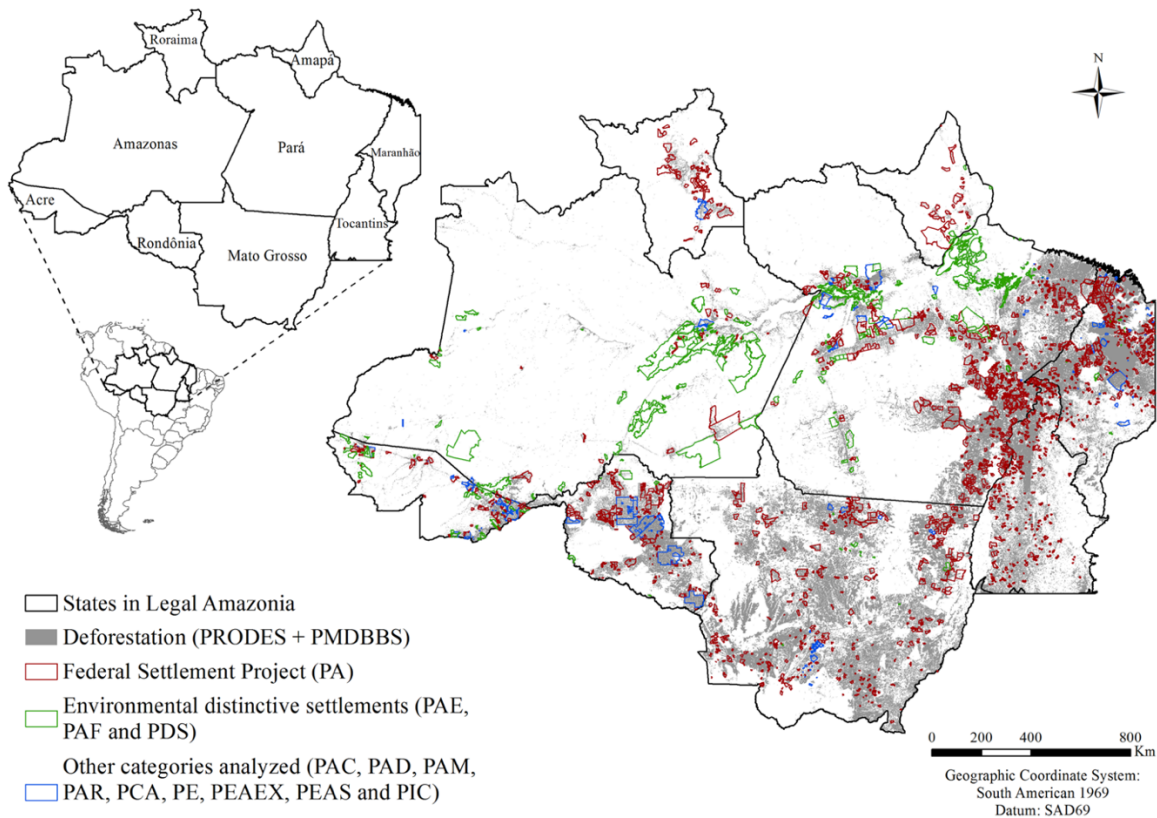
¹⁰⁷ Through *arrecadação*, *discriminação*, *reconhecimento*, or SPU cooperation.

¹⁰⁸ Family agriculture in Amazonia occupies 21% of the total agricultural unit area compared to 23% nationally; 74% of the agricultural workforce 74% compared to 67% nationally; contributes 17% of agricultural production value compared to 23% nationally; 26% lack electricity; and fewer than 12% have access to rural extension compared to 20% nationally (SUDAM 2021:51–54)



Graph 3.3 Source: SIPRA 2022

Map 3.2 – Incra “settlement projects” in Amazonia—Red and Blue ones of ‘individual’ type; Green ones are “environmentally distinctive” and of collective ownership—hence ‘collective type’



Source: Yanai et al. 2017

Incra created individual-type settlements and “environmentally differentiated settlements” with collective usufructuary rights, which I call collective-type, meant for traditionally inhabited or forested areas used by Amazonian peasants. Incra created mostly individual-type settlement projects, with individualized plots for families—in the PA (red in graph and map above). However, Incra created many collective-type settlement projects in Amazonia since 1990, and especially in 2005-2008, including PAE, PDS, PAF (green in graph and map above), and recognized sustainable-use conservation units for land reform policies, RESEX, FLONA, RDS, and FLOE (created by environmental agencies). These covered large areas along frontiers—see Map above.¹⁰⁹

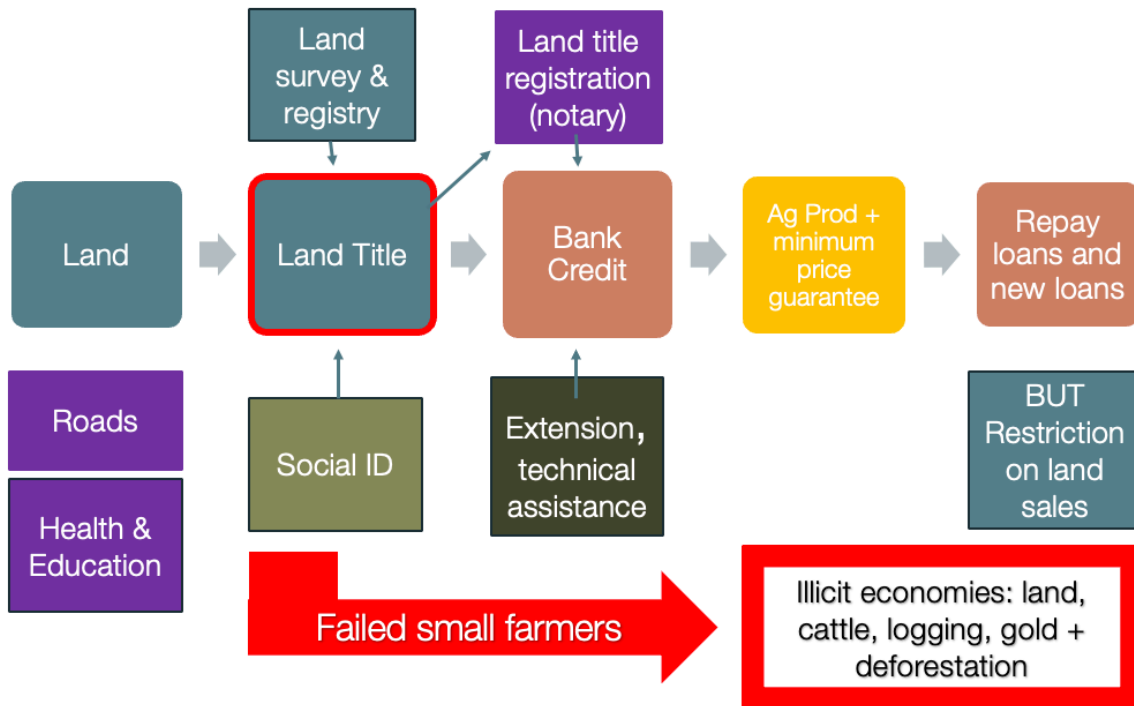
¹⁰⁹ Semantic distinction: emic ‘land settlements’ continue to be *colonization projects*, analytically, when they promote demographic transfer and landscape change into an area. Many ‘settlement projects’, particularly of the PAE type,

Without titles, sputtered development

Existing Incra settlements offer an opportunity to curb predatory and unequal development, but land titling and supportive smallholder policies shape their rural development outcomes. Land titles are *necessary (but insufficient)* for sustainable development within Incra settlements. Land titles are necessary for smallholders to secure tenancy, access long-term credit and rural extension assistance, invest in their plots, and engage in sustainable agriculture. Land titles are also necessary for extra-agricultural income from payment for environmental services like REDD+, leasing markets, licit timber management, land use conversion, and reforestation incentives (Reydon et al. 2020:9; Robinson et al. 2014:282). However, land titles cannot guarantee these downstream policies and benefits.

were created on areas already traditionally occupied, for instance, by riverine communities, to grant some territorial rights and recognize its inhabitants as beneficiaries of land reform policies like credit, rural extension, housing, etc. However, in practice, many collective-type settlements allowed or promoted demographic transfers.

Rural development model, INCRA settlements



Without land titles, credit, and rural assistance, smallholders often rely on predatory economies of livestock, timber, gold mining, and land markets—consequently leading to deforestation on the land frontier (Reydon et al. 2020:3). Smallholders without titles also have high attrition rates—they abandon plots, sell them illicitly, and favor more capitalized players accruing land. Incra settlement projects have high occupational attrition rates—some exceed one family/plot/year (Porro and Porro 2022). Many smallholders cannot rely on agriculture and resort to multiple activities for social reproduction, including circulatory migration between town and country, taking up jobs in deforestation teams, trying wild-cat gold mining, and venturing further into the jungle to stake out new plots under *uti possidetis*. Most Incra settlement projects lacked the necessary infrastructure and government support to promote small farmers’ agriculture (Bunker 1982; Fearnside 2001; Millikan 1992). Within and around Incra settlements, a relatively

autonomous frontier economy based on livestock, timber, gold, and land sales usually exceeded returns from small-scale agriculture (Hecht and Cockburn: 127,166).

Smallholders also depended on non-agricultural wages and discretionary government services for social reproduction. Local municipalities rely on federal redistribution of resources (which vary cyclically) to provide basic public services. In times of fiscal strain, rural Amazonian municipalities cease to provide basic public services and locally significant employment opportunities.

Without land titles or supportive policies, rural development has sputtered rather than failed. Agrarian frontier expansion produced deforestation, conflicts, dispossession, and land reconcentration but also created jobs, local economic growth, and significant income opportunities, allowed some wealth accumulation, and produced higher HDI rates than non-agrarian rural municipalities. Socioeconomic welfare withstood after deforestation cycles, according to panel data, despite expectations of poor soils and environmental depletion (Caviglia-Harris et al. 2016).

Incra-settlements tended to increase deforestation compared to conservation units but diminish deforestation compared to medium and large-scale farms (Ondetti 2016; Pacheco 2009; Reydon et al. 2020:3). However, “sustainable development settlement projects” did not solve land use quandaries, as economic welfare continued to contradict environmental protection within projects (Le Tourneau et al. 2013). Incra settlements contributed to 17% of total clearing in Amazonia, clear-cutting 41% of its surface (Yanai et al. 2017), and had the largest share of deforestation in 2012-2015 (Reydon et al. 2020:3).

Community initiatives for sustainable development largely underperformed relative to predatorial economies. Even where smallholders could undertake Agroforestry Systems (AFSs) of valuable forest products, the commodity-trade profits hardly stay with smallholders (Brondizio et al. 2021:72). Several community associations successfully created income sources in partnership with extra-local NGOs and governments (Brondizio et al. 2021:70). However, many associations failed, especially new ones attempting to manage collective resource use in sustainable development projects (Brondizio et al. 2019:229, 2021:73). Predatory lucrative activities increasingly fragmented and silenced local initiatives (Brondizio et al. 2021:67).

Land users and policymakers almost consensually desire land titles. Land occupants usually want a land title—the state’s recognition of their property rights—to provide a juridical security for ownership and downstream uses for property titles. Without land titles, Incra beneficiaries may not use land as collateral for bank loans, have difficulty investing in agriculture, and must resort to non-agricultural wages. Timber management plans also require land titles. Peasants have long histories of expulsions, struggles for property rights, and explicit demand for land titles (Martins 1984).¹¹⁰ Agribusiness elites, too, are interested in land titling within Incra settlements to make these lands available in licit markets over time. Meanwhile, illicit land merchants use titles as a varnish of legitimacy over illicit deals.

Requirements for titling

Land titles remained central to Incra settlement’s rural development model, with minimal changes between 1970 and 2022 (see diagram earlier in this chapter). Incra is supposed to issue temporary usufructuary land titles called *Contrato de Concessão de Uso* (CCU) when beneficiaries enter the settlement project. For this, families must be registered in the Land Reform Registry of Beneficiaries (RB), which screens people’s documentation and asserts their eligibility, like low income and landlessness. Incra can issue definitive land titles only after the land is surveyed, certified, and demarcated, and plots are registered with the real estate registry. Land surveys must be done on the larger ‘*gleba*’ and the ‘settlement project’ within it.

Definitive titles vary for individual-type and communal-type settlements. For individual-type settlement projects, the family plot must also be surveyed, certified, and registered, for which the family may receive a *Título Definitivo* (TD), which can become a freehold deed in the real estate registry (RGI) after ten years, fulfilling all contractual clauses of the TD. Collective-type settlements only survey its perimeter, and family units have the usufruct right to an ‘ideal fraction,’ not individualized plots, and receive

¹¹⁰ Many migrated in the 1970s hoping to be “a future property owner guaranteed by the government” (Cardoso and Müller 1978:149). CONTAG petitioned President Geisel in 1974 that *posseiros* in frontiers acquire land titles and to avoid dispossession (Almeida 1991:97).

a long-term usufructuary *Contrato de Direito Real de Uso* (CDRU), which may never be sold. People in collective-type settlements may sell ‘benfeitorias’ like houses on the land to outsiders only with Incra and settlement council approval (for which procedures were never fully specified in regulations).

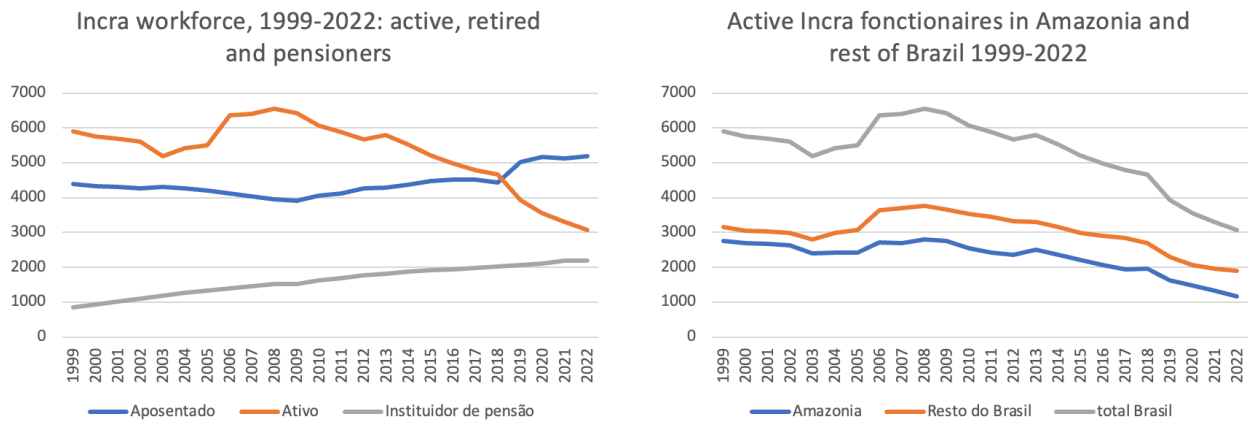
Incra bureaucracy, after all: weak, partisan bureaucrats, divested, amenable to elites, and reliant on civil society

Incra administers one of the most contentious issues in Brazilian (and World) History: land distribution (Wolford 2016b:25). Incra’s triple mission (to serve large landholders, settlers, and squatters) pitted different interests, constituents, political groups, and ideologies. Incra is an extreme case of a modern state administrative agency—with functionally specific attributions yet contradictory mandates, goal variation over time, decreasing state capacity/autonomy with increasing meritocratic staffing, increased regionalization, permeable to elites and reliant on civil society organizations, and partisan bureaucrats with contradictory goals. Incra is currently “structured not to work” – with “ridiculously ambitious mandates,” task overload, complicated legislation, lacking resources, devalued workers, and political appointments (Wolford 2016a:82). Among Brazilian bureaucracies, Incra is a relatively capable bureaucracy with specialized and stable careers but little autonomy. Political appointees and non-civil servants often occupy leadership positions, and appointees tend to be affiliated with the Executive’s dominant party (Bersch, Praça, and Taylor 2017:110–13).

Incra’s capacity: staff and budget

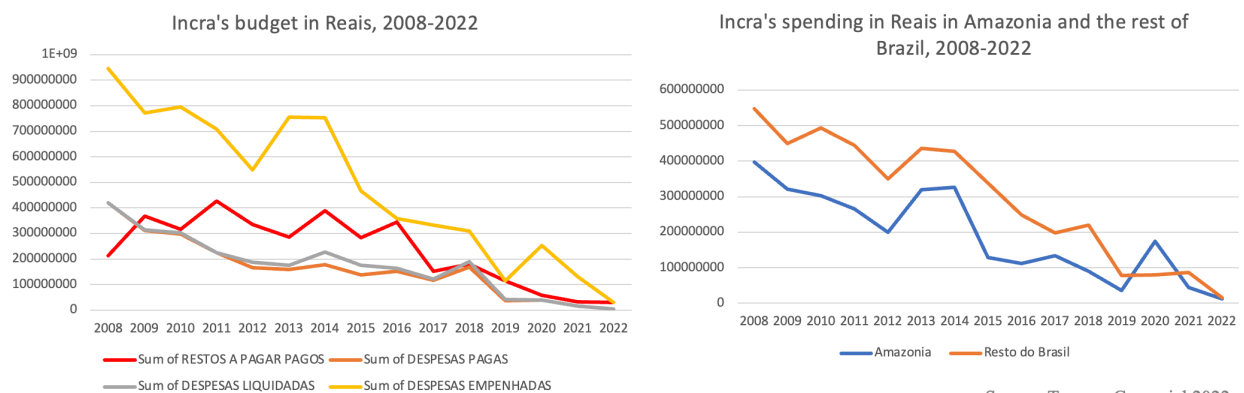
In 1985, Incra retained 9,000 employees while managing 67 settlement projects; by 2022, employee numbers dropped to 3,000 while settlements multiplied to 9,433—see graphs below. Although national public exams recruited technically capable staff in 1994, 2005, 2006, and 2010, many changed careers, and most pre-1988 employees reached retirement age. Despite the growing load of land reform subject matter

to manage (settlements, area, potential, and new land reform clients), Incra suffered a dramatic decrease in personnel, particularly in Amazonia.



Source: Painel Estatístico de Pessoal 2022

Incra's budget decreased tenfold from 2008 to 2022, especially after 2015, and operated at bare minimum spending in 2019-2022. Although Amazonia had a bigger load for land reform subject matter, it had consistently lower budgets than the rest of Brazil, except for 2020.



Source: Tesouro Gerencial 2022

Bureaucratic partisanship: private interests, ideology and missions, and social embeddedness

Incra's contradictory mandates (colonization and land reform serving large, medium, and small farmers) allowed for complex politics and radical differences in the definitions of the organization's mission, goals, and bureaucrats' attitudes toward policy beneficiaries (Wolford 2016b:25,33). These different mandates

helped to sustain widely different notions of a ‘calling’ to its civil servants.¹¹¹ Incra bureaucrats also engage in politics for elementary policy resources. Incra must negotiate its budget yearly with Congress in Brasilia. The thirty regional superintendents negotiate subnational distribution of resources and priorities (Wolford 2016a:87). Incra employees use protest tactics to defend their careers (corporation), but also for institutional resources and regional land reform policy implementation (Wolford 2016a:81).

Political appointments

The federal executive government appoints Incra leadership positions—directors in Brasilia and superintendents in regional offices—and distributes them as part of political negotiations and postelectoral spoils among parties at the discretion of the federal executive branch (Wolford 2016b:37). Regionally strong political groups allied with the ruling Executive power can nominate Incra’s regional Superintendent (Penna 2015a:179, 2015b:48). Incra superintendents often come from and seek further political careers (Penna 2015b:48; Wolford 2016b:37).

Reliance on civil society

Incra came to rely on civil society to implement policy—as democratization and citizen participation accompanied decreasing state funding. Incra lacks the human and monetary resources to ‘see like a state’ and depends on societal information-gathering, collaboration, and contention to deliver policy. Trans-local social movements (e.g., CONTAG and MST) help define key aspects of land reform policy—identifying potential land reform beneficiaries, distributing resources (plots, credit, technical assistance, housing),

¹¹¹ Bureaucratic partisanship continued after the 1988 Constitution—when old employees gained tenure security, some leftists persecuted by the military were readmitted into service, and two thousand young cadres were recruited through national exams. A ‘former Incra president’ identified three types of personnel: the passionate or engaged, the completely lost and displeased by social movements, and the tired and un-updated (Wolford 2016b:32). Camila Penna claims emic categorization into three major groups within the Incra bureau in Marabá: the old-timers retained since the dictatorship, the new lower rung (non-college degree) careers, and the new uppity agronomy engineers (Penna 2013). Wendy Wolford found six groups of Incra employees based on their ‘calling’ (or ways they define their work), induced from interviews in Brasilia and João Pessoa (Wolford 2016b:31–37): (1) the nostalgic of high-modernist colonization in Amazonia, (2) those loyal to Incra as a home/corporation, (3) the militant for social justice, (4) the lawyers, (5) new recruits who saw their jobs as a set of technical processes and often resented social movements, and (6) the politically appointed, temporary leadership positions that try to imprint their mark on Incra deliveries, “like to ‘start from zero, change everything,’ attempt to deliver goods to constituents and use Incra as a stepping stone for political careers—and who are often resented by career bureaucrats (Wolford 2016a:89, 2016b:37).

resolving disputes, and identifying potential land for expropriation and distribution, and planning agency future goals (Penna 2015a; Wolford 2016a:82,87). Protests make demands to rectify Inra policy targets—for instance, ritualistically occupying Inra offices and symbolically holding employees ‘hostage’ until MST demands are met during the yearly ‘Red April’ mobilizations (Wolford 2016a:81,84; Rolemberg 2022). Social movement protests help bring resources for a regional office to implement its policies (e.g., land expropriation, credit, and technical assistance) from Inra’s central office and the federal government (Penna 2015a:177; Wolford 2016a:88). Social movement activists and beneficiaries learn which employees are amenable to demands (Wolford 2016a:89).

Variation in land legibility and titling across Inra regional superintendencies

Inra is a federal agency with identical laws, institutional design, and pool of applicants in national exams, but its permeability to political elites and reliance on civil society groups produce variations across regional superintendencies. Within Inra, decisions over resource use are devolved to regional superintendencies and local bureaucrats, civil society, and elites improvise land policy implementation (and thus recreate policy in their own way) (Wolford 2016b:38). Regional superintendencies have performed very differently in land title emissions. Below is a table with columns indicating the regional superintendence, its ‘capacity’ to host families within its land settlements, the number of registered families, the number of titles issued in 2000-2016 and 2017-2022, and the ratios of titles/capacity and titles/registered families as indicators of performance.

Figure 3.2. Inra Regional Superintendencies



Table 2. Titles issued per regional superintendence

Estado	Superintendência Regional	Capacidade em famílias	Famílias em RB (Outubro 2022),	Titulos emitidos 2000-2016	Titulos emitidos 2017-2022	Razão titulos / capacidade	Razão títulos/ famílias em RB
PA	SR-30 Oeste do Pará (Santarém)	116401	81953	814	15740	0.14	0.20
	Pará inteiro	317111	277136	15753	106193	0.38	0.44
	SR-27 Sul do Pará (Marabá)	93949	92199	11747	38018	0.53	0.54
	SR-01 Nordeste do Pará (Belém)	106761	102984	3192	52435	0.52	0.54
MT	MT	103240	135994	31531	41934	0.71	0.54
AM	AM	71154	62260	17754	18165	0.50	0.58
RO	RO	65916	51107	12255	17946	0.46	0.59
Amazônia (I)		805306	801676	170557	304884	0.59	0.59
AC	AC	33688	39855	13019	13568	0.79	0.67
AP	AP	19133	19664	3109	10205	0.70	0.68
MA	MA	148239	147494	34645	73762	0.73	0.73
TO	TO	24595	44702	19526	17380	1.50	0.83
RR	RR	22230	23464	22965	5731	1.29	1.22

Chapters 4 and 5 analyze the process and interactions between societal and state-organizational factors that produce different titling results in western Pará (SR-30) and Amazonas (SR-15). In Western Pará and Amazonas, Incra has controlled massive lands since 1970 and created dozens of new settlement projects in each state since 2000 (Almeida 1992; Hecht and Cockburn 2011; SIPRA 2019a, 2019b). Although both regions had similar Incra bureaus, settlement projects, and little MST presence, they have achieved radically different titling results (see Table 2 above). Western Pará has been a priority target for land titling (Brasil 2005) yet still lags far behind Amazonas state in land titles, even more so relative to their

respective number of beneficiary families. Between 2000 and 2016, Incra in Western Pará issued a mere eight hundred titles, while Incra in Amazonas issued over seventeen thousand titles. In the 2017-2022 period, when land titling became a priority, and mainly since 2019, when requirements for titling were softened, Incra in western Pará remained a laggard. The next two chapters explain these diverging results

Conclusion

Amazonian colonization has served as both an escape valve for Brazil's rural problems and a catalyst for predatory and unequal development. The Brazilian state created the National Institute for Colonization and Agrarian Reform to undertake a triple mission: formalizing property rights, settling smallholders in 'settlements projects,' and allocating large land parcels to agricultural enterprises. Despite its modern bureaucracy and capable staff, Incra's contradictory missions and constituents, coupled with its ambitious task list, rendered it ill-equipped to reshape Amazonia's complex sociocultural and ecological landscape effectively. Incra's initial autonomy was compromised by its contradictory missions and constituent clients, making it pliable to rural elites and dependent on non-elites for survival and policy implementation.

Over time, Incra's bureaucratic structure, marked by political appointments and varied organizational goals, led to inconsistent performance and the perpetuation of conflicts it had helped create. Incra leadership tends to be political appointees rather than career civil servants. It came to rely on civil society and local knowledge for institutional survival, basic budgeting, and goal-setting. Its policy tended to respond to urgent, violent conflicts it had helped to unleash.

Amazonia persisted as a dynamic frontier, perceived as a repository of vacant land ripe for privatization and accumulation. Incra's smallholder settlement projects represented a potential path toward sustainable development alternatives, but without titles, smallholders frequently turned to predatory economies, exacerbating deforestation and land frontier expansion. While land titles were necessary for sustainable smallholder development, their provision remained a significant challenge. The agency's focus on settlement project creation and families settled often overshadowed the quality of settlements and land

titles issued. Despite recent efforts to prioritize titling, many smallholders still lack formal titles. Although Smallholders and agribusinesses desire land titles, nearly consensually, they could not override Incra's organizational dynamics to produce titles.

The varying configurations between societal forces and Incra's organizational dynamics have produced divergent policy outcomes across its regional superintendencies, which will be analyzed in subsequent chapters.

In the next two chapters, I analyze Incra's land titling in neighboring Western Pará and Amazonas. Western Pará has been a priority target for land governance and titling since 2003 (Brasil 2005), with empowered peasants and agribusiness landowners agreeing on land titling policy. But Western Pará was Incra's worst-performing regional bureau, issuing few titles to smallholders. Amazonas, on the other hand, with politically weak peasants and agrarian elites, nonetheless was the national champion state in Incra's "titlemeter" (in 2017 and 2018) and titled most smallholders. To explain this divergent result, I trace and compare Incra's policy implementation in Western Pará and Amazonas.

Chapter 4: Interests without implementation: Incra land titling in Western Pará

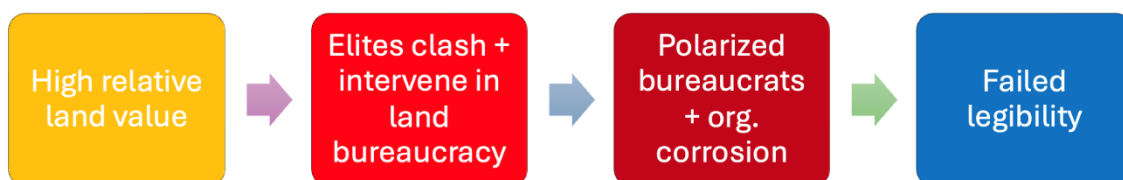
Western Pará was the national priority area but became the land titling laggard, issuing titles to less than twenty percent of smallholder families living in land reform settlements.¹¹² Why was Incra's new and re-equipped regional superintendency unable to issue land titles? Chapter 1 showed that land legibility and titling are expected outcomes of high land use value or connectivity (Demsetz 1967:350; Rudel 2016; Alston et al. 2012:746; Meyfroidt et al. 2018:56), strong state bureaucracies (Scott 1999:49,24,38; Centeno and Ferraro 2017; Evans 1995), and state-society alignment of interests or overwhelming political forces interested in property rights (Emigh et al. 2019; Lachmann 2020a; Albertus 2021). Why has Incra in Western Pará failed to title smallholders, where soy plantations and new infrastructure boosted land value, new regional-superintendency status re-equipped Incra, and rural elites and politically strong peasants agreed on land titling? This chapter analyzes a case of land titling failure to refine explanatory theories.

This chapter argues that high relative land value prompted diverse elites to intervene in the Incra bureau, polarized bureaucrats, and ultimately compromised land legibility policy, including land titling. The chapter shows that in Pará, 1960s national development policies kept Pará elites invested in the rural economy (Bunker 1985:84-5,93,114,168; Velho 2013) and interested in Incra, as it controlled most areas after 1971. More than half a million migrant landless families, smallholders, and large capital moved into Pará's countryside. In Western Pará, the federal government acquired control of ~80% of the land, and Incra became the principal administrative authority. Rural landholding elites embattled peasants. A robust peasant

¹¹² The Second National Plan for Agrarian Reform (IIPNRA) prioritized Western Pará for land titling. The *BR-163 Sustentável* regional plan, discussed with agribusiness, ranchers, environmental NGOs, and peasant associations, also elected land regularization as a priority. By 2018, Incra had issued titles to only 5% of smallholders, and by 2022, less than 20%.

movement became influential in civil society, politics, and government. In 2000, land value soared as Western Pará became the focus of roadbuilding, soy ports and plantations, and hydroelectric dams and dams. New agribusiness elites moved in, and, in response, new land reform ‘settlement projects’ and environmental set-asides were created. By 2003, Western Pará was the priority region for land legibility and titling—on which elites and peasants agreed. Incra created a new Western Pará regional superintendence in 2005, which became the focus of organized interests and political intervention. A strong but fragmented civil society and clashing elites (politicians, agribusiness leaders, and public prosecutors) intervened in Incra’s operations. While rural elites publicly supported land legibility and private property rights, behind the scenes, they meddled with state legibility to advance illicit land use. Alternating Pará elites promoted high turnover in Incra leadership and steered the bureaucracy towards different goals. Other state agencies and elites opposed what they saw as Incra misdeeds and malfeasance. In response, environmental litigation and protests further embattled Incra and unintendedly weakened its regional bureau. External interventions imprinted partisan polarization onto bureaucrats, who became internally polarized. This corroded Incra’s organizational capacity and undermined land legibility and titling. Despite shared land titling goals, elite conflict and interventions weakened the land bureaucracy and undermined policy implementation. Few Pará smallholders received property titles, notably through political patronage. Traditional communities’ strong local knowledge of their territories remained untapped for land legibility.

Argument for Incra’s land titling failure in Western Pará



This chapter has five sections. Section 1 briefly describes Western Pará and Incra’s relevance therein. The next four sections relate major analytical points that explain titling failure, according to the diagram above. Section 2 shows increased interests and land use value over areas Incra managed. Section

3 shows that Incra's new regional superintendency was staffed and resourced, but its task load increased more, and capacity dropped drastically over time. Section 4 shows that different elites clashed over land use and intervened in Incra. Section 4 shows how bureaucrats became polarized and various internal dynamics that corroded their capacity. Section 5 describes the meager results in land titling. The conclusion synthesizes how this negative case refines theories of civil society's influence on state performance by way of largely unintended organizational dynamics.

Western Pará, brief description

Western Pará became a separate Incra jurisdiction in 2005, Regional Superintendency 30 (SR30), covering 700,000 Km² (1.5 times the size of California) around the Tapajós, Trombetas, and Xingu River basins. Western Pará remains part of Pará state, though most regional voters favored a separate *Tapajós* state in a 2011 plebiscite. Western Pará includes a major section of the Transamazon road between Altamira and Itaituba cities, crossing east to west, and the BR-163 linking Santarém, the major administrative and commercial city, to Mato Grosso in the south, the biggest soy-producing state.¹¹³ The Tapajós River was an epicenter of the *Cabanagem* revolt of the 1830s, became known as the major rubber-boom river in the 1850s (Reis 1979:168), hosted Henry Ford's *Fordlândia* attempt at disciplined rubber plantations in 1927, and developed jute, livestock, and produce for regional markets thereafter. Western Pará is where the federal government seized 6.3 million hectares for land reform (*Polígono de Altamira*) and 200 km-wide strips around planned roads for colonization in 1971. Since 1971, Incra has controlled ~70 percent of Pará's territory and ~80 percent of Western Pará (see maps below).

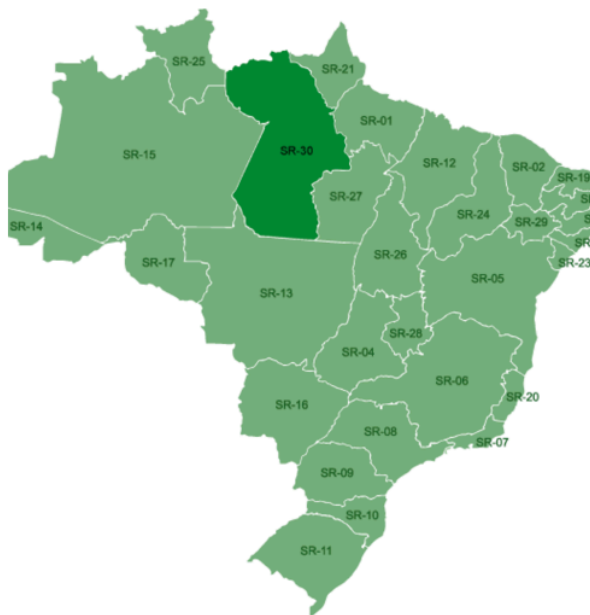
Headquartered in Santarém, SR30 became independent from Incra's oldest superintendence, SR01, hitherto responsible for Pará and headquartered in Belém. Southern Pará had an independent Superintendency, SR27, headquartered in Marabá since 1997, created in response to the Eldorado dos

¹¹³ President Médici inaugurated Transamazônica BR-230 between Estreitos and Itaituba in 1972. The army built the BR-163 road (Cuiabá-Santarém), fully connecting south to north in 1976.

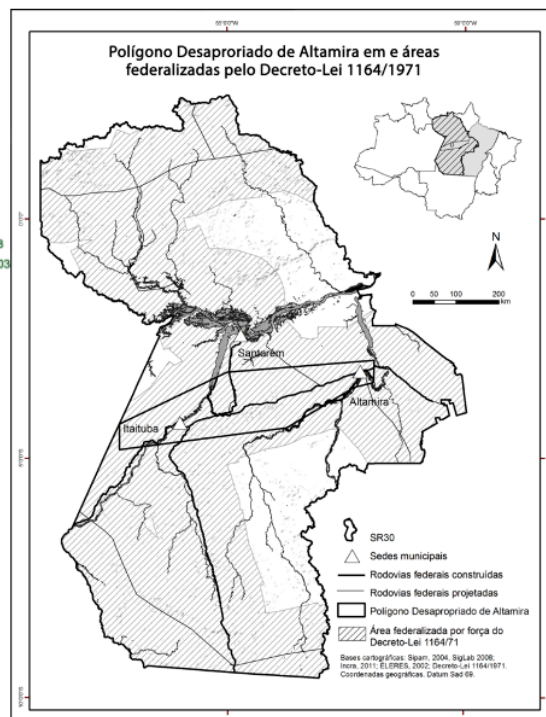
Carajás peasant massacre.¹¹⁴ Incra created the new SR30 in response to incoming infrastructure, agribusiness, and rural conflicts like Sister Dorothy Stang’s murder in February 2005—and after the police arrested SR01 superintendent Beto Faro and Incra staff in December 2004 due to fraud favoring land speculators, soy cultivators, and loggers in Western Pará. “Then came the order to destine land to [land reform] settlements, and they created SR30” (Interview S. 2018).

SR30 replaced Incra’s ‘advanced unit’ in Santarém and brought other units (Monte Alegre, Itaituba, and Cachimbo) under its jurisdiction. SR30 inherited seventy-two land settlement projects, a vast area of undesignated public land (upwards of 20 million hectares), and an aging staff recruited during the dictatorship. Today, SR30 owns 211 ‘land reform settlement projects’ over nearly 145,900 Km², an area larger than Iowa (see images below).

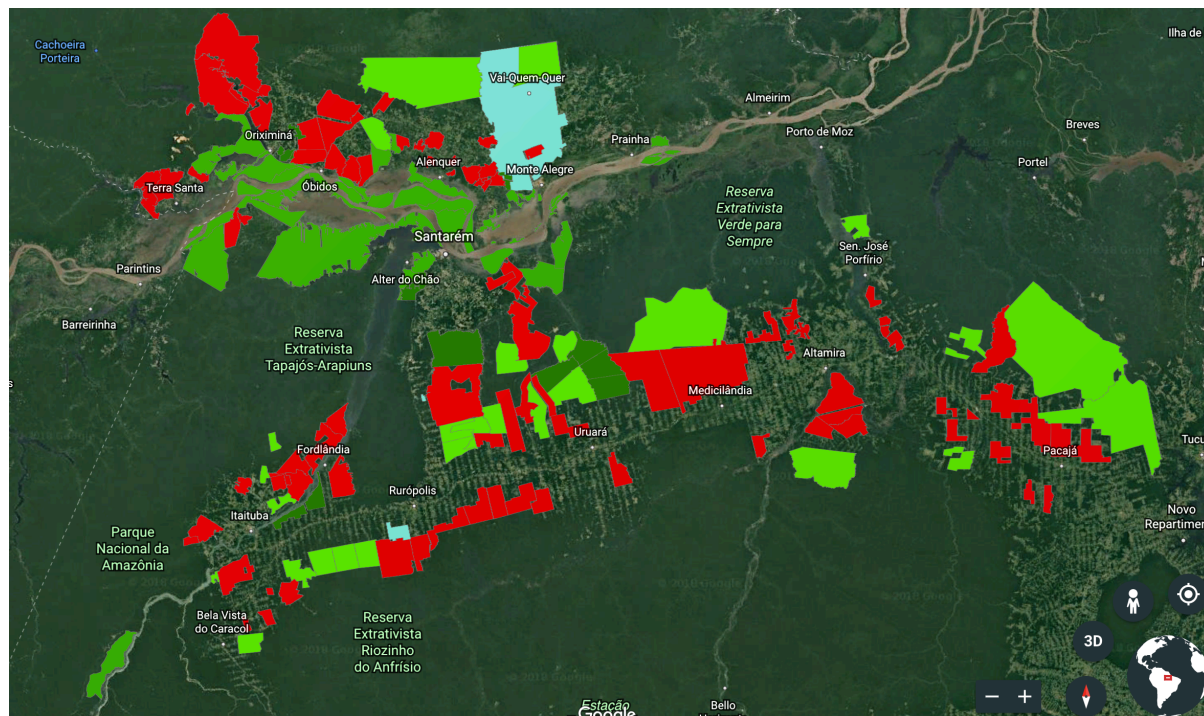
¹¹⁴ Pará has three Incra regional superintendencies: SR30, SR01, and SR27. Besides Pará, only two other SRs don’t coincide with state jurisdictions: SR28 in DF, Goiás, and Minas Gerais, and SR29 in Bahia and Pernambuco.



SR-30, Western Pará in dark green. Note: Pará state includes SR-01 and SR-27. Source: Incra 2018



Lands under Incra control in Western Pará after 1971 – around roads built or planned. Source: Torres 2016



Part of Western Pará, from Itaituba, on the Tapajós River, left, to Altamira on the right. The colored polygons are Incra land settlements of different types: red = PAs, light green = PDSs, medium green = PAEs, and darker green = PACs. Source: i3Geo 2017 and GoogleEarth 2016.

High relative land value

Lands in Western Pará saw a rapid surge in value, much of it managed by Incra. Until the 1990s, the region was relatively marginal as an agricultural producer and land market—though it was a hotbed for unfinished colonization projects, medium-scale ranching, some land speculation, and land conflicts over gold mining and timber alongside national parks. A land rush swept Western Pará in the 2000s, caused by new infrastructure development, soy agribusiness, and commodity-price hikes. These were accompanied by ‘sustainable development’ policies of land reform and environmental set-asides and ethnic resurgence struggles over territories. Incra was central to land use policy, controlling most lands since the federal government seized 80 percent of Western Pará in 1971.

National development policies in the 1960s and 70s kept Pará elites invested in rural land and based on the rural economy (Bunker 1985:84-5,93,114,168; Velho 2013). Pará state transformed temporary usufructuary concessions over rubber and Brazil-nut groves into definitive property rights in the 1960s. 1970s SUDAM subsidies and tax breaks created immense estates for corporate firms (mainly from southern Brazil and multinational companies), mostly in southern Pará. The 1970s also brought the Transamazon and BR-163 road openings and colonization projects that attracted an influx of over half a million migrants, landless families, and smallholders into Western Pará’s countryside. Western Pará hosted several of Incra’s early colonization policies: the ambitious *Projetos Integrados de Colonização*, PICs, in 1972, and in 1976, *Projetos Fundiários* to sell larger land plots around Santarém and Altamira and a livestock *Polo Tapajós* for economic growth. A gold rush around Itaituba and the upper Tapajós tributaries attracted hundreds of thousands of gold prospectors—many who settled and established families in the cities, notably Itaituba and Santarém. Western Pará’s agricultural production, however, remained relatively insignificant relative to Pará state and nationally until the 1990s (Leroy 1991:55). Western Pará remained marginal to large SUDAM corporate investments and its related land conflicts. Some speculation of lands occupied by peasants near Santarém produced meaningful conflicts (Leroy 1991:65). According to a then-active civil

servant, Incra issued “many land titles of 1.500 hectares, but cattle ranching was weak; this area was not much sought after. We didn’t have land conflicts; those started in southern Pará” (Interview S., 2018). By 1985, the *Projeto Fundiário Santarém* had issued 1,850 land titles over 133,016 hectares (Leroy 1991:54). Many of the larger landholders resided in other states and held ranches speculatively (Mascarenhas and Antunes 1994:27). Local rancher elites typically owned 1,000 hectares (Adams 2015:63), much less than those of southern Pará. Land value had been relatively contained due to poor road access to the rest of Brazil.

After the federal government seized 80% of the land in Western Pará and cemented Incra’s dominance as the principal administrative authority, other agencies controlled substantial territory. The military forces controlled national defense areas to the south (Mascarenhas and Antunes 1994:12). FUNAI recognized Indigenous lands that occupied much of Jacareacanga.¹¹⁵ In 1974, the IBDF environmental agency created the *Parque Nacional da Amazônia* and *FLONA Tapajós* next to the Transamazon road and Incra PICs. In 1983, the Ministry of Mines created the gold-prospectors reserve, *Reserva Garimpeira do Tapajós*. Nonetheless, Incra remained the central land management agency and important for local rancher elites (Bunker 1985:223–30).

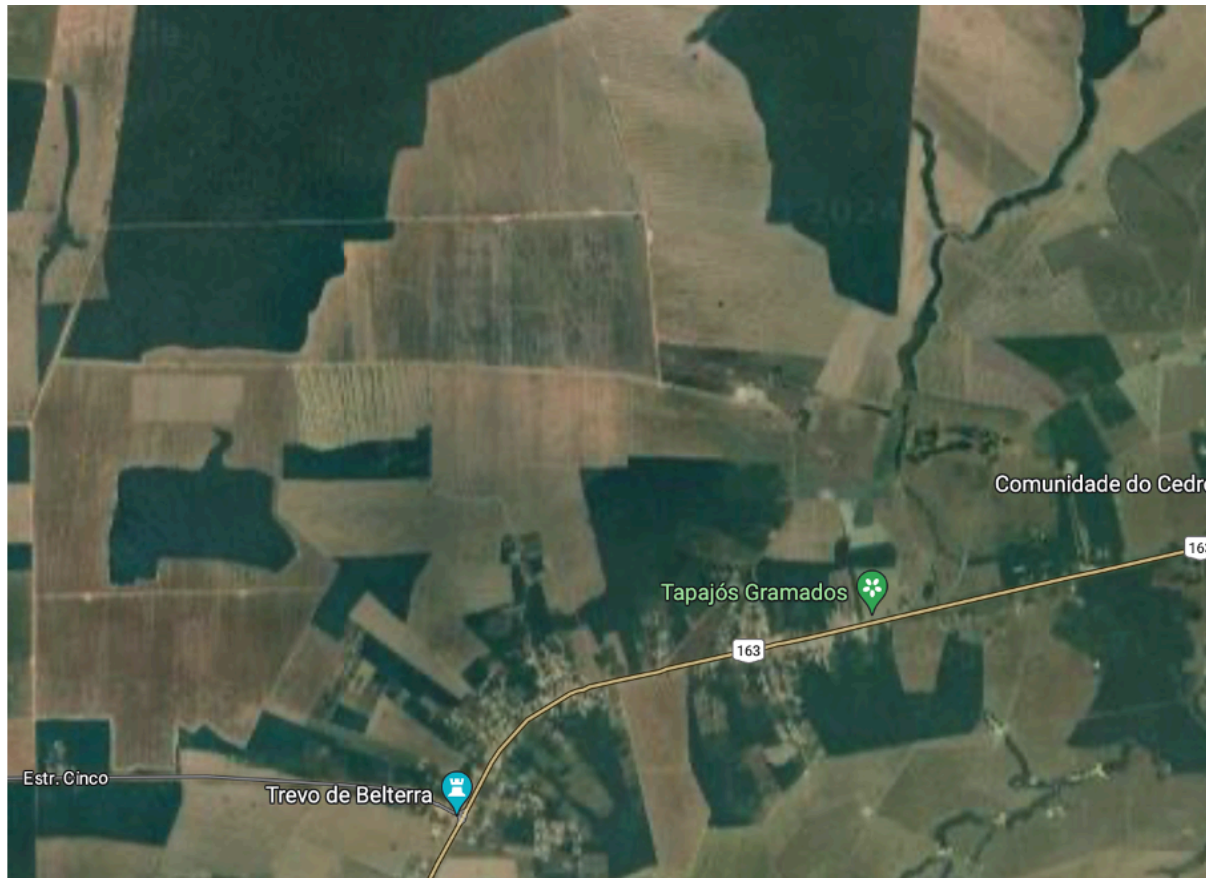
Land value soared in 2000 after road pavement and new infrastructure promised to turn Western Pará into new soy plantations. President Cardoso’s reelection program in 1998 included paving BR-163 (Cardoso 1998:317). The BR-163 road linked Santarém to modern soy plantations in Mato Grosso. Paving began in 2005 and was nearly completed in 2019. The Transamazon and BR-163 dirt roads were often impassable and demanded days to cross a few hundred kilometers, making the region intermittently disconnected and unreliable for large agricultural investments—unlike the paved Belém-Brasília road in southern Pará. The prospects of better road access attracted a plethora of investors, swindlers, and smallholders—migrants, returning colonists, failed gold prospectors, and ‘Brasiguaios’ pushed out of the Paraguayan soya market and seeking to buy larger plots in Amazonia (Benatti et al. 2008:98). In the late

¹¹⁵ Some Indigenous reservations were created in 1945 and 1961, before FUNAI was founded.

1990s, Pará officials traveled to southern states to advertise soy and livestock investments in Western Pará, successfully bringing southern farmers and ushering in a land rush (Benatti et al. 2008:109; Gayoso da Costa 2015:176). A cohort of capitalized Gaucho farmers arrived in Santarém in 2001 to buy land from smallholders and local rancher elites (Adams 2015:64). Land prices multiplied by fifteenfold in Santarém between 2000 and 2003 (Gayoso da Costa 2015:179).

Other private and public infrastructures further enabled the Western Pará land rush. Cargill Corporation inaugurated a soybean port in Santarém in 2003 (construction began in 2000), a cheaper export route for soybeans grown in Mato Grosso coming through BR-163 road and an outlet for soybeans successfully adapted to Amazonia. Other grain corporations built eight soybean ports in Itaituba by 2014, which made soy transportation from Mato Grosso much cheaper. State-owned Eletrobrás resurfaced plans to build the Belo Monte hydroelectric dam on the Xingu River in 2002, attracting land speculation around Altamira. Alcoa bauxite mining inaugurated operations in Juruti. In addition, the federal government announced the “Complexo Tapajós” project with eight large hydroelectric dams in 2007, further incentivizing land speculation.

Recent soybean gaúchos in the Planalto Santareno, Novo Progresso, Itaituba, and Rurópolis, consolidated landholdings, often with illegal sales and ‘squeezing’ peasant communities. New agribusiness farmers demanded land regularization for land use conversion and credit (Adams 2010:109).



Peasant community between soy plantations, BR-163 road near Santarém.
Source: GoogleMaps 2024

The Workers' Party federal government prioritized Western Pará to reconcile disparate “sustainable development” goals, tentatively articulated in its *Plano de Desenvolvimento Sustentável da BR-163*. This regional plan was a top priority for the Ministry of the Environment and sought to avoid the predatory effects of roadbuilding but kept BR-163 paving as a premise (Capobianco 2021:64). This plan was formulated across fifteen ministries in consultation with civil society in 2004-2005 (Capobianco 2021:67). The public meetings to formulate this plan included multiple sectors of society: landed elites, NGOs, rural workers' unions, and traditional communities. The plan wanted to avoid downward spirals triggered by development policies in southern Pará in previous decades—widespread rural unrest, conflicts, and massive deforestation. The plan sought to reconcile infrastructural development and economic growth with social justice and forest preservation. Two central pillars of the plan were infrastructure development and land legibility (*ordenamento territorial*) policies (Capobianco 2021:68–69).

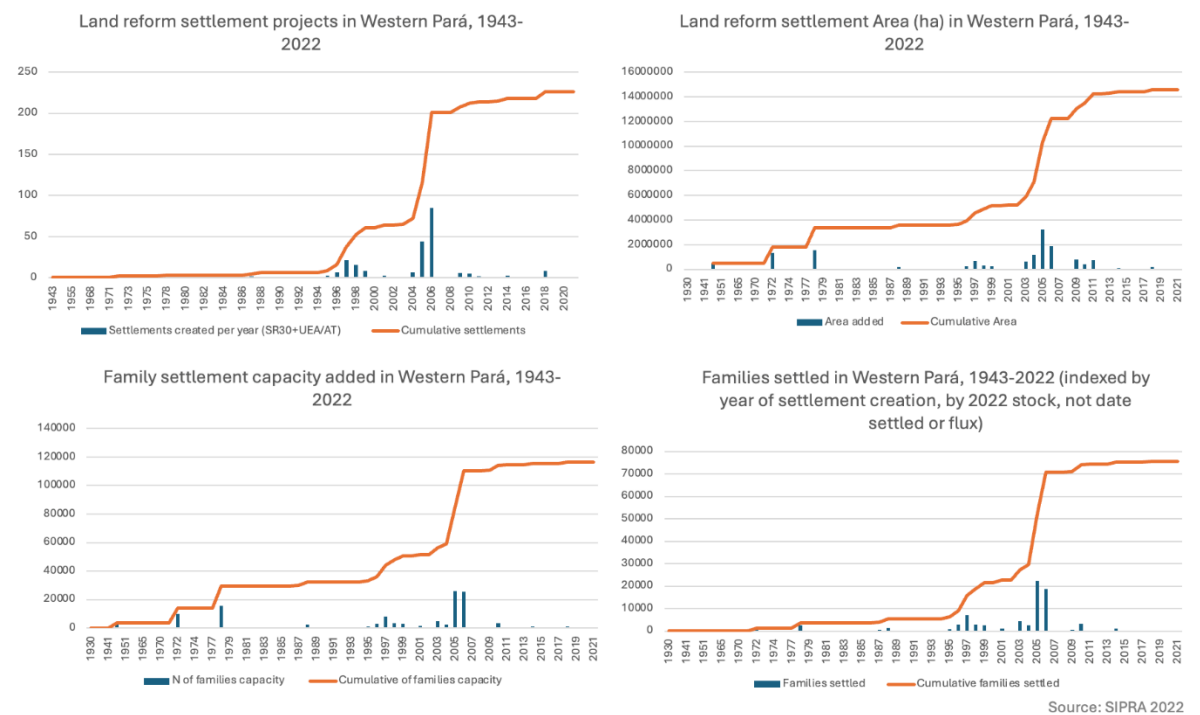
Western Pará also had a booming timber market in the late 1990s, which depended on territorial control and laundering illegal timber through Incra possessory documents. Timber entrepreneurs moved in from other regions, built clandestine feeder roads, and maintained roads to rural settlements in exchange for timber exclusivity—often coercing rural dwellers (Benatti et al. 2008:102-4,107,109). By 2002, several Incra settlement projects were effectively controlled by timber entrepreneurs, with illegal entrance gates and private guards controlling access, resource extraction, and smallholders (Benatti et al. 2008:102–4). In anticipation of road pavement and soy ports, a consortium of fifty soy and logging businesses from southern Brazil negotiated territorial rights with peasant and Indigenous communities in Gleba Nova Olinda, attempting to individualize property rights (Baletti 2012:590).

Incra's state capacity in Western Pará

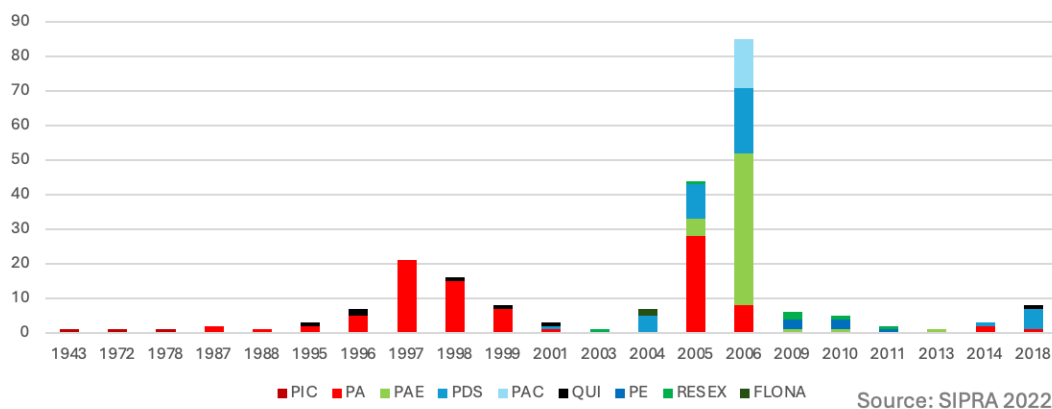
State capacity remained low for Incra in Western Pará. Despite creating a new Regional Superintendence (SR30), with new staffing and re-equipment, the bureaucracy's political leadership hastily overstretched these new resources by creating new settlements and accruing dozens of thousands of new beneficiaries, following political expediency, which overstretched bureaucratic capacity.

Load (subject matter)

Incra created 128 new 'settlement projects' in 2005-2006 (as new SR30) and another ten between 2007 and 2022. In total, SR30 created and recognized 226 'settlement projects' for the purpose of land reform policies covering an area larger than Iowa, and formally designated these immense tracts to landless people and land reform beneficiaries.



Settlements created/recognized by Incra in Western Pará by type, 1970-2022



Many settlement projects, however, only exist virtually, as a project “on paper” and formally on the government's land administration system (SNIF/SIPRA)—meaning that Incra staff may have never set foot on this land or did so only eventually. The formal existence of settlement projects on SNIF blocks other land claimants (those undeserving of land reform policies) from obtaining legal titles, unless Incra revises project boundaries. Nonetheless, virtual projects cannot prevent *de facto* other land uses. Without on-the-

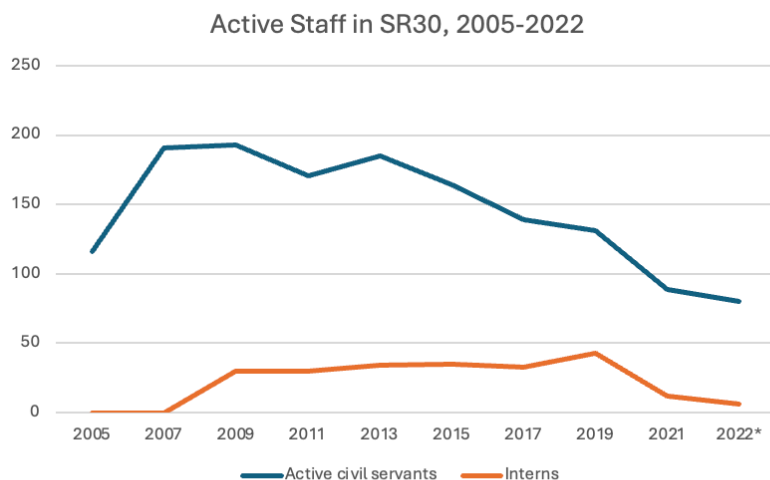
ground procedures, most settlement projects remained virtual over the years, allowing different people to claim land, creating conflicts, and hampering land legibility and titling. Despite institution-building efforts, SR30 has had inconsistent human and financial resources to implement land legibility (Chalito 2016).

Staff

SR30 had almost 200 staff at its height. It recruited approximately 160 new public servants through national, competitive exams in 2006 and 2013. These added to an older generation of Incra functionaries hired during the dictatorship and increasingly retiring. Almost all recruits came from faraway regions. Recruits have been two-tiered: half to fill higher-education posts, mostly agronomy engineers, and another half to fill high school-level positions. Education, pay, incentives, professional structures, professional unions, and dispositions differentiate the two tiers. Over the years, many staff members asked to be moved elsewhere to offices closer to their families of origin, changed careers, or retired.

When the 128 new settlement projects were created, recruits and motivated public servants imagined they were advancing the cause of agrarian reform by creating these projects on paper. Many new recruits were learning all the complexities of their jobs, the norms, procedures, and the region they were operating in.

Despite the early increase in human resources, SR30 staff were soon spread thin over the herculean tasks it faced over 226 land reform projects riddled with technical, judicial, and political problems. Some land reform projects have been created solely on paper and are said to have never been visited by an Incra functionary. SR30 never had trained and certified land surveyors, high-precision GPS equipment, or enough staff to undertake the required fieldwork; SR30 seldom had enough staff to maintain a georeferencing ‘certification committee’ to evaluate surveys—a necessary step for titling land.

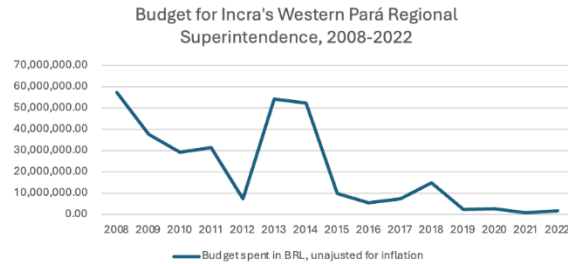


Sources: SIC/INCRA LAI:21210.012941/2022-12 (unclear if UEA Altamira is included) and SIAPE, *October 2022 via LAI:21210.012147-2022-61

In 2009, four years after creating the SR30 for Western Pará, the federal government launched the temporary Terra Legal, which borrowed several SR30 servants for ten years and resources (budget) for georeferencing (Interview AI. 2018).

Budget

SR30's budget focused on infrastructure investment, mainly roads (2008-2011), followed by a peak in Technical Assistance and Rural Extension in 2014, which ceased by 2017, while the land titling budget rose.



Source: [Tesouro Gerencial em 25/10/2022](#)
[LAI protocolo 21210.012145/2022-71](#)



Clashing elites intervene in land bureaucracy

Western Pará had strong civil society groups with different interests in rural land: peasants, colonists, Indigenous communities, environmental and social justice activists, NGOs, old cattle rancher elites, timber entrepreneurs, and new soy agribusiness entrepreneurs. Smallholders and traditional communities campaigned to “hold onto our lands;” ranchers and soy farmers opposed Incra’s settlement creation; timber entrepreneurs sought to benefit from Incra settlements. Environmentalists within and outside the government saw Western Pará with particular concern as it became a focus for agribusiness, infrastructure development, land use conversion, and deforestation. A plethora of NGOs became important players in Western Pará land use policies—in partnership with peasant and Indigenous communities, but also with soy farmers (Baletti 2012:586,588; Leroy 1991:51; Schwartzman et al. 2010:278,282).¹¹⁶ Indigenous communities ‘resurged’ with ethnic claims to land. Although the state and society supported land titling in Western Pará, rural groups and classes had competing land use agendas in the 2000s. Elites from these social groups, both within and outside the state, intervened in Incra to advance their goals.

¹¹⁶ The long, diverse list includes FASE, CPT, CIMI, Saúde e Alegria, FDA, EDF, IPAM, Terra de Direitos, TNC, WWF, Greenpeace, Misereor, Fundo Dema, and others.

Western Pará peasant and rural workers' movements were politically powerful. Their leaders were elected to municipal, state, and national legislatures, aligned with the federal government in 2003-2016, and even held congressional leadership positions (i.e., Zé Geraldo, a Rural Workers Union organizer in Medicilândia). The Santarém Rural Worker's Union helped to found the *Central Única dos Trabalhadores*, a nationwide oppositional union, and the Workers Party and held leadership positions in both (Leroy 1991:11). Airton Faleiro, a Santarém Rural Workers Union organizer, was elected state and federal Congressman multiple times. Peasants increasingly protested in favor of land reform policies and land regularization since the late 1990s (Interview L. 2018). Social movements and the Lula government prioritized Western Pará for land regularization and titling in the Second National Plan for Agrarian Reform (Brasil 2005:23–24). New settlers and homesteaders advanced the land frontier, pushed and pulled by land sales and conflicts. Western Pará's land conflicts notoriously resembled the 1980s era when Sister Dorothy Stang was assassinated in 2005 by land grabbers while demanding that Incra implement a PDS land reform settlement in Anapú.

Indigenous groups and traditional communities also began to demand territorial recognition in processes of ethnic resurgence, splinter groups, or ethnogenesis. The Munduruku in the mid-Tapajós established new villages, demanded recognition since the late 1990s, and self-demarcated territories in 2013. Other groups did similarly in the Lower Tapajós River and around Santarém. Even highly oppositional groups in the tradition of the *Cabanagem* revolt demanded territorial rights in some form (Baletti 2012:592).

Environmentalist coalitions became increasingly worried about developments in Western Pará, as it joined the alarming 'deforestation arc' in 2004. The Ministry of Environment created eight new federal conservation units in 2006, adding 6.4 million hectares of conservation area in the Tapajós Basin, in anticipation and compensation for impacts from infrastructure development and BR-163 pavement, and the *Terra do Meio* mosaic in the Xingu Basin. The MPF federal prosecutors' regional office in Santarém became an activist hub for environmental issues and traditional communities, starting in 1999 with public prosecutor Felício Pontes stalling the Cargill soy port in Santarém and initiating a tradition of stellar MPF activism.

Older ranching elites viewed new soy farmers with suspicion but eventually converged in land policy planning events in 2005, converging on land markets, regularization, and infrastructure policies and joining a Gaucho-led cooperative (Adams 2015:71).

Western Pará and its sizeable rural constituencies had important political expression in the Pará state Assembly and a few direct representatives in federal Congress. Given Incra's significance in determining land use and rural constituencies' political leverage, Incra's SR30 was a focal point for political disputes.

Elites clashed

Elites clashed over Incra's policies and resources, despite a consensus on the need for land legibility and titling in Western Pará. Disagreements emerged over implementation—who should receive titles, what type of titles, and who should manage these policies. Although there was broad agreement on the importance of territorial organization, land regularization, and titling, different elites and factions disagreed on land use goals, administrative oversight, distribution methods, property regimes, and priorities. These conflicting agendas encompassed economic, social, environmental, and political objectives.

Elites involved Incra in clashes over land and institutional resource allocation. Peasant leaders and landless movements sought land reform and Incra to distribute land and curb agribusiness encroachment by creating land reform settlement projects, which ranchers and soy entrepreneurs opposed. Environmentalists were ambivalent about settlement projects, recognizing their potential to mitigate and exacerbate agrarian encroachment into forests, particularly after increased deforestation was observed within Incra settlements in 2006. Timber entrepreneurs supported Incra's PDS 'sustainable land reform settlements' as fronts to legalize timber extraction over vast federal forests and pressured the federal government, the Ministry of the Environment, and Incra to create these settlements in 2005 (Torres 2016:210–16). In response, environmentalists and social justice activists accused Incra of facilitating illegal timber extraction and misusing land reform policy (Greenpeace 2007). In 2007, federal public prosecutors (MPF) sued Incra and embargoed administrative operations in 106 newly created settlement projects—

many embargoes lasting until 2018. In 2008, pressure from Amazonian governors for land regularization and calls for Incra's dissolution (see Chapter 3) resulted in the 2009 Terra Legal program, which aimed to privatize federal land outside of land reform settlements. Terra Legal significantly undermined Incra by stripping it of key technical personnel, substantial land assets (*glebas*), and its regularization function. Various parties and factions vied for control over Incra to leverage institutional rent and federal resources—for smallholder credit, road building, housing, and technical assistance—that surpassed municipal government resources in most of Western Pará. This competition was motivated by pork barrel, patronage, and to build political careers.

Interventions in Incra

Elite interventions by politicians, timber entrepreneurs, agribusiness leaders, governors, public prosecutors, and judges deeply shaped Incra in Western Pará. Clashing elites (politicians, agribusiness leaders, and public prosecutors) intervened in Incra's operations. While rural elites publicly supported land legibility and private property rights, behind the scenes, they meddled with state legibility to advance illicit land use. Alternating Pará elites promoted high turnover in Incra's leadership and steered the bureaucracy towards different goals. Other state agencies and elites opposed what they saw as Incra's misdeeds and malfeasance. In response, environmental litigation and protests further embattled Incra and unintendedly weakened its regional bureau.

From 2003 to 2010, every Incra superintendent was a Worker's Party (PT) cadre because land reform was among the Lula government's promises. Pedro Aquino, a Worker's Party cadre and land reform activist with personal electoral ambitions, was appointed SR30's first superintendent in 2005, and tasked with creating new land reform settlement projects and settling families. In 2005-2006, Aquino led the creation of 128 *new* Incra settlement projects with 5 million hectares and registered 51,700 beneficiary families—more families registered for land reform than the entire South or Southeastern regions of Brazil over a century (Torres 2016:221). Aquino's superintendence was crucial for the Lula government to satisfy

IIPNRA goals by the end of his first term. Recent SR30 hires (through a national public exam) joined teams of Incra personnel from other regions in a Task Force to create settlements and register people—SR30’s first task force. “Aquino took money away from ‘land regularization’ and put it towards settlement creation. Land regularization stopped; superintendents were linked to settlement social movements” (Interview Al. Set/21/2018). Explicitly, Aquino sought to guarantee territory for land reform and prevent land-grabbing from incoming agribusiness. Later, Aquino ran for Congress but lost.

From the perspective of a long-time Santarém Incra employee, “There were many strong reactions against new settlements” (Interview S. 2018). Different elites reacted against settlement creation—agribusiness leaders and representatives, environmental NGOs, agencies, MPF public prosecutors, and social justice activists. The soy agribusiness sector opposed Incra’s land reform settlement creation, but their elites couldn’t annul them yet. Agribusiness was only partially but directly hit. A few settlements overlapped with existing farms. Settlements formally impeded agribusiness expansion—they restricted legal commercialization and formalization of farms on large land tracts for decades or permanently. The agribusiness representative entity—the *Federação da Agricultura do Estado do Pará*, FAEPA—was not strong enough, however, to control SR30 policy in 2005-2008.¹¹⁷

Timber entrepreneurs urgently demanded Incra settlement creation in 2004 and 2005 to legalize timber extraction, as declared in the local press and in federal government meetings in Brasília (Torres 2016:212,215-6). PDS-type settlements would allow timber entrepreneurs to fulfill stringent enforcement of property documentation for timber licensing (started in 2004). Timber entrepreneurs even supported Incra, indicated desirable forested areas, and helped to enroll beneficiaries—as fronts for ‘timber management plans.’

Environmental and judicial elites denounced Incra’s new settlements in 2007 after alarming deforestation growth in Incra settlements in 2006. A Greenpeace report denounced clandestine alliances

¹¹⁷ FAEPA had more power in the eastern reaches of the region. Powerful Altamira elites, for example, Silvério Fernandes, ex-vice-mayor of Altamira (2005-2012), antagonized Dorothy Stang (before her 2005 assassination) and opposed an Incra settlement named after her in Anapu, 2022. But FAEPA couldn’t overhaul the federal government’s appointed Incra superintendent in 2006.

between loggers, Incra, and beneficiary families, and families' involuntary debt to timber companies for providing road access to their plots (Greenpeace 2007:25–27). Felipe Fritz, head MPF prosecutor in Santarém, investigated and sued Incra SR30 for improper settlement creation (ACP 2007). Felipe Fritz's ACP argued that Pedro Aquino, PT elites, and Incra connived with illegal timber bosses to create timber repositories inside Incra settlements (Torres 2016). Fritz asked the courts to cancel 99 of the 128 new settlement projects.¹¹⁸ The federal judge embargoed 99 new settlements plus another seven, effectively barring Incra from any administrative act within 106 land reform settlement projects. Several of these settlements remained blocked until a final agreement between SR30 and MPF in 2018. Different MPF prosecutors reinforced the 2007 ACP, following an activist tradition inaugurated by Felício Pontes and supported by environmental NGOs acting in the region (ACP lawsuit documents 2018). Turnover in both SR30 leadership and MPF in Santarém made the process more difficult (Interview A. 2022).¹¹⁹

Amazonian political elites disempowered Incra by creating the parallel Terra Legal land regularization program in 2009. Incra had dissatisfied landed and agribusiness elites. Amazonian governors proposed to extinguish Incra in 2008 (meeting in Manaus); Incra reacted, and the federal government reached a compromise by separating land regularization in a parallel program (with Secretary Mangabeira Unger's oversight) (see Chapter 3) (Interview H. 2022). This shifted land squatters and smallholders' interests away from land reform and toward purportedly streamlined land regularization outside Incra's purview (Interview Al. 2018). Landed elites would seek land regularization through Terra Legal.

Conservative political elites (agribusiness and older ranchers) led SR30 from 2011 to 2022, with lots of turnover and brief moments of bureaucratic autonomy. From 2011 until 2015, the PMDB political party appointed SR30 superintendents. PMDB demanded SR30 as a political spoil to back the Worker's Party presidential ticket with Dilma Rousseff in 2010. The Belo Monte mega-dam would start construction soon, BR-163 paving was underway, Alcoa mining was operational in Juruti, and soy ports were opening

¹¹⁸ Of the settlements projects created in 2004–2006, 34 were of PDS type, though 106 were embargoed.

¹¹⁹ The federal MPF filed another ACP in 2008 against SR30 in Western Pará, SR15 in Amazonas, and SR17 in Rondonia for creating settlements without prior environmental impact assessments. This second, general ACP, was quickly solved by Incra's Brasília office.

in Itaituba—and land policy could provide many rents. Francisco Carneiro was a brief PMDB appointee, judicially removed from office due to corruption charges for sidetracking money meant for housing in Incra settlements. Luiz Bacelar was PMDB's main superintendent during this period (and ex-mayor of Oriximiná). He was appointed by congressman José Priante, cousin of Jader Barbalho, the kingpin of Pará politics. During Bacelar's term, settlement projects in fertile floodplains (*várzeas*) were allegedly allocated to large ranchers; settlement projects were downsized in local databases (but not national databases), and land was privatized to farmers and timber entrepreneurs. Bacelar intended to run for mayor in Oriximiná (Western Pará) but was jailed in 2015 in investigations of illegal timber companies (Interview A. 2018).

Incra career bureaucrats led SR30 for brief moments in 2015-2017. A career bureaucrat, Chalito, replaced Bacelar as superintendent and generated a short technocratic insulation. Chalito focused on the institution's global mission and technical procedures—and sought to remedy the improper dealings previous administrations had done (Chalito 2016). He would not meet 'community leaders' or politicians in his cabinet without prior appointment and thus met complaints by dealers and representatives who lost easy access to the superintendent (Interview E. 2018). Many peasant organizations resumed visits to the SR30 office to make demands, which they had avoided during Bacelar's term (Interview A. 2018). Chalito was dismissed to give way to a political appointee, who lasted only days as superintendent.¹²⁰ Elita Beltrão, another career bureaucrat, became superintendent in 2016-2017. Elita attempted to correct past wrongs and set SR30 on its mission with technically sound measures. She maintained a dialogue with civil society organizations and sought to address violent conflicts. Her actions threatened illegal timber and land sales. In a meeting inside the Superintendent's office, a Trairão municipal council member (and logger) threatened to kill Elita, and she stepped down for health reasons shortly after (Interview E. 2018).

¹²⁰ Dilma Rousseff's impeachment process meant PMDB had left the base, and the federal government sought support from smaller parties to vote against the impeachment. Chapadinha, a Santarém congressman, asked to nominate the SR30 superintendent for his vote in favor of Dilma. Chapadinha voted for impeachment days later, and the government exonerated his nominee.

SR30 fell into the Solidariedade (SD) politicians' control in 2017.¹²¹ Then, Incra's policy prioritized land titling over other policies and created a "titlemeter" (titulômetro) that established titling goals and prized regional superintendencies that fulfilled them each semester (see Chapter 3). Wladimir Costa, SD's congressman for Pará appointed his brother, Mario Sergio Costa, for SR30 superintendent despite his inexperience with land policies or bureaucracies. The Costa brothers sought to amplify Wladimir's political base from east to Western Pará. Wladimir had recently bought a radio station in Santarém and aired the "Land Squadron" show in anticipation of his senatorial bid in 2018. In the 2018 election run-up, Sergio Costa organized land title-delivery events where Incra bureaucrats signed CCUs (provisional titles) while Sergio promoted Wladimir Costa's senate bid. The Costa brothers claimed they were personally responsible for policy delivery in campaign material. Bureaucrats resisted Sergio's whimsical demands in technical terms and reaffirmed legal requirements and formal institutional procedures (Interviews E.; A.; El. 2018). The SR30 staff publicly protested Sergio's political use of the institution and denounced impropriety to the MPF, who sued Sergio. One month before the election, Sergio stepped down from the superintendency to coordinate his brother's campaign. However, the SD party still held some influence over Márcio Piero, a (lower tier) career bureaucrat who substituted Sergio.¹²² During Sergio's term as superintendent, SR30 issued over two thousand temporary CCU land titles. Wladimir Costa became a popular politician in western Pará but was deemed ineligible by courts in 2018. Similar political appointments and high turnover in leadership remained in SR30 during Bolsonaro's government, 2019-2022.

SR30 appointed superintendents acted politically, according to political expediency, pursuing ideological-programmatic agendas and patronage resources with short-term frames. Several pursued electoral political careers. Political patrons to superintendents were in unstable party coalitions. SR30's superintendents saw their tenure as short windows of opportunity, thus seeking short-term objectives and hasty, technically wrongful administrative decisions. After left-wing superintendents hastily multiplied land

¹²¹ Under President Michel Temer, PMDB, Incra leadership was allocated to several parties nationally and in superintendencies, including PMDB and SD.

¹²² I witnessed an SD cadre impose a meeting with Márcio in the Superintendent's office.

reform settlements, provoking agribusiness and environmentalist responses, right-wing politicians (from PMDB, PTN, SD, and PSD) demanded SR30 control to reap rents and votes—alternating policy focus on feeder roads, credit, housing, and land titles.

Elite clashes and shifting elite coalitions induced high politicization of each superintendent's tenure in office. Politicians were interested in controlling SR30 because of its control over land, natural resources, public contracts, and what could be done with them—in garnering political support from land reform clients or illegal economic gains. Three superintendents left SR30 to run for Congress. Three superintendents left their office to face criminal charges; two were jailed.

Clashing elites, contrasting societal interests, changes in federal-level alliances between the federal government (Executive) and different factions of Pará's political elites (Legislative), and national political shifts resulted in constant changes in SR30 superintendents—17 different superintendents during SR30's 18 years of existence (2005-2022).

17 Superintendents in SR30 over 18 years

Year	Superintendent	Incra civil servant?	Political affiliation/patron
2005-2007	Pedro Aquino	no	PT - Paulo Rocha
2007-2008	Raimundo Lima	yes	PT
2008-2010	Luciano Brunet	yes	PT affiliated but not electoral
2010-2011	Cleide	no, but prior experience in Incra	
2011-2012	Francisco Carneiro	yes, retired	PMDB
2012	Hugo Alan Moda Lima	yes	PT
2012	Marcos Kowaric	yes	PT
2012-2015	Luiz Bacelar	no	PMDB - José Priante, cousin of Jader Barbalho
2015-2016	Claudinei Chalito	yes	PT sub
2016	Adaías Gonçalves	no	PTN - Francisco Chapadinha
2016-2017	Elita Beltrão	yes	sub
2017-2018	Mário Sérgio Costa	no	SD-Wladimir Costa, brother
2018	Márcio Piero Elly	yes	sub
2019	Guilherme Feitosa	yes	sub
2019-2020	Gustavo Hamoy	no	PSD Júnior Ferrari Dep. Federal
2020	Almir Uchôa	no, Emater	sub
2020-2023	Francisco de Sousa (Chiquinho)	no	PSD-Júnior Ferrari; ex-vereador Santarém
2023-	José Maria Melo	no	PT - ex-senador Paulo Rocha & dep. Estadual M

Polarized bureaucrats and organizational corrosion

Polarization among bureaucrats, fueled by clashing elite interventions, instigated organizational dynamics that significantly eroded bureaucratic capacity. Politically driven decisions compromised policy delivery, shifting institutional focus and disorganizing the policy production line. The politicization of superintendents led to hasty and technically flawed decisions, exacerbating the bureaucracy's workload and liabilities, and resulted in arcane judicial challenges against Incra—with the 2007 ACP MPF lawsuit halting administrative actions in most settlement projects. Interventions and polarization produced frequent turnover in staff appointments and disorganization of the policy production line. Extreme partisan polarization involved mutual accusations of corruption, conflicts, threats between bureaucrats, and a toxic environment of mutual suspicion. This demotivated staff, causing inaction and capacity loss. Incra staff were incentivized to avoid action rather than risk being accused and suffering administrative reprimands or lawsuits. Many Incra civil servants opted to jump ship upon realizing their degraded working environment. Many recent recruits transferred to other jurisdictions, highly qualified ones went to Terra Legal, and several abandoned their careers. Other qualified personnel had to dedicate themselves to unwinding lawsuits and correcting past administrative misdeeds. Technical positions for policy completion remained unstaffed and inoperant—e.g., land survey and georeferencing certification required for land titling. The combined effects of technical missteps, judicialization, and internal strife left SR30 struggling with a diminished workforce and operational challenges, illustrating how bureaucratic polarization and its consequences deeply impacted the organization's functionality and effectiveness.

Partisan staff appointments, flawed decisions, and the policy production line

Political decisions have both motivated and compromised SR30's policy delivery. Politically appointed superintendents steered the organization toward different programmatic goals and short-term political advantage and spoils. Superintendents lead by garnering resources and approval from Incra's central office in Brasilia and appointing bureau divisional directors (*chefes de divisão*), positions that provide a wage

bonus to career bureaucrats. High politicization and turnover in bureaucratic leadership, including *chefes de divisão*, produced hasty and technically flawed decisions during brief windows of opportunity. Partisan implementation created hasty, weak, or wrongful policy delivery. New superintendents appointed new divisional directors and redirected organizational resources towards different policies or geographical focus to imprint achievements and garner electoral or other returns. Most longer-term initiatives remained unfinished as institutional resources were frequently diverted to different ends. As one agronomy engineer told me, “The policy production line gets disorganized” (Interviews A1.; E. 2018). Policy shifts away from older problems to produce new results disrupted a ‘policy production line,’ an operational flow that would attend to all institutional responsibilities and goals in a paced, continuous, and sustainable manner.

Political versus technical orientations became a hotly debated issue in SR30. Politically appointed superintendents without technical knowledge, who aim for short-term, electoral, or other patronage gains, caused havoc in the institution’s operations. On the other hand, technically oriented bureaucrats were criticized for being insulated from local political forces or unwilling to go out of their way to deliver policies.

Hasty and flawed decisions

Technically flawed settlement creation in 2005-6 burdened SR30 with serious ‘procedural vices.’¹²³ New settlements crudely estimated family capacity and lacked prior surveys, georeferenced perimeters, or environmental licenses. Many settlements overlapped with preexisting land occupations, environmental conservation units, titled land, farms, extractive reserves, and even mutual overlap. Hundreds of families

¹²³ Pedro Aquino led settlement creation in haste to prevent agribusiness expansion and to improve ‘land reform indicators’ for Lula’s 2006 reelection campaign, and achieve the Second National Plan for Land Reform goals—of 400 thousand settled families for 2003-2006 (Brasil 2005:20). Part of these settlements, notably PDS types in primary forests, were rackets to launder illegal logging (Torres 2016) and, in exchange, finance political campaigns (Interview A. 2018). Aquino led a task force with Incra staff from other regions temporarily assigned to Western Pará to create settlements and register families, while recently hired SR30 staff joined the team.

were randomly assigned to settlements without their knowledge. Hasty settlement creation and family registration (*homologação*) generated long-term problems.

Other hasty or technically weak decisions within SR30 included unsupervised and ultimately useless land surveys and improper contracting of companies to build roads and houses or distribute construction material to beneficiaries. Without proper technical oversight and contracting, SR30 tendered land survey companies that could not complete technically compatible tasks, thus wasting precious budgets.

Bureaucratic resistance

Career bureaucrats used task refusal and judicial whistleblowing to resist partisan requests. Bureaucrats learned to use normative procedures to refuse administrative impropriety. In 2006 and 2007, new career civil servants slowly realized what the politically oriented task force had been doing and decided to resist. According to an active civil servant,

“The first opposition we made, in 2007, was this: that we would not create documents with retroactive dates; they would be done with current dates. And I said: ‘If anyone does it, I will report it, including colleagues who do it, because we are not responsible for all the mess that was made here. We entered with the engine already functioning. From the moment we agree to make falsified documents, we are becoming part of what happened.’” (Interview A. 2018).

In addition, SR30 civil servants joined a professional association, Associação dos Servidores da Reforma Agrária (ASSERA), to avoid institutional predation. The collective helped coordinate information, leak administrative irregularities to judicial elites, and oppose political pressures to disregard institutional norms. The association periodically produced demands for bureaucratic autonomy, suggested names for superintendents, and listed administrative priorities for the bureau. However, Incra leadership in Brasília rarely attended these demands.

Other career civil servants were more willing to join leadership efforts and criticized bureaucratic resistance:

“Inkra is like a party, not a political party, but a party with some employees who support and others who refuse to support. There are employees who are like the joke: ‘They are at the bottom and complain, complain, but when they get to the top, they don’t do smack.’ Many of them have had the opportunity to be part of the administration and did nothing. Others just complain, complain, and when invited to be part of the team, they never act, they never want to act. They hide behind legislation, saying it’s not their responsibility, that it’s not this or that. But if you look at the internal regulation, even though they involve other responsibilities related to land reform, it includes everything. That’s how I see it! There’s even been a consultation with the Attorney General about this class [of civil servants]. In fact, it’s a whole class, right? It’s a class of employees, let’s say that 70% of this class is in this group. And the remaining 30% of the other class fits in with these 70%” (Interview D. 2018).

Judicialization

Technically weak decisions or misdeeds facilitated judicial contestation by elites and oversight agencies (MPF, TCU, and CGU). The Federal Public Prosecutors (MPF) sued SR30 for misusing settlement projects to favor illegal loggers, failure to comply with environmental regulations, and other administrative flaws. A Santarém court ruling in 2007 embargoed 106 Incra settlement projects and suspended five Incra civil servants. Pedro Aquino, the first superintendent, was exonerated but left an immense judicial burden to be solved by the institution.

In 2011, an unsympathetic judge in Santarém ruled to cancel all 106 land settlements, though the MPF had agreed with SR30 to lift judicial embargoes on some ‘settlement projects’ that had been corrected.

A higher court reinstituted the canceled projects; an agreement to lift judicial embargoes on all remaining projects was finally reached in 2018, with conditions.

Between 2007 and 2018, Incra was prohibited from working on dozens of settlement projects that remained on ‘paper’ while peasants and agribusiness continued to occupy Incra lands. With great institutional effort, many settlement projects were gradually liberated for Incra to operate. However, SR30 devoted a significant amount of energy to judicially rectifying early mistakes from 2005-2007 and still strove to administer derivative, mounting problems in 2022.

Corruption, conflicts, and threats

Accusations of corruption between SR30 bureaucrats generated conflicts, death threats, and a toxic work environment of mutual suspicion, fear, and inaction. Corruption scandals erupted over the destination of lands, money, companies hired to deliver services, and beneficiaries enlisted.

“At the time [Superintendent] Bacelar was arrested [2015], it wasn’t just him who was arrested. An Incra employee who was his underling and who was already implicated in a homicide in Marabá was also arrested. Priante appointed him as a chefe de divisão here. Since he was arrested along with Bacelar, there were threats that he would kill us; because he had a list of five civil servants he intended to kill. (...) When Wladimir Costa took over [SR30, in 2017], the few remaining staff were still facing conflicts, and I said: ‘Guys, there will come a time when they will kill us, and we won’t even know who did it because [laughs] everyone is angry with us.’” (Interview A. 2018).

Civil servants rebuked accusations of corruption with counteraccusations and mission statements:

“I don’t know what they think; there are Incra colleagues who assume that every coordinator or manager is a criminal. I ride a motorcycle, and I don’t understand why people think a chefe must be rich or poor. I think if I buy a car or something, it’s none of their business. If they think it’s wrong, they should check my

income tax returns to see where it came from. But everyone assumes they're criminals. (...) In response to a series of complaints to the Public Prosecutor's Office, I chose to protect and preserve my staff, my friends who were out in the field. I said: 'Partner, come back here. You don't need to finish the job [in the field]' Because we were working, and Incra employees were coming, and there was opposition within the settlement [project] ... Because in these areas, someone is definitely benefiting, whether it's A or B. And part of this group are the very people making the complaints. So, if someone thinks that Incra implementing public policies is a crime, what am I supposed to do? I prefer to bring them [colleagues] back and not have to answer to the Public Prosecutor's Office, the police, or anyone else, rather than leave everyone working to apply public policies to those who deserve it. It's complicated to send a colleague to do a job, only for them to be denounced and end up being questioned by the Public Prosecutor's Office! Even if they're not doing anything wrong, it causes significant delays and problems for us. And that's what I did—I brought the team back, and the job was left incomplete.” (Interview D. 2018)

Mutual accusations incentivized caution and, when in doubt, inaction. A respected technocrat told me, ‘I am more fearful of unintended administrative mistakes, which are more easily used against honest functionaries, than the planned criminal activities by staff that can disappear documents and are politically backed by higher-up echelons and powerful economic interests’ (Interview E. 2022).

Loss of bureaucratic capacity – demotivation, abandonment, and inaction

After realizing their degraded working conditions, administrative misdeeds, conflicts, and accumulated wrongdoings, SR30 staff became demotivated, and many opted to jump off what they felt was a sinking ship.

“Many of the staff had already left [by 2012], requested transfers, or moved from Incra to other agencies. In fact, there was an atmosphere like what it is today—like a funeral, you know? [Laughs] Nobody does anything, nobody cares! [Laughs] - in my opinion.

(...)

“The staff who clashed with Aquino, clashed with Bacelar, clashed with the current team [Costa’s], they’re already feeling a certain fatigue and disappointment and personal exposure, you know? So, you end up... spending a lot of energy on things that sometimes lead to nothing. For example, some of our colleagues who were involved in various shady dealings are now laughing at us, and we get very worn out and exposed. You receive threats, you receive... Well...

(...)

“It’s not just about staff leaving, but also about the demotivation. Personally, I feel very disheartened because, as I said, you can’t achieve anything. The most you can do is prevent things. And so you keep rowing and rowing, collecting disputes and, well...It’s very complicated. And, at a certain point, you really don’t see a way out.” (Interview A. 2018)

Many recent civil servants became disillusioned with their Superintendency and their ability to follow its mission goals, fearful of institutional corruption and surrounding rural conflicts, or tired of life in Santarém. Those with families elsewhere obtained job transfers; others found different jobs. The Terra Legal program borrowed a few SR30 staff in 2009-2018. Some were disillusioned by Terra Legal and returned to SR30 or moved on to other careers (Interview A1. 2018). By 2022, less than 50 of the nearly 200 career functionaries recruited in 2005-2013 remained in SR30. Highly trained technicians preferred other posts for multiple reasons (including family reunion, a functioning superintendency, better infrastructure, etc.). SR30 never retained qualified and certified technicians to undertake high-precision GIS land surveys and demarcation. At SR30 in 2022, less than sixty civil servants were responsible for 226

land reform settlement projects over more than 8 million hectares,¹²⁴ and supposedly servicing more than 80,000 peasant families.

Failed legibility and land titling

Incra's capacity remained politically fraught, judicially restrained, overstretched, diminishing, and too weak to upkeep the land legibility policy stream in settlement projects and issue land titles for smallholders. Few Pará smallholders received property titles, notably through political patronage. Traditional communities' strong local knowledge of their territories remained untapped for land legibility.

SR30 issued few titles because of major bottlenecks in upstream policies: judicial embargoes, land surveys, registry of beneficiary smallholders, occupational inspections, and the fact that SR30 could not operate in 106 settlement projects because the Santarém federal court judicially embargoed them from 2007 to 2009. Judicial agreements between Incra and MPF liberated small batches of projects over time—twenty-one from 2009 to 2011—until a final agreement was reached in 2018. SR30 lacked required land surveys in many settlement projects,¹²⁵ including the resources to undertake expensive, labor-intensive surveys over a vast territory or the personnel to properly contract and certify contracted surveys onto official databases.¹²⁶ SR30 was barred from issuing definitive land titles (TDs or CCDRUs) to settlements without certified surveys. An outdated registry of beneficiaries (RB) for many settlements, due to flawed initial registration and high occupancy attrition rates, prevented SR30 from issuing more than a few hundred temporary titles (CCUs) between 2016-2018, when titling became a priority. SR30 staff shortages allowed for few fieldtrips

¹²⁴ Discounting the conservation units managed by ICMBio but recognized as amenable for land reform policies by Incra.

¹²⁵ Georeferenced surveys of public lands (*glebas*) and settlement projects, required by law from 2007 onwards. High-precision georeferenced land surveys were mandatory since the 2001 law but demanded in Incra settlements beginning in 2007 (Brasil 2001)—see Chapter 2.

¹²⁶ Once Terra Legal was created in 2009, it deprived SR30 of the staff trained to certify georeferenced surveys. In addition, past errors over public land federalized in 1971 and supposed survey in 1976 but improperly differentiated made surveys difficult investigative work—for example, in Lago Grande (Interview J. 2018).

to complete occupational inspections in settlements, update the RB, and issue CCUs. Distant and difficult-to-access settlements remained untitled.

The exclusive policy priority on titling also divided opinions among SR30 bureaucrats:

“Land titling is a phase of the settlement process that must be achieved and completed. In fact, when we started here, one of the things we did was address this because, for example, there was a massive creation of settlements without any titling policy. However, we always understood titling as a part of the process, where everything related to possession, other policies, must be done to achieve titling. So the discussion we always had was: after the creation and implementation of the settlement, all policies related to demarcation, credit, and infrastructure are necessary so that families have at least the conditions to stay in the area and, eventually, the titling. This has always been the perspective we adopted for titling. (...) Titling is always linked to this procedure of structuring the settlement and ensuring the family stays. It’s never a titling program with titling goals that overlooks the structuring part (...) because, in reality, what is happening today is this... The procedure I described from 2005-2006, of creating new settlements randomly, is now titling randomly, you understand?” (Interview A. 2018).

“For me, and for INCRA, the best document is the title because you emancipate the person, and that’s it, so to speak, the obligations are effectively over. The person is emancipated. Or it just emancipates the settlement because the jurisdiction ends, and that’s also a positive point. (...) But with the title, they can access other credit policies: PRONAF, private banks. It’s also a way for the person to grow” (Interview D. 2018).

Settlements drifted

SR30’s nonattendance to most settlement projects furthered institutional drift due to smallholder attrition, making land legibility and titling more difficult. Every SR30 settlement lacked policies (plot demarcation, roads, credits, housing, education, and/or rural extension). Land reform beneficiaries, settlers, and family

agriculturalists could hardly stake out a living from their plots. Smallholder family agriculture had low economic returns near Santarém in 2007 (see Sena 2007),¹²⁷ made worse for distant settlements. Without land reform policies, smallholders faced economic and safety difficulties. Informal land sales were common. Timber entrepreneurs provided minimal dirt road maintenance while timber supplies lasted in exchange for exclusive timber deals. Western Pará settlements had high attrition rates. For example, PDS Virola-Jatobá had a 20% plot turnover annually and 3.3 occupants per lot, on average, over 14 years (Porro and Porro 2022:4). High attrition and illegal occupation deepened Incra's lack of legibility of its policy subject-matter—land reform beneficiaries, settlement occupation, and land use.

To compensate for Incra's overstretched capacity, smallholders had to spend considerable time and resources to obtain titles when they could: *'I had to work a lot to get CCUs. I used to come every day. It took three weeks to get ten CCUs. I was anxious to get the PMF (timber license). When the internet was good [at Incra's office], they made three to four CCUs per day'* (Conversation with Cazuza, fieldnotes 01/Oct/2018).

Traditional peasant communities' strong local knowledge of their territories remained untapped for land legibility. Thousands of traditional riverine peasant families lived on islands and floodlands formally designated as PAE Incra settlements, but SR30 could not issue titles for over four thousand registered families in PAE settlement projects due to a lack of certified surveys over previously *Secretaria do Patrimônio da União* dominium areas (Thomas, Almeida, and Pinheiro 2019:131).

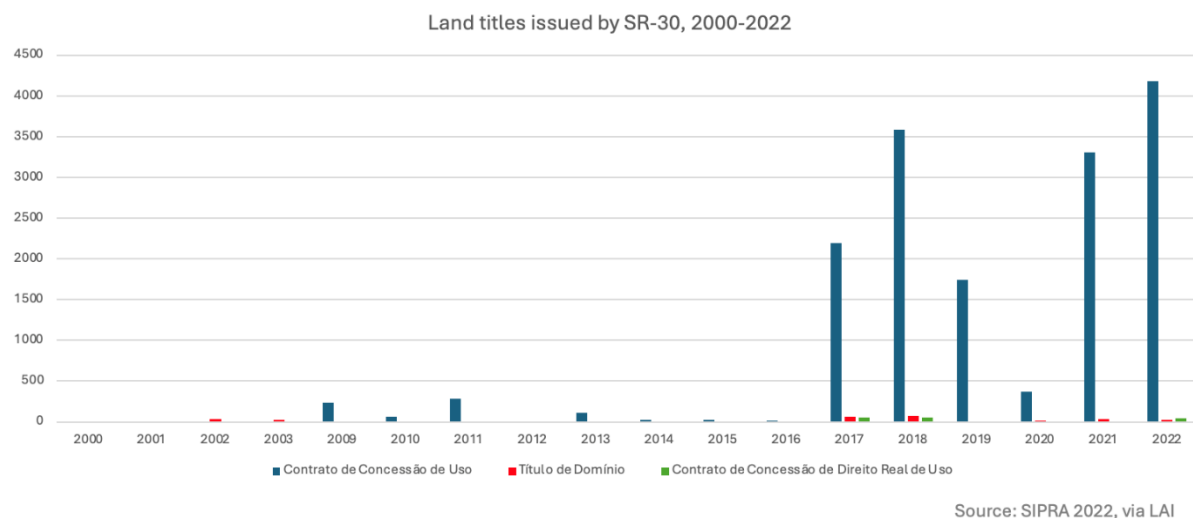
Land titles issued by SR30

SR30 remained the national land titling laggard, issuing titles to a mere 20 percent of registered smallholder families (nearly eighty thousand), or 14 percent of its estimated settlement capacity.¹²⁸

¹²⁷ See: <https://www.icbsena.com.br/artigo-4>

¹²⁸ See Annex 2.

SR30 issued a mere eight hundred titles between 2000 and 2016. In the 2017-2022 period, when land titling was the policy priority, and mainly since 2019, when requirements for titling were softened, SR30 issued fourteen thousand temporary titles (CCUs), a mere 213 definitive individual titles (TDs), and 144 definitive collective titles (CCDRUs) (SIPRA 2022).



Conclusion

This chapter shows that Incra's new regional superintendency in Western Pará (SR30) oversaw a convoluted agrarian frontier, where infrastructural projects, road paving, and soy plantations sharply increased land value and interests in rural land. Landholding elites, agribusiness farmers, politically strong peasants, and environmentalists largely agreed with titling land but disagreed on land use and allocation. While rural elites publicly supported land titling, behind the scenes, they meddled with state legibility to advance illicit land use. SR30 became the focus of organized interests and elite intervention. Leftwing politicians leading SR30 quickly multiplied 'land reform settlement projects.' In response, environmental litigation embargoed Incra from managing these projects. Alternating political elites promoted high turnover in Incra leadership,

steered the bureaucracy towards different goals, and sought patronage spoils. These elite interventions polarized Inca civil servants, with frequent turnover in staff appointments and disorganization of the policy production line. Extreme partisan polarization involved mutual accusations of corruption, conflicts, threats between bureaucrats, and a toxic work environment. Many civil servants left the bureau, and the remaining staff were demotivated, corroding bureaucratic capacity and effectiveness. With judicial embargoes, administrative missteps, and crumbling capacity, SR30 failed to issue land titles to most smallholders.

This chapter analyzes federal land policy implementation in Western Pará, the policy priority region where valuable land, a strong civil society, elite interests, and politically strong peasants were expected but failed to produce land titles (Demsetz 1967:350; Meyfroidt et al. 2018:56; Emigh et al. 2019; Lachmann 2020a; Albertus 2021). It applies negative case analysis to further develop theory. This chapter argues that high relative land value prompts diverse elites to intervene in the land bureaucracy, polarize bureaucrats, and ultimately compromise policy implementation, including land titling. The chapter shows that a strong civil society with divergent interests in land and clashing elites (politicians, agribusiness leaders, public prosecutors, and judges) intervened in the bureau's operation. External interventions imprinted partisan polarization onto bureaucrats and a series of organizational dynamics: high leadership turnover, disarray in the policy production line, personnel loss, and inefficacy. This case analysis underscores the relevance of elite action and its unintended consequences. It shows that political appointments and judicialization of bureaucracies are insufficient for policy implementation and can lead to institutional corrosion, ultimately undermining policy goals.

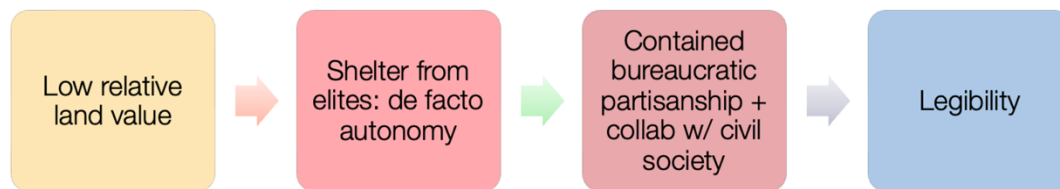
Chapter 5: Policy implementation without interests: Incra land titling in Amazonas

Amazonas state was Incra's national land titling champion in 2017-2018 and titled most smallholders, although it was not a priority jurisdiction for titling. Chapter 1 showed that land legibility and titling are expected outcomes of high land use value or connectivity (Demsetz 1967:350; Rudel 2016; Alston et al. 2012:746; Meyfroidt et al. 2018:56), strong state bureaucracies (Scott 1999:49,24,38; Centeno and Ferraro 2017; Evans 1995), peasant-inclusive politics (Albertus 2021:25,29), or elite interests (Lachmann 2020; Kinsdon 2014). Why would a weak land bureaucracy succeed where elites and non-elites are uninterested in land titling and peasants have little political say? Incra in Amazonas has titled most eligible smallholders, although its civil society (elites and non-elites) devalued rural land, and bureaucrats themselves devalued titling.

This chapter argues that low relative land value kept elites uninterested in the land bureaucracy and provided moderately partisan bureaucrats with *de facto* autonomy to collaborate with civil society and issue land titles. The chapter shows that 1960s-70s development policies promoted industrialization and commercial activities in the capital city, Manaus—uprooting Amazonas elites from the rural economy. Amazonas' rural economy dwindled, and rural exodus ensued. Incra controlled largely remote lands, while other agencies (Suframa) controlled portions of valuable land near Manaus (Schwade 2019). Industrial, trade, and Manaus real estate elites became the dominant political forces. As a result, Amazonas elites (entrepreneurs and politicians) remained relatively insulated from its rural economy and uninterested in Incra. Amazonas elites built a tacit, consensual indifference to rural land and its policy. Amazonas elites accepted environmental set-asides and Incra's 'land reform' administration over large swathes of traditional community territories in the 2000s. Incra remained insulated from sometimes convoluted state politics; checked but unimpeded by judicial controversies. Incra leadership enjoyed stability and little turnover. In

sum, elite inattention allowed for Inca's *de facto* bureaucratic autonomy. As a result, Inca in Amazonas enjoyed organizational stability, retained talents necessary for technical tasks, remained operational, and kept the policy production line minimally apace (despite dwindling resources). Partisan bureaucrats increased organizational effectiveness by collaborating with smallholder civil society groups and marshaling riverine peasants' strong local knowledge to implement land legibility and titling.

Argument for Inca's land titling success in Amazonas



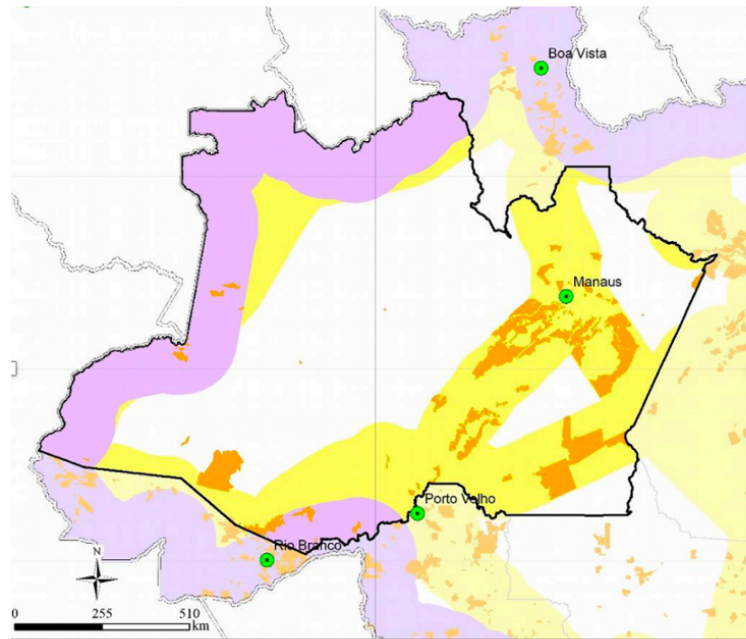
This chapter has six sections. Section 1 briefly describes Amazonas. Section 2 shows that rural land has little relative value. Section 3 shows that Inca's capacity is declining and overstretched. Section 4 shows how elites were uninterested in rural land, and Inca was sheltered from elite intervention. Section 5 shows that moderately partisan bureaucrats maintained organizational stability and collaborated with civil society to increase effectiveness. Section 6 describes land legibility and titles issued by Inca in Amazonas.

Amazonas state, brief description

Amazonas state became a separate Inca jurisdiction in 1976, Regional Superintendency 15 (SR15), covering the entire Amazonas state (3.5 times the size of California). Manaus, the state capital, has two million inhabitants, while another 2 million live in the remainder of the state, with low-density rural populations. SR15 also had advanced units in Benjamin Constant, Apuí (Rio Juma), Humaitá, Manacapuru, and Boca do Acre municipalities. In the 1970s, Inca was a powerful institution in Amazonas but hardly had the capacity to reshape the flailing rural economy. As in Western Pará, Amazonas Inca, controlled an

immense land mass and repository for different demands since the 1971 federalization of lands (200 km around planned roads) (Schwade 2019:277–82).

**Amazonas state- 1971 ‘federalized’ area in yellow
and Incra settlement projects in orange**



Source: Schwade 2019

Low relative land value and little interest

Rural lands in Amazonas had low relative value, with little interest in Incra-controlled areas. National development policies in the 1960s-70s promoted industry and commerce in the capital city, Manaus—sidelining the rubber elite syndicate (Souza 2009:329) and uprooting Amazonas elites from the rural economy. Amazonas’ rural economy dwindled, and rural exodus ensued. The GDP and population shifted to urban Manaus, and political power accompanied this. Industrial, commercial, and real estate elites centered in Manaus became the dominant political forces. In 1971, the federal government also seized control of massive rural lands, approximately 25% of the state. Incra controlled largely remote lands—not readily accessible by road and more distant from Brazil’s South and Northeast migrant-sending regions than

Pará and Rondônia frontiers—while SUFRAMA controlled valuable land near Manaus and the state land agency (ITEAM/SECT) controlled most of the state (Schwade 2019).

Rural land had low value because the rural economy remained stagnant. After the 1960s, Manaus boomed with industry and commerce while Amazonas rural areas suffered economic decadence, rural population decline, and the political uprooting of its rural (rubber estate) elites. Until the 1950s, Amazonas' economy centered on forest extractivism of spices, nuts, and rubber. The rubber boom produced a rush to occupy and populate remote headwaters (Hecht 2013). Value extraction was based on credit and commerce rather than land rents or waged labor. Rubber barons were reluctant to register land with the federal government until the 1890s bank credit lines requested land mortgages to finance seasonal flows and unstable incomes. The rubber economy bust of the 1910s caused long-lasting economic depression, elite flight, and a growing riverine, free peasantry living off subsistence farming, seasonal forest extraction commodities (including rubber and fish) and regional trade. Regional elites extracted unstable profits from the rubber, nuts, and fish trade. Rural economies saw declining or negative returns on investment.

Manaus, the state capital, concentrated economic dynamism, population growth, and politics since the 1960s. The federal government envisioned Amazonas' regional development and integration through The Manaus Tax-Free Zone (ZFM) in 1957 to overcome the isolation, depopulation, and economic debacle. The federal government amplified ZFM in 1967 with a 10,000 km² area for tax-free and incentivized industry, trade, and agriculture, with its own agency (SUFRAMA). The ZFM regional planning obliterated previous planning arrangements (SPVEA and the Banco da Borracha) and uprooted Amazonas elites from political power and economic support. By 2000, Amazonas continued rapidly urbanizing around its capital, Manaus, driven by burgeoning industrial, commercial, and service jobs and metropolitan allure. Social groups and policies had relegated rural land titles. The new ZFM economy based on industries and commerce in Manaus produced new economic and political elites, mostly transplanted from elsewhere, and

overhauled local politics. Only a few hitherto Amazonas elites adapted and competed with newly transplanted elites.¹²⁹

In the 1970s, Amazonas saw major rural exodus and rural population loss, while neighboring states saw rural population growth (Almeida 1992). Distant and underdeveloped rural property lost economic interest—its production had little if any returns. Rural society and elites had little interest in land property. An exception to this trend was lands around roads and colonization projects in southern Amazonas—much like in Western Pará—that attracted farmers from the south in the mid-1970s and 2000s, but many failed and sought lands elsewhere. The major BR-319 connecting Manaus to southern Brazil was paved in the 1970s but became unusable after failing to secure international loans in 1992, while other planned federal roads were never built. Amazonas's rural society is characterized by family agriculturalists cultivating small land plots and a weak agribusiness that caters to family agriculturalists. Amazonas has 330,719 people working in agriculture, of which 97% are family-operated (*agricultores familiares*). Amazonas had eighty-one thousand rural properties (establishments) occupying four million hectares, and the modal land plot is between 90 and 100 hectares (Agricultural census, IBGE 2017). The rural poor mostly inhabited traditional community lands or undesignated lands in floodplains and riverbanks; another few thousand settlers moved into Incra's dry-land settlement projects. Agribusiness represents a small fraction of rural properties and of state GDP.

Land titles over rural land have been a recent, tertiary concern. Profitable economic activities like timber and fishing were carried seamlessly over untitled lands, often benefiting from unclear property rights. These sectors' demands for land titling emerged in the late 2010s, when environmental protection agencies regulated activities more closely—usually in conservation units outside Incra's purview.¹³⁰ Amazonas peasants seldom demanded land titling. Land titling never featured family agriculturalist demands in state-wide conferences until 2022 (Interview Fetagri Aide 2022; Fetagri 2022). Fetagri never

¹²⁹ Testimonials of this transition and elite renewal are found in Benchimol's *Memórias empresariais*, Marcio Souza and Gilberto Mestrinho.

¹³⁰ <https://revistacenarium.com.br/em-manicore-empresarios-do-am-tentam-regularizar-atividade-de-manejo-florestal-ha-dois-anos/>

demanding that the Terra Legal program regularize and title activities other than when a land conflict ensued (Interview TL coordinator 2022). Demands for land titling in Amazonas were largely outside Incra lands or, when inside, by colonists without political power. Indigenous people have successfully demanded land demarcation and titling in the past, mostly outside Incra's scope. Most demands are currently made on state-managed lands overseen by SECT, not Incra. Those interested in land titles were agribusiness entrepreneurs arriving from other states with little influence on Amazonas political elites (Pereira et al. 2017).

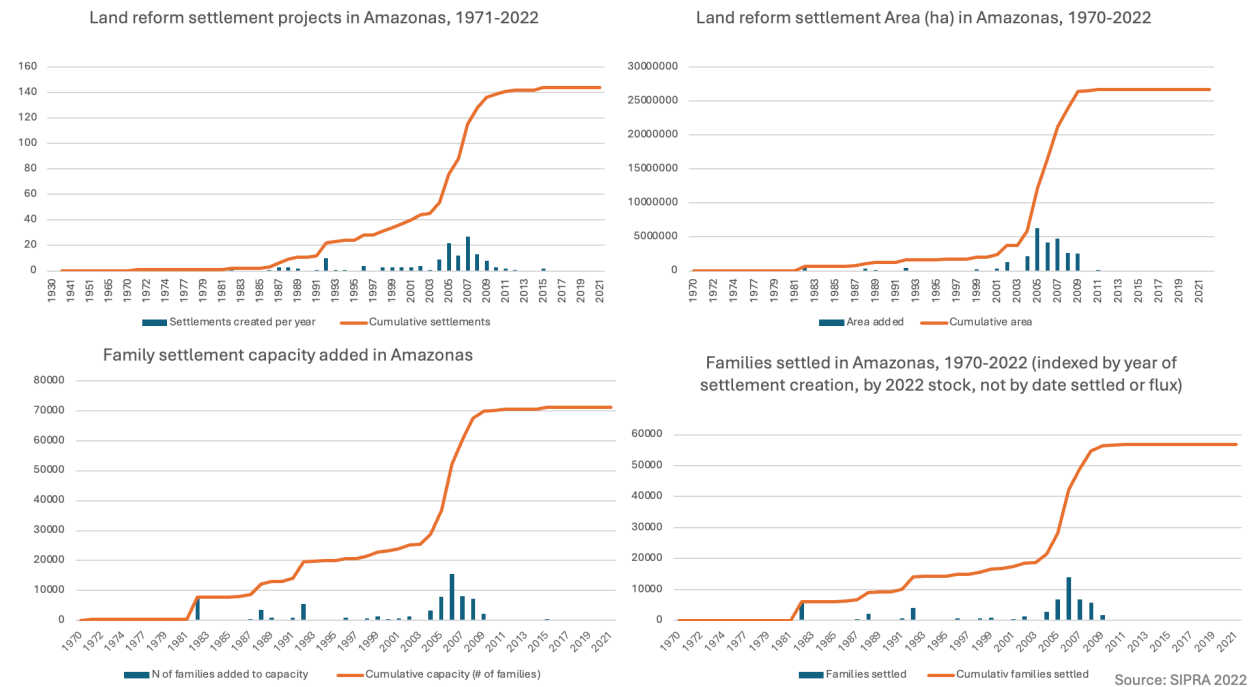
Amazonas' rural society and elites had little interest in land as stagnant rural economies saw declining or negative returns on investment. Elites and peasants saw little value in land property titles. Demarcation of rural land to conservation parks, indigenous lands, and sustainable use increased quickly in the 1990s and 2000s. In sum, Amazonas had a decadent agrarian society in recondite backwaters eager for federal and state investments in any form, with little value for land titles except near Manaus or where ranching compensated settlers (as in southern Amazonas).

Incra's state capacity in Amazonas

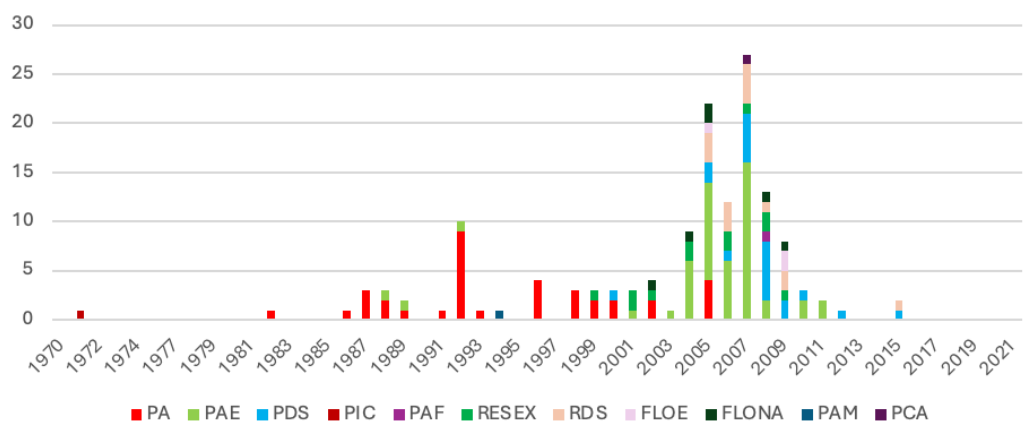
Incra's bureaucratic capacity remained overstretched but operational in Amazonas. SR15 suffered a staffing decline in 2000-2022 but was able to retain talents to keep policies minimally operative (unlike SR30), and most functions were performed in-house. SR15 had long-serving staff recruited in the 1970s and 1980s, with great experience and knowledge (Interview G. 2022). However, these servants began to retire in the 2000s. SR15 recruited new personnel with national exams in 2007-2013. Many new recruits came from other states and built families in Manaus, though several left to rejoin family elsewhere, and others sought higher-wage public careers to keep up with Manaus' high cost of living. Some qualified personnel were lent to Terra Legal program in 2009-2018. Meanwhile, SR15's policy load greatly increased as one hundred new settlements were created and over forty thousand families registered as beneficiaries since 2000.

Load (subject-matter)

SR15 created one hundred new land reform settlement projects during the Worker's Party federal government, 2003-2016, increasing the SR's load from 44 to 144 settlements to manage, mostly during Lula's government. These settlements quickly added twenty million hectares and forty-five thousand families to Incra's portfolio (see graphs below).



Settlements created/recognized by Incra in Amazonas by type, 1970-2022

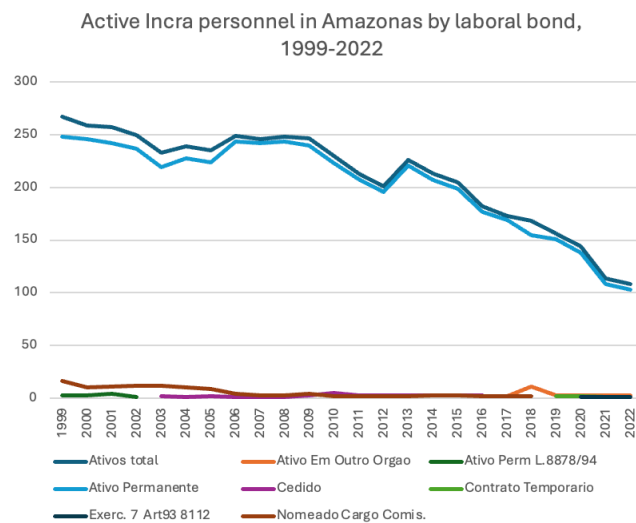


Source: SIPRA 2022

Most settlement projects created after 2004 were of sustainable use types—PDS n=20 or PAEs n=49 (see graph above). These were created mostly in areas traditionally occupied by riverine peasant communities, usually many decades before Incra formally acquired or recognized those lands. Incra also recognized (for land reform policies) land units created by other federal agencies (Resex and Flona by ICMBio) and Amazonas-level agencies (RDS and FLOE by the Amazonas State Secretary of Environment).

Staff

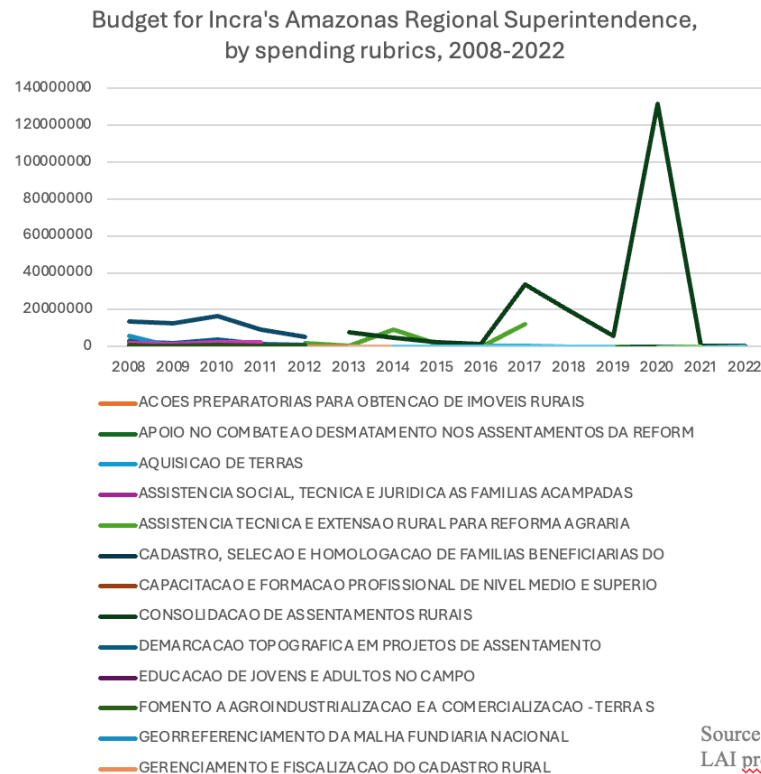
SR15's staff numbers declined. SR15 has had a chronically declining staff since its heydays during the dictatorship, with over 600 employees (Interview M. 2022). By 2003, SR15 had a quickly retiring staff of 233 older recruits. New recruits in 2006-2009 temporarily kept staffing leveled, but then steadily declined to 103 civil servants by 2022 (see graph below).



Source: Painel Estatístico de Pessoal, 2022

Budget

SR15's budget remained low in 2008-2016, during the worker's Party government, and focused on settlement infrastructure (roads and housing materials) and rural assistance. In 2017-2020 a windfall budget was dedicated to settlement 'consolidation' (see graph below).



Shelter from elites: elite disinterest, forbearance, and de facto autonomy

Amazonas elites (entrepreneurs and politicians) remained relatively uninterested in rural land or Incra. Amazonas elites built a tacit, consensual indifference to rural land and its policy. In the 2000s, Amazonas elites more readily accepted environmental set-asides and Incra's 'land reform' administration over large swathes of traditional community territories. Incra was insulated from sometimes convoluted state politics (especially governors' tenure); checked but unimpeded by judicial controversies. Consequently, Incra could operate with forbearance in the land policy field. Incra leadership enjoyed stability and little turnover. In sum, elite inattention allowed stable leadership and Incra's *de facto* bureaucratic autonomy.

Amazonas elites grew insulated from the flailing rural economy since the mid-twentieth century. In the 1960s, SUDAM and SUFRAMA sidelined the rubber syndicate and uprooted Amazonas elites from

the rural economy (Bunker 1985:84-5,93,114,168; Souza 2009:329). From the 1980s onwards, dominant economic and political elites stemmed from Manaus' industry, commerce, and urban real estate. Rural exodus to Manaus meant that the political elite, too, had rural municipalities as of secondary rural municipalities importance. Manaus concentrated a majority of voters for governor, federal congress members, and state assembly representatives. The other 61 municipalities had only secondary political attention or influence. Amazonas had only eight federal congress members, with little turnover at each electoral cycle, and Manaus was their electoral hub. Without immediate interest in rural lands, Amazonas federal elites remained relatively aloof from Incra. The remaining landed elites, on the other hand, had little political power.

Peasants and agribusiness had little political power in Amazonas and their elites could not intervene in Incra policies. Amazonas peasants had no federal representatives, and very few made it to state assembly in 2000-2022. Peasant social movements have been weak in Amazonas, lacking organizational capillarity, political cohesion, and mobilization efforts. Rural worker's unions and its federation (Fetagri) hardly unite around common candidates, and mostly align with municipal political bosses (Interviews F. and R. 2022; fieldnotes rally 2022). Agribusiness is also politically weak. The Amazonas agribusiness federation—FAEA only has representation in 14 of Amazonas' 62 municipalities and appeals to family agriculturalists for membership and in their policies (FAEA 2022).¹³¹ In sum, rural elites (large landholders and agribusiness) held little political sway over Incra.

In a tacit consensus for 'sustainable development,' federal and state political elites renewed ZFM industry tax breaks that intensified Manaus' urban economy in 2003 in exchange for expanding environmental set-asides, Indigenous lands, and land reform settlements in Amazonas' hinterlands. Lula's federal government—promoting socioenvironmental policies—created extractive reserves and Incra's

¹³¹ FAEA website and <https://www.jcam.com.br/noticias/avancos-da-bioeconomia-na-amazonia-pautam-reuniao-na-faea/>. The Manaus ExpoAgro centered on family agriculturalists (Fieldnotes 2022). Agribusiness leaders demanded land regularization to protect them from 'outside' invaders and encroachers arriving from the south: Muni Lourenço, "Invasão de fazendas. No Amazonas não!" Floresta Brasil Amazônia Ed.9, ano 3 – Jun/jul/ago 2014.

agroextractive and sustainable settlement projects (PAEs and PDSs). Amazonas greatly contributed to Lula's government achieving land reform targets (in settlement creation and families registered), second only to Western Pará. The Amazonas state government, under Eduardo Braga (a commercial and real estate elite), created numerous state parks and sustainable development reserves in 2003-2010 (RDSs, FLOEs, and others). Amazonas became the state with the most protected forest in the world, a 'green state' in Amazonian policy parlance. Elites agreed to Amazonas' development model centered on its industrial capital and relegated vast hinterlands to environmental uses, where land titling was hardly fathomed.

Political elites and other state agencies did not oppose Incra creating 'settlement projects' over mostly traditionally occupied territories in 'federalized lands.' Rural municipal politicians saw Incra's presence and land reform policies as rather benevolent sources of income and support in flailing economies (Interview J.P. 2022). Environmental elites such as NGOs and the MPF agreed to Incra's policy in Amazonas. The MPF sued SR15 (together with SRs in Pará and Rondônia) for creating settlement projects without prior environmental licensing, but national policy alterations solved the issue shortly after without impeding SR15's operations (Interview R.S. 2022). The MPF prosecutors and TCU oversight vetted Incra policies but never froze SR15 administratively (like the 2006 lawsuit against SR30 over land settlement expansion). In sum, Amazonas political and state elites provided SR15 forbearance in land policy.

Although superintendents were potentially powerful for legally defining land use, elites did not oppose Incra's land use policy; the ample resources Incra commanded (including credits, roads, education, and housing budgets) did surpass municipal budgets in several Amazonas municipalities, but these provided few votes for federal-level politicians to intervene in and overhaul Incra's bureaucracy. Patronage and pork-barrel distribution for political careers or electoral expedience would happen within stable Incra leadership and personnel appointments.

Elite disinterest in Incra provided shelter from convoluted Amazonas politics (including governors' turnovers and judicial removals). SR15 policy was grounded on a tacit elite consensus over rural land use stemming from Amazonas' historical territorial occupation, flailing rural economy, and urban development model. Amazonas elites generally lacked any interest in rural lands and its administration. The political and

economic elites that could be interested were too weak to intervene in SR15. Incra was able to remain insulated from political disputes. After left-wing superintendents multiplied land reform settlements in 2004-6, these saw no major opposition by rural sectors (those who did oppose were economically and politically weak relative to other Amazonas elites—even right-wing legislators did not oppose that which meant greater federal resources destined to a flailing rural economy), or environmental defenders.

De facto autonomy

Incra's Amazonas regional superintendence has maintained stable leadership. Since 2002, superintendents have had long tenures and little turnover. SR15 had four superintendents in 2003-2022, one of whom stayed for ten years. Three of four superintendents were or had been career civil servants. Two superintendents stayed through presidential transitions.

Superintendent João Pedro (2003-2005) sought to include dispersed and destitute riverine peasant communities in Incra's land reform policies. Local political elites did not oppose this initiative, as it would bring in federal resources to recondite backwaters (credit, housing grants, roads); his initiative brought about a 'natural policy alignment' (Interview João Pedro 2022). In 2005, João Pedro became a senator for Amazonas (substituting a senator turned minister), and Maria do Socorro, his substitute, became SR15 superintendent. João Pedro and Maria do Socorro were both PT cadres and Incra career bureaucrats (though JP had opted out years earlier to become a politician). Socorro carried out the campaign to create PAE and PDS settlements and enlist over thirty thousand riverine peasant families as land reform beneficiaries (Interview Socorro 2022). Local rural workers unions, and especially community leaders helped these campaigns, as they enlisted families and identified territories (Interview Ricardo 2022). Socorro remained superintendent for ten years.

Incra elites' expansion of settlements benefitted many and caused no opposition. The massive settlement creation and beneficiary enlistment swelled land reform numbers for Lula's government. Local governments saw a new resource influx into flailing municipalities. Environmentalists largely agreed to the

policy. Environmentalists were less concerned about SR15's settlement creation over traditionally occupied territories with little deforestation.

The main policy and superintendent shift happened in 2016, following Dilma's presidential impeachment, and ending a 10-year tenure for superintendent Maria do Socorro. A right-wing politician unaffiliated with Incra, Sandro Maia, was appointed superintendent by Paudernei Avelino, president Temer's leader of the House. In his inaugural speech, Sandro told Incra civil servants he was there "to put in votes for his candidate," (Interview R. 2022). Sandro Maia won a seat for Manaus city council in 2020. During his term, SR15 received an unprecedented budget for road repairs focused at a nearby city, perhaps aiming electoral patronage, for which Sandro was criminally charged and jailed. João Jornada, an SR15 career bureaucrat, replaced Sandro Maia during Temer's presidency and remained through Bolsonaro's term, explicitly as a Bolsonaro supporter. Jornada geared institutional resources to reduce and de-gazette settlement projects in southern Amazonas in order to formally privatize larger landholdings—a longstanding demand in Apuí and Santo Antônio do Matupi (Pereira 2017).

Incra's superintendence in Amazonas was politically oriented but relatively insulated from petty politics. To be sure, superintendents were appointed by Incra's president at the behest of Brazil's President and pursued partisan policies. In SR15, they sheltered from short-term electoral interests or shifts in regional alliances. SR15 leaders saw their tenure within durable political and institutional projects. Ideological-programmatic and policy agendas remained relatively stable over the years.

Career-bureaucrat superintendents could make paced and technically correct decisions. This avoided judicialization of Incra's workflow and load, though judicialization checks and threats (CGU, TCU, and MPF suits) sometimes cowed superintendents and staff into both administrative propriety and inaction (Interviews S. 2022 and L.A. 2022). for paced and technically correct decision-making, largely avoiding serious judicialization. Fear of judicialization, however, did restrain administrative measures and governance (Interviews S. 2022 and L.A. 2022).

Contained bureaucratic partisanship, organizational stability, and collaboration with civil society

Contained bureaucratic partisanship allowed SR15 to steer different policy priorities while maintaining organizational stability. It also allowed for collaboration with civil society groups, which enhanced organizational effectiveness.

Limited partisanship allowed SR15 to maintain bureaucratic capacity. Political tendencies and debates did exist among Incra personnel without preventing cooperation. SR was largely able to retain personnel and functions operating, despite suffering from staff retirement and declining numbers. SR15 was able to retain recruits from 2007-2013. This was important to train staff in highly complex technical roles. Crucial technical posts remained staffed and functioning to fulfill complex tasks required for further downstream policy implementation in settlements, i.e., georeferencing certification (Interview R. 2022).

Bureaucrats enjoyed high stability in specialized functions and divisional leadership positions within SR15 despite significant shifts in Incra's national policy priorities. This enabled organizational coordination, accruing expertise, and maintenance of the policy production line. Highly specialized cadres in cartography, georeferencing, conflict resolution, and settlement development management kept downstream policies actionable.

Civil servants sometimes stayed for years, even decades, in their specific functions. This produced functional expertise that enabled efficient task completion. However, it also enabled organizational silos. For example, one civil servant had been staffed in the land titling office from 1986 until 2022. To overcome internet failure and constant crashes in the central information system, SIPRA, this bureaucrat developed her own information system for registering land titles. She would not share this system with any other servant in her division nor update the SIPRA system once it was available (though she kindly shared the anonymized results displayed below).

With older staff retiring, SR15 reached an extreme personnel shortage, risking service interruptions in 2022. Several servants delayed retirement because no one would be there to replace them and fulfill their roles (Interview G. 2022).

Collaboration with civil society

To overcome staff shortage, SR15 marshaled policy beneficiaries to undertake bureaucratic tasks on its behalf. Civil society-driven policy implementation Incra's de facto policy since the 1990s, when the Landless Workers Movements occupied land, provided lists of beneficiaries, gathered documents, and defined policy priorities (Alston et al. 1999; Rolemberg 2022; Wolford 2016a). However, SR15 inverted this logic by mobilizing civil society and municipal governments, and offloading tasks

In 2003-2007, SR15 engaged riverine peasants and their civil society representatives to undertake the bureaucratic task of identifying territories for new settlement creation and families for enlistment as beneficiaries. These traditional riverine groups had strong local knowledge of hard-to-reach localities along floodplains, seasonal islands, floating homes, and dispersed populations that engage in circular migration and poly-sited residence yet have defined seasonal resource use and territories. Making this population legible had been a bureaucratic nightmare for a century. SR15 staff marshaled rural workers' unions and fishermen's cooperatives to collect information on their affiliated families and guide bureaucrats on field trips (Interview R. 2022). Traditional riverine communities' strong local knowledge facilitated the creation of PAEs and the enlisting of over thirty thousand families. Enlisting families aimed to receive Incra's housing and rural credits. This exercise in legibility allowed for land titling. These civil society groups collaborated with SR15, undertaking bureaucratic tasks themselves.

Successful land legibility and titling

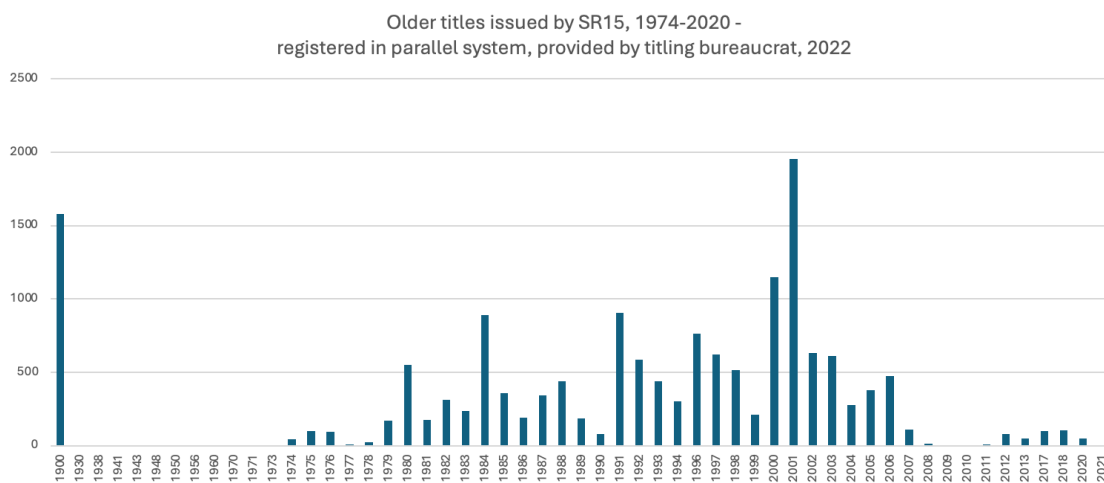
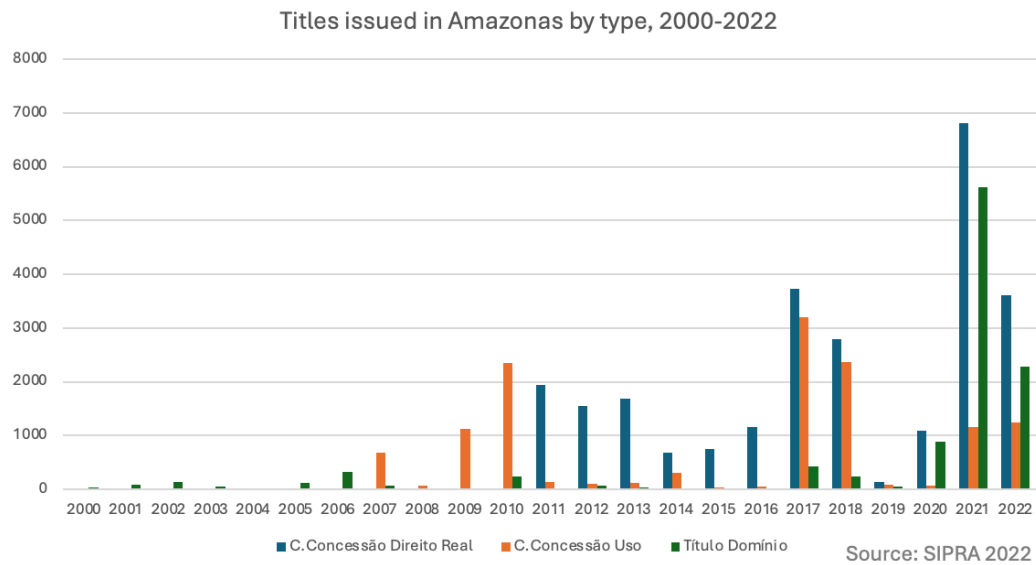
SR15's contained partisanship, organizational stability, and collaboration with civil society groups led to successful land legibility, especially in traditional riverine communities. Collective and sustainable-type land settlements in Amazonas received significant policy attention from 2003 to 2015. Settlement creation in 2005-6 was especially couched on traditionally occupied territories of riverine communities (PAEs) with a more stable and thus legible population (despite its mobility and migration to cities). This legible and cooperative population facilitated policy delivery—registration, credits, housing—and titling. A stable population of beneficiaries interested in other land reform policies facilitated legibility in general, including land titling. Although titling was not the focus of SR15 actions, it was the outcome of a maintained production line.

Incra in Amazonas was able to keep operational and apace with legibility policies, including titles; but not in the reshaping of rural economies to spawn a durable sustainable-economy model—as predatory uses by ranchers, agribusiness, and criminal groups crept into Incra settlements. These dryland settlements in Southern Amazonas suffered from increasing land disputes, grabs, deforestation, plot concentration, and abandonment, much like in Western Pará. The benefitted riverine settlements remained minimally legible but lacked effective state presence and economic transformation, thus remaining vulnerable to increasing illegal fishing, logging, and recent cartel violence.

Land titles issued by SR15

Incra in Amazonas kept its policy production line operational and continuously issued titles, even before it became a policy priority in 2016. In 2017-2018, SR15 was Incra's 'titlemeter' national champion. SR15 titled 58% of its smallholder beneficiary families. Surprisingly, most titles were definitive titles for collective-type settlements (CCDRUs)—not the preferred individual property of post-2016 governments. Definitive titles for individual plots, which could eventually be legalized for sale, remained a minority.

Meanwhile, SR15 largely relegated individual-type settlements (PAs), especially distant ones in southern Amazonas along the Transamazon road—in Apuí, Matupi, and Lábrea. These agrarian colonization settlements experienced creeping land disputes, violence, and land grabs, much like in Western Pará. These settlements suffered significant institutional drift, with often informal and illegal occupation. Even these settlements in southern Amazonas, however, received titles.



Conclusion

This chapter shows that Incra's Amazonas regional superintendence (SR15) managed a recondite hinterland with flailing economies and little interest in property formalization. Amazonas elites built a tacit, consensual indifference to rural land and its policy. Federal politicians had little interest in Incra. Amazonas elites more readily accepted environmental set-asides and Incra's 'land reform' administration over large swathes of traditional community territories. Incra was insulated from sometimes convoluted state politics. Elite inattention and stable leadership allowed for Incra's *de facto* bureaucratic autonomy. Partisan bureaucrats held leadership positions for long years and maintained organizational stability. Surprisingly, lack of elite intervention allowed the weak Incra bureaucracy to remain operational, retain talents necessary for technical tasks, marshal society to compensate for staff shortage, and keep its policy production line. Incra's operational upkeep and Amazonas' rural society facilitated legibility in general and land titling specifically.

This chapter analyzes federal land policy implementation in Amazonas state, where low-value land, uninterested elites, and politically weak peasants surprisingly produced land titles (Demsetz 1967:350; Meyfroidt et al. 2018:56; Emigh et al. 2019; Lachmann 2020a; Albertus 2021). It uses process tracing to identify mechanisms that led to titling. The chapter argues that low land value and uninterested elites provide a shelter for moderately partisan bureaucrats to collaborate with civil society and effectively implement policy. The chapter shows that a weak civil society with little interest in land produced both forbearance in the land policy field and Incra's *de facto* bureaucratic autonomy. Moderately partisan bureaucrats maintained organizational stability, retained talent required for key functions, kept the policy production line, and marshaled policy beneficiaries for increased effectiveness. This case analysis underscores how elite disinterest can provide bureaucratic autonomy. It highlights that bureaucrats bootstrap policy delivery by offloading tasks onto civil society.

Chapter 6: Conclusion

This dissertation analyzes state performance in land legibility and land titling. It investigates state projects to simplify a complex land-use reality into a centralized information system, including a cadastral map, property registration, and titling of landholders. This dissertation examines why states fail to make land legible and how weak states can bootstrap land governance. I examine land policy in the Brazilian Amazon, where land governance and smallholder land titling are necessary to curb climate-threatening deforestation and promote smallholders' welfare. I analyze Brazil's national land bureaucracy (Incra) in two neighboring regions—Western Pará and Amazonas. In Western Pará, the policy priority region, where interested elites and strong peasants pushed for land titling, the land bureaucracy was expected to produce high titling rates but, in fact, produced the lowest. In Amazonas, a non-priority state where elites were disinterested in rural land and peasants had little political power, the land bureaucracy unexpectedly titled most smallholders. The dissertation leverages subnational comparisons with process tracing, ethnography, and administrative data analysis.

Chapter 1 shows that land legibility and titling are expected outcomes of high land use value or connectivity (Demsetz 1967:350; Rudel 2016; Alston et al. 2012:746; Meyfroidt et al. 2018:56), strong state bureaucracies (Scott 1999:49,24,38; Centeno and Ferraro 2017; Evans 1995), and state-society alignment of interests or overwhelming political forces interested in property rights (Emigh et al. 2019; Lachmann 2020a; Albertus 2021). Conversely, bureaucratic performance can be hampered by elite patronage and political meddling in organizational decision-making (McDonnell 2020). Prior literature notes that bureaucratic culture and partisanship shape policy implementation (Merriman and Pacewicz 2022; McDonnell; Graizbort and De Souza Leão 2022).

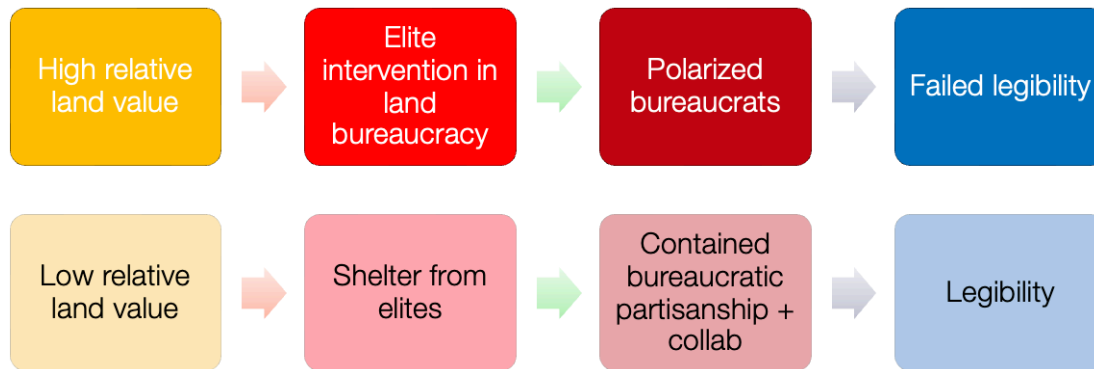
Chapters 2 and 3 contextualize the empirical case analysis in chapters 4 and 5, with a historical examination of land legibility in Brazil, Amazonian colonization, and Brazil's modern land bureaucracy, the *Instituto*

Nacional de Colonização e Reforma Agrária (Incra). Chapter 2 argues that Brazil's land bureaucracies could not complete land legibility projects because landed elites and non-elite squatters opposed state land surveyance to usurp public land and avoid taxation or expropriation for redistribution. Historical layers of incomplete policies encumbered subsequent legibility projects; diverse land rights produced separate land agencies with competing missions, jurisdictional overlap, and unintegrated information systems. Chapter 3 argues that elites and nonelites interested in appropriating land overwhelmed the modern land bureaucracy. The history of Amazonian colonization and Incra policies shows how a weak state bureaucracy depended on local civil society for policy implementation.

Chapter 4, the Western Pará case analysis, argues that high relative land value prompts diverse elites to intervene in the land bureaucracy, polarize partisan bureaucrats, and ultimately compromise policy implementation, including land titling. External interventions imprinted partisan polarization onto bureaucrats and triggered a series of unintended but critical organizational dynamics—high leadership turnover, disarray in the policy production line, personnel loss, and inaction—that hampered state performance and eroded capacity. This case analysis underscores the relevance of elite action and its largely unintended consequences. It shows that political appointments and judicialization of bureaucracies are insufficient for policy implementation and can lead to institutional corrosion, ultimately undermining policy goals.

Chapter 5, the Amazonas case analysis, argues that low relative land value kept elites uninterested in the land bureaucracy and allowed moderately partisan bureaucrats to collaborate with civil society to issue land titles. A weak civil society and disinterested elites enabled the regional land bureau to function with *de facto* bureaucratic autonomy despite dwindling capacity, promoted organizational stability, and moderately partisan bureaucrats increased organizational effectiveness by collaborating with smallholder civil society groups, especially those with strong local knowledge. This case analysis underscores the importance of long-term bureaucrat socialization and staff stability in specific positions for organizational effectiveness.

What explains Incra's land legibility in Amazonia?



Results from this dissertation provide valuable discussions of prior theories. Chapters 4 and 5 suggest that interest in land may preclude titling, contrary to Utilitarian expectations that high land use value generates private property rights (Alston et al. 2012:746; Demsetz 1967:350; Meyfroidt et al. 2018:56). Historical conditions like diverse property rights regimes preclude a unilinear evolution toward a single, private property regime.

The dissertation suggests that minimal thresholds of state capacity—a well-equipped, staffed, trained, and resourced bureaucracy—are necessary for land legibility (Scott 1999). However, a bureaucracy's performance is grounded in elite and civil society action—curtailed by too much intervention and perhaps operational absent intervention.

This dissertation suggests that shelter from elite interventions is necessary for state performance and land legibility (McDonnell 2020:141). Neither elite interests nor nonelite political inclusion is necessary for policy implementation (Lachmann 2020a, Albertus 2021). Elites will compromise policies they perceive as immediate threats to their interests but allow bureaucracies to implement policies when these don't affect their immediate interests. Elite negligence or disinterest is a sufficient condition for sheltering bureaucracies from intervention.

This dissertation highlights political and ideological factors in organizational dynamics and effectiveness. Within bureaucracies, organizational goals and organizational culture are political (McDonnell 2020; Graizbort and De Souza Leão 2022). Bureaucrats can be oriented toward achieving organizational goals, but these goals can be multiple and perhaps contradictory. The dissertation contributes to the analysis of partisan bureaucracies by showing that multi-partisanship, alignment, and extent matter (Merriman and Pacewicz 2022). It suggests that alignment or moderation in bureaucrats' partisanship is necessary to keep the organization operational. Moreover, the dissertation suggests that long-term socialization and staffing stability, with moderate partisanship (rather than a peculiar bureaucratic ethos), allow bureaucracies to function—not as 'pockets of efficiency' but as 'OK bureaucracies.'

This dissertation contributes to ongoing debates on state performance, development, and climate governance by arguing that weak bureaucracies require shelter from (rather than support of) political elites to operate effectively. Bureaucrats' polarization erodes organizational capacity, but moderate partisanship can foster collaboration with civil society to enhance organizational effectiveness. Furthermore, I argue that cooperative labor (rather than litigation and protests) enables local communities to achieve land legibility and environmental governance. My dissertation suggests that reorienting elite interests (or attention) away from local bureaucracies and facilitating cooperation with smallholders can implement state legibility to optimize land use and avoid climate catastrophe in Amazonia. Potential policy implications for sustainable development in environmentally strategic regions include international cooperation to strengthen local civil servants, incentives for non-predatory economic activities, and supporting environmental litigation strategies that target economic sectors rather than state institutions.

Annex 1: List of interviews

Interviews 2018			Interviews 2022				
Institution/Sett	Interviewees	Position	Date	Institution/Sett	Interviewees	Position	Date
Inkra SR30	1	Procuradoria	12-Sep	Civil society	49	gold prospec	25-set-2022
Inkra SR30	2	Procuradoria	27-Sep	Soc civil	50	MAB-PA	26-set-2022
Inkra SR30	3	Engenheiro A	13-Sep	Prefeitura ITB	51	Secretaria Ti	24-set-2022
Inkra SR30	4	Titulação, Té	13-Sep	Inkra ITB	52	Inkra Itaitubã	24-set-2022
Inkra SR30	5	Terceirizada	14-Sep	Inkra Santarém	53	Superintende	28-set-2022
Inkra SR30	6	Crédito e ex-	17-Sep	Inkra Santarém	54	SR30 e atual	28-set-2022
Inkra SR30	7	Chefe Div. De	18-Sep	Inkra Santarém	55	Cartografia, i	29-set-2022
Inkra SR30	8	Chefe Div. De	20-Sep	Inkra Santarém	56	SR30 ex-chef	29-set-2022
Inkra SR30	9	Div. Obtençã	21-Sep	Inkra Santarém	57	SRPAO Desei	29-set-2022
Inkra SR30	10	Div. Obtençã	24-Sep	Inkra Santarém	58	SRPAO Titulã	29-set-2022
Inkra SR30	11	Div. Obtençã	24-Sep	Inkra Santarém	59	SRPAO algru	29-set-2022
Inkra SR30	12	Div. Obtençã	26-Sep	PTLA	60	PTLA; UFAM	08-Feb-22
Inkra SR30	13	Chefe Serviço	24-Sep	PTLA	61	Coord PTLA F	10-Feb-22
Inkra SR30	14	Titulação, En	25-Sep	Civil Soc	62	Dir Nac CNS	10-Feb-22
Inkra SR30	15	Chefe de Ate	01-Oct	Inkra	63	Div Governar	15-Feb-22
Inkra SR30	16	Cartografia	01-Oct	Inkra	64	Cartografia F	15-Feb-22
Inkra SR30	17	Cartografia	11-Oct	Civil Soc - IEB	65	IEB/GV	22-Feb-22
Inkra SR30	18	Cartografia	21-Sep	Inkra	66	Arrecadação,	08-Mar-22
Inkra Unid. Esq	19	Administraçã	10-Oct	Inkra	67	Arrecadação,	09-Mar-22
Terra Legal	20	Secretária re	26-Sep	incra	68	Chefia Deser	09-Mar-22
Terra Legal	21	Coordenador	26-Sep	Inkra	69	Titulação des	09-Mar-22
Prefeitura de T	22	Secretário Aq	04-Oct	Civil Soc Sttrs, M	70	Sttrs, Manac	11-Mar-22
Consulte	23	Boss and rur	11-Oct	Civil Soc	71	STTR Manau	11-Mar-22
STTR-Santarém	24	Vice-presidente	13-Sep	Civil Soc	72	STTR Rio Pre	11-Mar-22
STTR-Mojuí de	25	Presidente	19-Sep	Civil Soc	73	STTR Itapirai	11-Mar-22
STTR-Mojuí de	26	Secretaria de	19-Sep	Inkra	74	RH SR15	15-Mar-22
STTR-Trairão	27	Presidente	04-Oct	Civil Soc - GIZ	75	GIZ Manaus	16-Mar-22
Catholic church	28	Paróquia e M	05-Oct	Governo	76	Gov AM - reg	17-Mar-22
PAE Eixo Forte	29	Com. Ponte A	17-Sep	PTLA	77	ex-superinte	18-Mar-22
PAE Eixo Forte	30	Com. Vila Nc	17-Sep	Inkra	78	ex-superinte	22-Mar-22
PAE Eixo Forte	31	Presidente C	28-Sep	Inkra	79	ex-superinte	01-set-2022
PAE Eixo Forte	32	Presidente F	28-Sep	Inkra	80	ex-superintendente SR15	
PDS Igarapé de	33	Dweller	29-Sep	Governo - MDA	81	ex Delegacia	06-set-2022
PDS Igarapé de	34	Dweller	29-Sep	Inkra UA Humaitá	82	UA Humaitá	16-Set-2022
PDS Igarapé de	35	Presidente A	29-Sep	Ex-pref. e ex-Inc	83	Ex-prefeito. I	16-set-2022
PA Moju I e II	36	Presidente F	29-Sep	Prefeito Humaitá	84	Prefeito Hurr	17-set-2022
PA Moju I e II	37	Presidente C	29-Sep	Soc Civil	85	Presidente Si	19-set-2022
PA Moju I e II	38	Dweller	29-Sep	Soc Civil e assei	86	PA Rio Juma	22-set-2022
PA Moju I e II	39	Recent dwell	29-Sep	Prefeitura Apuí	87	Secretario - prefeitura Api	
PA Moju I e II	40	Recent dwell	30-Sep	Prefeitura Apuí	88	Prefeito Apui	19-set-2022
PA Moju I e II	41	Presidente A	30-Sep	Prefeitura Humaitá	89	Secretário do Meio Ambie	
PA Areia	42	TD 2001	03-Oct	Soc civil	90	ex-CPT Apuí	22-set-2022
PA Areia	43	TD 2001	05-Oct	Soc civil	91	IDESAM Apui	19-set-2022
PA Areia	44	Presidente A	04-Oct	Soc civil	92	esposa desm	20-set-2022
PA Rio Cigano	45	Dweller	04-Oct	Soc civil/state g	93	Sindisul Apuí e vice-pres A	
PDS Pimental	46	Dweller	09-Oct	Soc civil	94	IEB Manaus	Mar-22
PAE Lago Garar	47	Dweller and	19-Sep	Inkra SR15-AM	95	D3	Set-22
PAE Lago Garar	48	Pres. FEAGLE	11-Oct	Inkra SR15-AM	96	Chefe D3	Set-22
				Inkra SR15-AM	97	D3	Set-22

Annex 2: Incra Titling Rates

State	Regional Superintendence	Settlement Capacity (n of families)	Families in RB registry	Titles issued 2000-2016	Titles issued 2017-2022	Ratio titles per capacity	Ratio titles per families in RB
PA	SR-30 Oeste	116401	81953	814	15740	0.14	0.20
RJ	RJ	11029	8142	1525	2107	0.33	0.45
SP	SP	20317	24918	1838	9771	0.57	0.47
PA	SR-27 Sul do	93949	92199	11747	38018	0.53	0.54
PA	SR-01 Norde	106761	102984	3192	52435	0.52	0.54
MT	MT	103240	135994	31531	41934	0.71	0.54
AM	AM	71154	62260	17754	18165	0.50	0.58
RO	RO	65916	51107	12255	17946	0.46	0.59
PI	PI	34393	40012	1322	23999	0.74	0.63
AC	AC	33688	39855	13019	13568	0.79	0.67
AP	AP	19133	19664	3109	10205	0.70	0.68
BA	BA	61604	57792	4455	37584	0.68	0.73
MA	MA	148239	147494	34645	73762	0.73	0.73
PR	PR	20541	28593	NA	21214	1.03	0.74
TO	TO	24595	44702	19526	17380	1.50	0.83
SC	SC	5998	8207	NA	7076	1.18	0.86
AL	AL	14288	14492	1808	13220	1.05	1.04
PE	PE	36527	46622	11563	38322	1.37	1.07
SE	SE	13418	14366	986	14577	1.16	1.08
MS	MS	32209	38966	14013	28419	1.32	1.09
ES	ES	4456	6794	3048	4385	1.67	1.09
DF/MG/GO	DF/MG/GO	18205	25449	8014	20897	1.59	1.14
PB	PB	15387	19841	4241	19840	1.57	1.21
RR	RR	22230	23464	22965	5731	1.29	1.22
RS	RS	13759	16097	6566	13905	1.49	1.27
CE	CE	25706	35840	16359	31831	1.87	1.34
RN	RN	21580	28588	6707	33599	1.87	1.41
GO	GO	14181	19857	10246	20034	2.14	1.52
MG	MG	18683	19359	7910	22111	1.61	1.55

Source: SIPRA 2022; families in RB from <https://www.gov.br/incra/pt-br/assuntos/reforma-agraria/bene>

Note: Families in RB (October 2022), includes families settled, titled, desistors, eliminated, and deceased

REFERENCES

- Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2001. “The Colonial Origins of Comparative Development: An Empirical Investigation.” *The American Economic Review* 91(5):1369–1401.
- Acemoglu, Daron, Andrea Vindigni, and Davide Ticchi. 2011. “Emergence and Persistence of Inefficient States.” *Journal of the European Economic Association* 9(2):177–208.
- Adams, Ryan Thomas. 2010. “Elite Landowners in Santarém: Ranchers, Gaúchos and the Arrival of Soybeans in the Amazon.” PhD Dissertation, Department of Anthropology, Indiana University.
- Adams, Ryan Thomas. 2015. “An Emerging Alliance of Ranchers and Farmers in the Brazilian Amazon.” *Tipiti: Journal of the Society for the Anthropology of Lowland South America* 13(1).
- Agarwal, Bina. 2003. “Gender and Land Rights Revisited: Exploring New Prospects via the State, Family and Market.” *Journal of Agrarian Change* 3(1–2):184–224. doi: 10.1111/1471-0366.00054.
- Agarwal, Bina. 2018. “Can Group Farms Outperform Individual Family Farms? Empirical Insights from India.” *World Development* 108:57–73. doi: 10.1016/j.worlddev.2018.03.010.
- Agarwal, Bina, and Ankush Agrawal. 2017. “Do Farmers Really like Farming? Indian Farmers in Transition.” *Oxford Development Studies* 45(4):460–78. doi: 10.1080/13600818.2017.1283010.
- Albert, James S., Ana C. Carnaval, Suzette G. A. Flantua, Lúcia G. Lohmann, Camila C. Ribas, Douglas Riff, Juan D. Carrillo, Ying Fan, Jorge J. P. Figueiredo, Juan M. Guayasamin, Carina Hoorn, Gustavo H. De Melo, Nathália Nascimento, Carlos A. Quesada, Carmen Ulloa Ulloa, Pedro Val, Julia Arieira, Andrea C. Encalada, and Carlos A. Nobre. 2023. “Human Impacts Outpace Natural Processes in the Amazon.” *Science* 379(6630):eabo5003. doi: 10.1126/science.abo5003.
- Albertus, Michael. 2015. *Autocracy and Redistribution: The Politics of Land Reform*. New York, NY: Cambridge Univ. Press.
- Albertus, Michael. 2021. *Property without Rights: Origins and Consequences of the Property Rights Gap*. Cambridge: Cambridge University Press.
- Alden Wily, Liz. 2018. “Collective Land Ownership in the 21st Century: Overview of Global Trends.” *Land* 7(2):68. doi: 10.3390/land7020068.
- Alencar, Ane, Paulo Moutinho, Vera Arruda, Camila Balzani, and João Ribeiro. 2019. *Amazon Burning: Locating the Fires*. Belém, Pará: IPAM.
- Alencar, Ane, Lilian Painter, Simone Athayde, Paulette Bynoe, Amy E. Duchelle, Susanna Hecht, María R. Murmis, Belen Paez, Atossa Soltani, and Isabella Leite Lucas. 2021. “Chapter 25: A Pan-Amazonian Sustainable Development Vision.” in *Amazon Assessment Report 2021*, edited by C. Nobre, A. Encalada, E. Anderson, F. H. Roca Alcazar, M. Bustamante, C. Mena, M. Peña-Claros, G. Poveda, J. P. Rodriguez, S. Saleska, S. E. Trumbore, A. Val, L. Villa Nova, R. Abramovay, A. Alencar, A. C. Rodriguez Alzza, D. Armenteras, P. Artaxo, S. Athayde, H. T. Barretto Filho, J. Barlow, E. Berenguer, F. Bortolotto, F. de A. Costa, M. H. Costa, N. Cuvi, P. Fearnside, J.

- Ferreira, B. M. Flores, S. Frieri, L. V. Gatti, J. M. Guayasamin, S. Hecht, M. Hirota, C. Hoorn, C. Josse, D. M. Lapola, C. Larrea, D. M. Larrea-Alcazar, Z. Lehm Ardaya, Y. Malhi, J. A. Marengo, J. Melack, M. Moraes R., P. Moutinho, M. R. Murmis, E. G. Neves, B. Paez, L. Painter, A. Ramos, M. C. Rosero-Peña, M. Schmink, P. Sist, H. ter Steege, P. Val, H. van der Voort, M. Varese, and G. Zapata-Ríos. UN Sustainable Development Solutions Network (SDSN).
- Ali, Daniel Ayalew, Matthew Collin, Klaus Deininger, Stefan Dercon, Justin Sandefur, and Andrew Zeitlin. 2014. *The Price of Empowerment : Experimental Evidence on Land Titling in Tanzania*. WPS6908. The World Bank.
- Allegretti, Mary. 2008. “A construção social de políticas públicas. Chico Mendes e o movimento dos seringueiros.” *Desenvolvimento e Meio Ambiente* (18):21.
- Almeida, Alfredo Wagner Berno de. 1991. “Política de Conflitos: O Movimento Dos Trabalhadores Rurais e Os Conflitos Agrários Na Amazônia (1968-1990).” in *Sindicalismo no campo: reflexões: balanços e controvérsias*. Vol. 21, *Cadernos do CEDI*. Rio de Janeiro: CEDI.
- Almeida, Alfredo Wagner Berno de. 1994. *Carajás, a Guerra Dos Mapas: Repertório de Fontes Documentais e Comentários Para Apoiar a Leitura Do Mapa Temático Do Seminário-Consulta "Carajás: Desenvolvimento Ou Destruição?"*. Falangola.
- Almeida, Alfredo Wagner Berno de. 2008. *Terra de Quilombo, Terras Indígenas, “Babaçuais Livre”, “Castanhais Do Povo”, Faixinais e Fundos de Pasto: Terras Tradicionalmente Ocupadas*. 2nd ed. Manaus: PGSCA-UFAM.
- Almeida, Alfredo Wagner Berno de. 2015. *Autonomia e Mobilização Política Dos Camponeses No Maranhão*. 2a ed. Rio de Janeiro: Casa 8.
- Almeida, Anna Luiza Ozorio de. 1992. *The Colonization of the Amazon*. 1st edition. Austin: University of Texas Press.
- Alston, Lee J., Edwyna Harris, and Bernardo Mueller. 2012. “The Development of Property Rights on Frontiers: Endowments, Norms, and Politics.” *The Journal of Economic History* 72(3):741–70.
- Alston, Lee J., Gary D. Libecap, and Bernardo Mueller. 1999. *Titles, Conflict, and Land Use: The Development of Property Rights and Land Reform on the Brazilian Amazon Frontier*. Ann Arbor: University of Michigan Press.
- Alston, Lee J., Gary D. Libecap, and Bernardo Mueller. 2000. “Land Reform Policies, the Sources of Violent Conflict, and Implications for Deforestation in the Brazilian Amazon.” *Journal of Environmental Economics and Management* 39(2):162–88. doi: 10.1006/jeem.1999.1103.
- Alston, Lee J., Gary D. Libecap, and Robert Schneider. 1996. “The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier.”
- Alston, Lee J., and Bernardo Mueller. 2018. “Priests, Conflicts and Property Rights: The Impacts on Tenancy and Land Use in Brazil.” *Man and the Economy* 5(1). doi: 10.1515/me-2018-0003.
- Alston, Lee, Gary Libecap, and Bernardo Mueller. 2010. *Interest Groups, Information Manipulation in the Media, and Public Policy: The Case of the Landless Peasants Movement in Brazil*. w15865. Cambridge, MA: National Bureau of Economic Research. doi: 10.3386/w15865.

- Andrews, Matt, Lant Pritchett, and Michael Woolcock. 2017. *Building State Capability: Evidence, Analysis, Action*. Oxford, UK: Oxford University Press.
- Anon. 2015. “Carta de Palmas.”
- Anseeuw, Ward, and Giulia Maria Baldinelli. 2020. *Uneven Ground: Land Inequality at the Heart of Unequal Societies*. International Land Coalition.
- Araujo, Claudio, Catherine Araujo Bonjean, Jean-Louis Combes, Pascale Combes Motel, and Eustaquio J. Reis. 2009. “Property Rights and Deforestation in the Brazilian Amazon.” *Ecological Economics* 68(8):2461–68. doi: 10.1016/j.ecolecon.2008.12.015.
- de Area Leão Pereira, Eder Johnson, Luiz Carlos de Santana Ribeiro, Lúcio Flávio da Silva Freitas, and Hernane Borges de Barros Pereira. 2020. “Brazilian Policy and Agribusiness Damage the Amazon Rainforest.” *Land Use Policy* 92:104491. doi: 10.1016/j.landusepol.2020.104491.
- Arezki, Rabah, Klaus Deininger, and Harris Selod. 2011. “What Drives the Global Land Rush?” *CESIFO WORKING PAPER NO. 3666*. doi: 10.5089/9781463923334.001.
- Arezki, Rabah, Klaus Deininger, and Harris Selod. 2015. “What Drives the Global ‘Land Rush’?” *The World Bank Economic Review* 29(2):207–33. doi: 10.1093/wber/lht034.
- Auyero, Javier. 2007. *Routine Politics and Violence in Argentina: The Gray Zone of State Power*. Cambridge and New York: Cambridge University Press.
- Auyero, Javier. 2012. “Poor People’s Lives and Politics: The Things a Political Ethnographer Knows (and Doesn’t Know) after 15 Years of Fieldwork.” *New Perspectives on Turkey* 46:33.
- Azevedo-Ramos, Claudia, and Paulo Moutinho. 2018. “No Man’s Land in the Brazilian Amazon: Could Undesignated Public Forests Slow Amazon Deforestation?” *Land Use Policy* 73:125–27. doi: 10.1016/j.landusepol.2018.01.005.
- Azevedo-Ramos, Claudia, Paulo Moutinho, Vera Laísa da S. Arruda, Marcelo C. C. Stabile, Ane Alencar, Isabel Castro, and João Paulo Ribeiro. 2020. “Lawless Land in No Man’s Land: The Undesignated Public Forests in the Brazilian Amazon.” *Land Use Policy* 99:104863. doi: 10.1016/j.landusepol.2020.104863.
- Baletti, Brenda. 2012. “Ordenamento Territorial: Neo-Developmentalism and the Struggle for Territory in the Lower Brazilian Amazon.” *The Journal of Peasant Studies* 39(2):573–98. doi: 10.1080/03066150.2012.664139.
- Banerjee, Abhijit, and Lakshmi Iyer. 2005. “History, Institutions, and Economic Performance: The Legacy of Colonial Land Tenure Systems in India.” *The American Economic Review* 95(4):41.
- Banerjee, Abhijit V., Rukmini Banerji, Esther Duflo, Rachel Glennerster, and Stuti Khemani. 2010. “Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India.” *American Economic Journal: Economic Policy* 2(1):1–30. doi: 10.1257/pol.2.1.1.
- Barbosa, Ruy. 1891. *Relatório do Ministro da Fazenda*. Rio de Janeiro: Imprensa Nacional. Governo Provisório dos Estados Unidos do Brazil.

- Barry, Deborah, and Ruth Meinzein-Dick. 2014. "The Invisible Map: Community Tenure Rights." in *The Social Lives of Forests*.
- Bartley, Tim. 2019. "Introduction: Toward a Political Sociology of Land." Pp. 1–12 in *Research in Political Sociology*. Vol. 26, edited by T. Bartley. Emerald Publishing Limited.
- Benatti, José Heder, Edna Maria Ramos de Castro, Thomas Peter Hurtienne, Roberto Araújo de Oliveira Santos, and Roselene Portela. 2008. "Questão fundiária e sucessão da terra na fronteira Oeste da Amazônia." *Novos Cadernos NAEA* 11(2). doi: 10.5801/ncn.v11i2.273.
- Benjamin, Solomon, and Bhuvaneswari Raman. 2011. "Illegible Claims, Legal Titles, and the Worlding of Bangalore." *Revue Tiers Monde* (206):37–54. doi: 10.3917/rtm.206.0037.
- Benton, Lauren. 2009. *A Search for Sovereignty: Law and Geography in European Empires, 1400–1900*. 1st edition. Cambridge ; New York: Cambridge University Press.
- Berkowitz, Daniel, and George A. Krause. 2018. "How Bureaucratic Leadership Shapes Policy Outcomes: Partisan Politics and Affluent Citizens' Incomes in the American States." *Journal of Public Policy* 1–24. doi: 10.1017/S0143814X18000405.
- Berle, Adolf A., and Gardiner C. Means. 1932. *The Modern Corporation and Private Property*. 2nd editions. New Brunswick, N.J., U.S.A: Routledge.
- Bersch, Katherine, Sérgio Praça, and Matthew M. Taylor. 2017. "State Capacity, Bureaucratic Politicization, and Corruption in the Brazilian State." *Governance* 30(1):105–24. doi: 10.1111/gove.12196.
- Blackman, Allen, and Peter Veit. 2018. "Titled Amazon Indigenous Communities Cut Forest Carbon Emissions." *Ecological Economics* 153:56–67. doi: 10.1016/j.ecolecon.2018.06.016.
- Boone, Catherine. 2019. "Legal Empowerment of the Poor through Property Rights Reform: Tensions and Trade-Offs of Land Registration and Titling in Sub-Saharan Africa." *The Journal of Development Studies* 55(3):384–400. doi: 10.1080/00220388.2018.1451633.
- Borras, Saturnino M., and Jennifer C. Franco. 2024. "Land Rush." *The Journal of Peasant Studies* 1–16. doi: 10.1080/03066150.2024.2317961.
- Bradlow, Benjamin H. 2022. "Embeddedness and Cohesion: Regimes of Urban Public Goods Distribution." *Theory and Society* 51(1):117–44. doi: 10.1007/s11186-021-09456-y.
- Brasil, Estados Unidos do. 1964. "Lei Nº 4.504, de 30 de Novembro de 1964, Dispõe Sobre o Estatuto Da Terra, e Dá Outras Providências."
- Brasil, Estados Unidos do. 1966. "Lei Nº 4.947, de 6 de Abril de 1966, Fixa Normas de Direito Agrário, Dispõe Sobre o Sistema de Organização e Funcionamento Do Instituto Brasileiro de Reforma Agrária, e Dá Outras Providências."
- Brasil, Império do. 1846. "Decreto N. 482, de 14 de Novembro de 1846, Estabelece o Regulamento Para o Registro Geral Das Hypothecas."

- Brasil, Império do. 1850. “Lei No. 601, de 18 de Setembro de 1850, Dispõe Sobre as Terras Devolutas Do Império.”
- Brasil, Império do. 1854. “Decreto N. 1318, de 30 de Janeiro de 1854, Manda Executar a Lei N. 601, de 18 de Setembro de 1850.”
- Brasil, Império do. 1864. “Lei N. 1.237, de 24 de Setembro de 1864, Reforma a Legislação Hypothecaria, e Estabelece as Bases Das Sociedades de Crédito Real.”
- Brasil, Império do. 1865. “Decreto N.3.453, de 26 de Abril de 1865, Manda Observar o Regulamento Para Execução Da Lei Nº 1237 de 24 de Setembro de 1854, Que Reformou a Legislação Hypothecaria.”
- Brasil, Presidência da República. 1970a. “Decreto Nº 67.557, de 12 de Novembro de 1970, Dispõe Sobre a Criação de Área Prioritária Ao Longo Da Rodovia Transamazônica, Para Fins de Reforma Agrária, a Ser Incluída No Plano de Integração Nacional, e Dá Outras Providências.”
- Brasil, Presidência da República. 1970b. “Decreto-Lei n.1.110, de 9 de Julho de 1970, Cria o Instituto Nacional de Colonização e Reforma Agrária (INCRA), Extingue o Instituto Brasileiro de Reforma Agrária, o Instituto Nacional de Desenvolvimento Agrário e o Grupo Executivo Da Reforma Agrária e Dá Outras Providências.”
- Brasil, Presidência da República. 1970c. “Decreto-Lei Nº 1.106, de 16 de Junho de 1970, Cria o Programa de Integração Nacional, Altera a Legislação Do Imposto de Renda Das Pessoas Jurídicas Na Parte Referente a Incentivos Fiscais e Dá Outras Providências.”
- Brasil, Presidência da República. 1971a. “Decreto Nº 68.443, De 29 de Março de 1971, Declara de Interesse Social, Para Fins de Desapropriação, Imóveis Rurais de Propriedade Particular, Situados Em Polígono Compreendido Na Zona Prioritária, Fixada Para Fins de Reforma Agrária, No Decreto Número 67.557, de 12 de Novembro de 1970, e Dá Outras Providências.”
- Brasil, Presidência da República. 1971b. “Decreto-Lei Nº 1.164, de 1o de Abril de 1971, Declara Indispensáveis à Segurança e Ao Desenvolvimento Nacionais Terras Devolutas Situadas Na Faixa de Cem Quilômetros de Largura Em Cada Lado Do Eixo de Rodovias Na Amazônia Legal, e Dá Outras Providências.”
- Brasil, Presidência da República. 2022. “Decreto n.11.208, de 26 de Setembro de 2022, Dispõe Sobre o Sistema Nacional de Gestão de Informações Territoriais e Sobre o Cadastro Imobiliário Brasileiro e Regula o Compartilhamento de Dados Relativos a Bens Imóveis.”
- Brasil, República Federativa do. 1988. *Constituição Da República Federativa Do Brasil*.
- Brasil, República Federativa do. 2001. “Lei N.10.267, de 28 de Agosto de 2001, Altera Dispositivos Das Leis ... (Lei Do Georreferenciamento).”
- Brasil, República Federativa do. 2005. “II Plano Nacional de Reforma Agrária.”
- Brasil, República Federativa do. 2012. “Lei n.12.651, de 25 de Maio de 2012, Dispõe Sobre a Proteção Da Vegetação Nativa (...).”

- Brito, Brenda, Paulo Barreto, Amintas Brandão, Sara Baima, and Pedro Henrique Gomes. 2019. "Stimulus for Land Grabbing and Deforestation in the Brazilian Amazon." *Environmental Research Letters* 14(6):064018. doi: 10.1088/1748-9326/ab1e24.
- Brondizio, Eduardo S., Krister Andersson, Fábio de Castro, Célia Fudemma, Carl Salk, Maria Tengö, Marina Londres, Daiana CM Tourne, Taís S. Gonzalez, Adriana Molina-Garzón, Gabriela Russo Lopes, and Sacha MO Siani. 2021. "Making Place-Based Sustainability Initiatives Visible in the Brazilian Amazon." *Current Opinion in Environmental Sustainability* 49. doi: 10.1016/j.cosust.2021.03.007.
- Brondizio, Eduardo S., M. Delaroche, R. Nonato Jr., S. Nasuti, François-Michel Le Tourneau, and M. Pires Negrão. 2019. "INSTITUIÇÕES E AÇÃO COLETIVA NA AMAZÔNIA: UMA ABORDAGEM METODOLÓGICA E ANÁLISE COMPARATIVA INICIAL DAS LOCALIDADES DE ESTUDO DURAMAZ." in *Amazônias Brasileiras: situações locais e evoluções*. Vol. 2.
- Browder, John O., Marcos A. Pedlowski, Robert Walker, Randolph H. Wynne, Percy M. Summers, Ana Abad, Nancy Becerra-Cordoba, and Joao Mil-Homens. 2008. "Revisiting Theories of Frontier Expansion in the Brazilian Amazon: A Survey of the Colonist Farming Population in Rondônia's Post-Frontier, 1992–2002." *World Development* 36(8):1469–92. doi: 10.1016/j.worlddev.2007.08.008.
- Bunker, Stephen G. 1982. "The Cost of Modernity: Inappropriate Bureaucracy, Inequality, and Development Program Failure in the Brazilian Amazon." *The Journal of Developing Areas* 16(4):573–96.
- Bunker, Stephen G. 1985. *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State*. Urbana and Chicago, IL: University of Illinois Press.
- Cai, Meina, Ilia Murtazashvili, and Jennifer Murtazashvili. 2020. "The Politics of Land Property Rights." *Journal of Institutional Economics* 16(2):151–67. doi: 10.1017/S1744137419000158.
- Campbell, Jeremy M. 2015. *Conjuring Property: Speculation and Environmental Futures in the Brazilian Amazon*. Seattle: University of Washington Press.
- Campos-Silva, João V., Carlos A. Peres, Joseph E. Hawes, Torbjørn Haugaasen, Carolina T. Freitas, Richard J. Ladle, and Priscila F. M. Lopes. 2021. "Sustainable-Use Protected Areas Catalyze Enhanced Livelihoods in Rural Amazonia." *Proceedings of the National Academy of Sciences* 118(40). doi: 10.1073/pnas.2105480118.
- Capobianco, João Paulo R. 2021. *Amazônia, Uma Década de Esperança: Como o Brasil Controlou o Desmatamento Entre 2004 e 2014 e Está Pondo Tudo a Perder*. São Paulo, SP: Estação Liberdade.
- Cardoso, Fernando Henrique. 1998. "Avança Brasil: Proposta de Governo."
- Cardoso, Fernando Henrique, and Geraldo Müller. 1978. *Amazônia: Expansão Do Capitalismo*. 2nd ed. São Paulo: Editora Brasiliense.
- Carlson, Chris. 2022. "The Agrarian Roots of Divergent Development: A Case Study of Twentieth-Century Brazil." *American Sociological Review* 25.

- Carrero, Gabriel Cardoso, Robert Tovey Walker, Cynthia Suzanne Simmons, and Philip Martin Fearnside. 2022. "Land Grabbing in the Brazilian Amazon: Stealing Public Land with Government Approval." *Land Use Policy* 120:106133. doi: 10.1016/j.landusepol.2022.106133.
- Carvalho, José Murilo de. 2014. *A Construção Da Ordem: A Elite Política Imperial; Teatro de Sombras: A Política Imperial*. 9th ed. Rio de Janeiro: Civilização Brasileira.
- Carvalho, William D., Karen Mustin, Renato R. Hilário, Ivan M. Vasconcelos, Vivianne Eilers, and Philip M. Fearnside. 2019. "Deforestation Control in the Brazilian Amazon: A Conservation Struggle Being Lost as Agreements and Regulations Are Subverted and Bypassed." *Perspectives in Ecology and Conservation* 17(3):122–30. doi: 10.1016/j.pecon.2019.06.002.
- Castro, Celso. 2021. *General Villas Bôas: Conversa Com O Comandante*. Rio de Janeiro, RJ, Brasil: FGV.
- Caviglia-Harris, Jill, Erin Sills, Andrew Bell, Daniel Harris, Katrina Mullan, and Dar Roberts. 2016. "Busting the Boom–Bust Pattern of Development in the Brazilian Amazon." *World Development* 79:82–96. doi: 10.1016/j.worlddev.2015.10.040.
- Centeno, Miguel A. 1997. "Blood and Debt: War and Taxation in Nineteenth-Century Latin America." *American Journal of Sociology* 102(6):1565–1605. doi: 10.1086/231127.
- Centeno, Miguel A., and Joseph N. Cohen. 2012. "The Arc of Neoliberalism." *Annual Review of Sociology* 38(1):317–40. doi: 10.1146/annurev-soc-081309-150235.
- Centeno, Miguel A., and Agustín E. Ferraro. 2017. "With the Best of Intentions: Types of Development Failure in Latin America." P. 65 in *Why Latin American Nations Fail: Development Strategies in the Twenty-First Century*.
- Centeno, Miguel A., Atul Kohli, and Deborah J. Yashar. 2017a. "Conclusion." in *States in the Developing World*.
- Centeno, Miguel A., Atul Kohli, and Deborah J. Yashar. 2017b. "Unpacking States in the Developing World: Capacity, Performance, and Politics." in *States in the Developing World*.
- Chalito, Claudinei. 2016. "'Encontrei Um Quadro Catastrófico', Revela Ex-Superintendente Do Incra Em Santarém."
- Chiavari, Joana, Cristina L. Lopes, and Julia N. de Araujo. 2021. *Panorama Dos Direitos de Propriedade No Brasil Rural*. Rio de Janeiro: Climate Policy Initiative.
- Chibber, Vivek. 2002. "Bureaucratic Rationality and the Developmental State." *American Journal of Sociology* 107(4):951–89.
- Conning, Jonathan, and Partha Deb. 2007. "Impact Evaluation for Land Property Rights Reforms."
- Costa, Emília Viotti Da. 1998. *Da Monarquia à República: Momentos Decisivos*. Editora UNESP.
- Costa, Francisco de Assis. 2022. *Da Estrutura Fundiária à Dinâmica Do Desmatamento: A Formação de Um Mercado de Terras Na Amazônia (1970–2017). Nota de Política Econômica*. NPE19. São Paulo: FEA/USP.

- Costa, Francisco de Assis, Marianne Schmink, Susanna Hecht, Eduardo D. Assad, Denise Humphreys Bebbington, Eduardo S. Brondizio, Philip Fearnside, Rachael Garrett, Sebastian Heilpern, David McGrath, Gustavo Oliveira, and Henrique Pereira. 2021. "Chapter 15: Complex, Diverse, and Changing Agribusiness and Livelihood Systems in the Amazon." in *Amazon Assessment Report 2021*, edited by C. Nobre, A. Encalada, E. Anderson, F. H. Roca Alcazar, M. Bustamante, C. Mena, M. Peña-Claros, G. Poveda, J. P. Rodriguez, S. Saleska, S. E. Trumbore, A. Val, L. Villa Nova, R. Abramovay, A. Alencar, A. C. Rodriguez Alza, D. Armenteras, P. Artaxo, S. Athayde, H. T. Barretto Filho, J. Barlow, E. Berenguer, F. Bortolotto, F. de A. Costa, M. H. Costa, N. Cuví, P. Fearnside, J. Ferreira, B. M. Flores, S. Frieri, L. V. Gatti, J. M. Guayasamin, S. Hecht, M. Hirota, C. Hoorn, C. Josse, D. M. Lapola, C. Larrea, D. M. Larrea-Alcazar, Z. Lehm Ardaya, Y. Malhi, J. A. Marengo, J. Melack, M. Moraes R., P. Moutinho, M. R. Murmis, E. G. Neves, B. Paez, L. Painter, A. Ramos, M. C. Rosero-Peña, M. Schmink, P. Sist, H. ter Steege, P. Val, H. van der Voort, M. Varese, and G. Zapata-Ríos. UN Sustainable Development Solutions Network (SDSN).
- Courville, Michael, and Raj Patel. 2006. "The Ressurgence of Agrarian Reform in the Twenty-First Century." in *The Promised Land: Competing visions of agrarian reform*. New York: Institute for Food and Dvelopment Policy.
- CPT, CEDOC Dom Tomás Balduino. 2021. *Conflitos No Campo: Brasil 2020*. Goiânia: CPT Nacional.
- Cunha, Cândido Neto da. 2009. "'Pintou uma chance legal' o programa 'Terra Legal' no interior dos projetos integrados de colonização e do polígono desapropriado de Altamira, no Pará." *Agrária (São Paulo. Online)* 0(10–11):20. doi: 10.11606/issn.1808-1150.v0i10-11p20-56.
- Cunha, Manuela Carneiro da. 2021. "Um Tratado de Paz Entre o Agronegócio e Os Direitos Indígenas?" in *Formação política do agronegócio*. São Paulo: Elefante.
- De Souza Leão, Luciana. 2022. "Optics of the State: The Politics of Making Poverty Visible in Brazil and Mexico." *American Journal of Sociology* 128(1):1–46. doi: 10.1086/719936.
- Dean, Warren. 1971. "Latifundia and Land Policy in Nineteenth-Century Brazil." *The Hispanic American Historical Review* 51(4):606. doi: 10.2307/2512053.
- Deere, Carmen Diana. 2006. "Foreword." in *Promised Land: Competing visions of agrarian reform*. New York: Food First Books ; Distributed by CDS.
- Deininger, Klaus, and Derek Byerlee. 2011. *Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?* The World Bank.
- Deininger, Klaus, and Gershon Feder. 2009. "Land Registration, Governance, and Development: Evidence and Implications for Policy." *The World Bank Research Observer* 24(2):233–66. doi: 10.1093/wbro/lkp007.
- Demsetz, Harold. 1967. "Toward a Theory of Property Rights." *The American Economic Review* 57(2):347–59. doi: 10.1057/9780230523210_9.
- Doner, Richard F., and Ben Ross Schneider. 2016. "The Middle-Income Trap: More Politics than Economics." *World Politics* 68(4):608–44. doi: 10.1017/S0043887116000095.

- Emigh, Rebecca Jean. 1997. "The Power of Negative Thinking: The Use of Negative Case Methodology in the Development of Sociological Theory." *Theory and Society* 26(5):649–84.
- Emigh, Rebecca Jean, Dylan Riley, and Patricia Ahmed. 2016. *Antecedents of Censuses from Medieval to Nation States How Societies and States Count*. New York: Palgrave Macmillan.
- Emigh, Rebecca Jean, Dylan Riley, and Patricia Ahmed. 2019. "Toward a Sociology of Knowledge of Land Surveys: The Influences of Societies and States." *Journal of Historical Sociology* 32(4):404–25. doi: 10.1111/johs.12254.
- Emigh, Rebecca Jean, Dylan Riley, and Patricia Ahmed. 2020. "The Dialectical Comparative Method." Unpublished manuscript. Unpublished manuscript.
- Erickson, Clark K. 2014. "15. Amazonia: The Historical Ecology of a Domesticated Landscape." in *The Social Lives of Forests: past, present, and future of woodland resurgence*. Chicago: Chicago University Press.
- Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism*. Cambridge, UK: Polity Press.
- Evans, Peter B. 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton, N.J: Princeton University Press.
- Fairbairn, Madeleine. 2020. *Fields of Gold: Financing the Global Land Rush*. Ithaca: Cornell University Press.
- FAO, ed. 2012. *At a Glance: Voluntary Guidelines on the Governance of Tenure*. Rome: Food and Agriculture Organization of the United Nations.
- Fausto, Carlos, and Eduardo G. Neves. 2018. "Was There Ever a Neolithic in the Neotropics? Plant Familiarisation and Biodiversity in the Amazon." *Antiquity* 92(366):1604–18. doi: 10.15184/aqy.2018.157.
- Fearnside, Philip M. 2001. "Land-Tenure Issues as Factors in Environmental Destruction in Brazilian Amazonia: The Case of Southern Pará." *World Development* 29(8):1361–72. doi: 10.1016/S0305-750X(01)00039-0.
- Feder, Ernest. 1976. "The New World Bank Programme for the Self-liquidation of the Third World Peasantry." *The Journal of Peasant Studies* 3(3):343–54. doi: 10.1080/03066157608437986.
- Fernandes, Edésio. 2011. *Regularization of Informal Settlements in Latin America. Policy Focus Report*. Cambridge, MA: Lincoln Institute of Land Policy.
- Ferragut, Maria Rita. 2019. "Imposto sobre a propriedade predial e territorial rural." *Enciclopédia Jurídica da PUCSP Direito Tributário*.
- Ferreira, Brancolina. 1994. "Estratégias de Intervenção Do Estado Em Áreas de Assentamento: As Políticas de Assentamento Do Governo Federal." in *Assentamentos Rurais: Uma Visão Multidisciplinar*. São Paulo: Editora UNESP.

- Foucault, Michel. 2007. *Security, Territory, Population: Lectures at the Collège de France 1977--1978*. First edition. edited by M. Senellart, F. Ewald, A. Fontana, and A. I. Davidson. New York, NY: Picador.
- Foweraker, Joe. 1981. *The Struggle for Land: A Political Economy of the Pioneer Frontier in Brazil from 1930 to the Present Day*. Cambridge: Cambridge University Press.
- Freitas, Frederico. 2020. "Conservation Frontier: The Creation of Protected Areas in the Brazilian Amazon." Pp. 51–80 in *Frontiers of development in the Amazon: riches, risks, and resistances*, edited by A. A. R. Ioris, R. R. Ioris, and S. Shubin. London: Lexington Books.
- Galiani, Sebastian, and Ernesto Schargrotsky. 2010. "Property Rights for the Poor: Effects of Land Titling." *Journal of Public Economics* 94(9):700–729. doi: 10.1016/j.jpubeco.2010.06.002.
- Galiani, Sebastian, and Ernesto Schargrotsky. 2011a. "Land Property Rights and Resource Allocation." *The Journal of Law and Economics* 54(S4):S329–45. doi: 10.1086/661957.
- Galiani, Sebastian, and Ernesto Schargrotsky. 2011b. "The Dynamics of Land Titling Regularization and Market Development." *Working Paper No. 2011/88. United Nations University. World Institute for Development Economics Research*.
- Ganguly, Varsha, and Snehasis Mishra, eds. 2017. *Journey Towards Land Titling in India*. Centre for Rural Studies, Lal Bahadur Shastri National Academy of Administration, Mussoorie. Delhi: Shipra Publications.
- Garfield, Seth. 2013. *In Search of the Amazon: Brazil, the United States, and the Nature of a Region*. Durham: Duke University Press.
- Gayoso da Costa, Solange Maria. 2015. "Sojicultura e Mercado de Terras Na Amazônia." *Revista de Políticas Públicas* 19(1):173–85.
- Gibson, Christopher L. 2018. *Movement-Driven Development: The Politics of Health and Democracy in Brazil*. Stanford, California: Stanford University Press.
- Gilman, Nils. 2003. *Mandarins of the Future: Modernization Theory in Cold War America*. Baltimore: Johns Hopkins University Press.
- Gonçalves, Carlos Walter Porto. 2001. *Amazônia, Amazônias*. São Paulo: Contexto.
- Graeber, David, and David Wengrow. 2021. *The Dawn of Everything: A New History of Humanity*. First American edition. New York: Farrar, Straus and Giroux.
- Graizbord, Diana, and Luciana De Souza Leão. 2022. "The Political Work of 'Culture' in Struggles to Reform the Mexican State." *Politics & Society* 003232922211069. doi: 10.1177/00323292221106906.
- Greenpeace. 2007. *Assentamentos de Papel, Madeira de Lei. Relatório Denúncia: Parceria Entre Incra e Madeireiros Ameaça a Amazônia*.
- Gupta, Akhil. 2012. *Red Tape: Bureaucracy, Structural Violence, and Poverty in India*. Durham: Duke University Press Books.

- Hänggli, Aline, Samuel A. Levy, Dolores Armenteras, C. Isabella Bovolo, Joyce Brandão, Ximena Rueda, and Rachael D. Garrett. 2023. "A Systematic Comparison of Deforestation Drivers and Policy Effectiveness across the Amazon Biome." *Environmental Research Letters* 18(7):073001. doi: 10.1088/1748-9326/acd408.
- Harbers, Imke, and Abbey Steele. 2020. "Subnational Variation Across States: A Typology and Research Agenda." *Latin American Politics and Society* 62(3):1–18. doi: 10.1017/lap.2020.4.
- Harvey, David. 2017. "The 'New' Imperialism: Accumulation by Dispossession." Pp. 213–37 in *Karl Marx*, edited by B. Ollman and K. B. Anderson. Routledge.
- Hecht, Susanna B. 1985. "Environment, Development and Politics: Capital Accumulation and the Livestock Sector in Eastern Amazonia." *World Development* 13(6):663–84. doi: 10.1016/0305-750X(85)90114-7.
- Hecht, Susanna B. 2012. "From Eco-Catastrophe to Zero Deforestation? Interdisciplinarity, Politics, Environmentalisms and Reduced Clearing in Amazonia." *Environmental Conservation* 39(1):4–19. doi: 10.1017/S0376892911000452.
- Hecht, Susanna B. 2013. *The Scramble for the Amazon and the Lost Paradise of Euclides Da Cunha*. Chicago: The University of Chicago Press.
- Hecht, Susanna B. 2014. "Forests Lost and Found in Tropical Latin America: The Woodland 'Green Revolution.'" *The Journal of Peasant Studies* 41(5):877–909. doi: 10.1080/03066150.2014.917371.
- Hecht, Susanna, and Alexander Cockburn. 2011. *The Fate of the Forest: Developers, Destroyers, and Defenders of the Amazon, Updated Edition*. Updated ed. edition. Chicago ; London: The University of Chicago Press.
- Hecht, Susanna, Marianne Schmink, Rebecca Abers, Eduardo D. Assad, Denise Humphreys Bebbington, Eduardo S. Brondizio, Francisco de Assis Costa, Ana María Durán Calisto, Philip Fearnside, Rachael Garrett, Sebastian Heilpern, David McGrath, Gustavo Oliveira, Henrique Pereira, and Miguel Pinedo-Vazquez. 2021. "Chapter 14: Amazon in Motion: Changing Politics, Development Strategies, Peoples, Landscapes, and Livelihoods." in *Amazon Assessment Report 2021*, edited by C. Nobre, A. Encalada, E. Anderson, F. H. Roca Alcazar, M. Bustamante, C. Mena, M. Peña-Claros, G. Poveda, J. P. Rodriguez, S. Saleska, S. E. Trumbore, A. Val, L. Villa Nova, R. Abramovay, A. Alencar, A. C. Rodriguez Alzaa, D. Armenteras, P. Artaxo, S. Athayde, H. T. Barretto Filho, J. Barlow, E. Berenguer, F. Bortolotto, F. de A. Costa, M. H. Costa, N. Cuví, P. Fearnside, J. Ferreira, B. M. Flores, S. Frieler, L. V. Gatti, J. M. Guayasamin, S. Hecht, M. Hirota, C. Hoorn, C. Josse, D. M. Lapola, C. Larrea, D. M. Larrea-Alcazar, Z. Lehm Ardaya, Y. Malhi, J. A. Marengo, J. Melack, M. Moraes R., P. Moutinho, M. R. Murmis, E. G. Neves, B. Paez, L. Painter, A. Ramos, M. C. Rosero-Peña, M. Schmink, P. Sist, H. ter Steege, P. Val, H. van der Voort, M. Varese, and G. Zapata-Ríos. UN Sustainable Development Solutions Network (SDSN).
- Heckenberger, Michael J., Afukaka Kuikuro, Urissap'a Tabata Kuikuro, J. Christian Russell, Morgan Schmidt, Carlos Fausto, Bruna Franchetto, and Christine Padoch. 2014. "24. Amazonia 1492: Pristine Forest or Cultural Parkland." Pp. 315–21 in *The Social Lives of Forests: past, present, and future of woodland resurgence*, edited by S. B. Hecht, K. D. Morrison, and C. Padoch. Chicago: University of Chicago Press.

- Heller, Patrick. 2013. "Challenges and Opportunities:" 37.
- Heller, Patrick, and Peter Evans. 2010. "Taking Tilly South: Durable Inequalities, Democratic Contestation, and Citizenship in the Southern Metropolis." *Theory and Society* 39(3–4):433–50. doi: 10.1007/s11186-010-9115-3.
- Hochstetler, Kathryn, and Margaret E. Keck. 2007. *Greening Brazil: Environmental Activism in State and Society*. Duke University Press.
- Hoefle, Scott William. 2000. "Patronage and Empowerment in the Central Amazon." *Bulletin of Latin American Research* 19(4):479–99.
- Hoffmann, Rodolfo, and Josimar Gonçalves de Jesus. 2020. "Desigualdade na agricultura brasileira: renda e posse da terra." P. 40 in *A economia agropecuária do Brasil: a grande transformação*, edited by Z. Navarro. Editora Baraúna.
- Holanda, Sergio Buarque de. 2018. *Caminhos e Fronteiras*. 4th ed. São Paulo: Companhia das Letras.
- Holden, Stein T., Klaus Deininger, and Hosaena Ghebru. 2009. "Impacts of Low-Cost Land Certification on Investment and Productivity." *American Journal of Agricultural Economics* 91(2):359–73. doi: 10.1111/j.1467-8276.2008.01241.x.
- Holstein, Lynn. 1996. "Towards Best Practice from World Bank Experience in Land Titling and Registration." *World Bank Consultant Report*.
- Holston, James. 1991. "The Misrule of Law: Land and Usurpation in Brazil." *Comparative Studies in Society and History* 33(4):695–725. doi: 10.1017/S0010417500017291.
- Holston, James. 2009. "Insurgent Citizenship in an Era of Global Urban Peripheries." *City & Society* 21(2):245–67. doi: 10.1111/j.1548-744X.2009.01024.x.
- Hopkins, Benjamin D. 2020. *Ruling the Savage Periphery: Frontier Governance and the Making of the Modern State*. Cambridge, Massachusetts London, England: Harvard University Press.
- Howlett, Michael, Allan McConnell, and Anthony Perl. 2015. "Streams and Stages: Reconciling Kingdon and Policy Process Theory: Streams and Stages: Reconciling Kingdon and Policy Process Theory." *European Journal of Political Research* 54(3):419–34. doi: 10.1111/1475-6765.12064.
- Huntington, Samuel. 1968. *Political Order in Changing Societies*. New Haven: Yale University Press.
- Ianni, Octávio. 1979. *Colonização e contra-reforma agrária na Amazônia*. Petrópolis: Editora Vozes.
- Ianni, Octavio. 1984. *Origens Agrárias do Estado Brasileiro*. São Paulo: Brasiliense.
- INCRA. 1999. "Livro Branco Da Grilagem No Brasil."
- Jenkins, Rob. 2019. "Business Interests, the State, and the Politics of Land Policy." in *Business and Politics in India*. New Delhi: Oxford University Press.
- Kauano, Érico Emed, José Maria Cardoso Silva, José Alexandre Felizola Diniz Filho, and Fernanda Michalski. 2020. "Do Protected Areas Hamper Economic Development of the Amazon Region?"

- An Analysis of the Relationship between Protected Areas and the Economic Growth of Brazilian Amazon Municipalities.” *Land Use Policy* 92:104473. doi: 10.1016/j.landusepol.2020.104473.
- Khagram, Sanjeev. 2004. *Dams and Development: Transnational Struggles for Water and Power*. Ithaca, NY: Cornell University Press.
- Kingdon, John W. 2003. *Agendas, Alternatives, and Public Policies*.
- Kingdon, John W. 2011. *Agendas, Alternatives, and Public Policies*. Updated 2nd ed. Boston: Longman.
- Kiser, Edgar, and Steven M. Karceski. 2017. “Political Economy of Taxation.” *Annual Review of Political Science* 20(1):75–92. doi: 10.1146/annurev-polisci-052615-025442.
- Klein, Herbert S., and Francisco Vidal Luna. 2018. *Feeding the World: Brazil’s Transformation into a Modern Agricultural Economy*. Cambridge University Press.
- Koch, Alexander, Chris Brierley, Mark M. Maslin, and Simon L. Lewis. 2019. “Earth System Impacts of the European Arrival and Great Dying in the Americas after 1492.” *Quaternary Science Reviews* 207:13–36. doi: 10.1016/j.quascirev.2018.12.004.
- Kohli, Atul. 2004. *State-Directed Development: Political Power and Industrialization in the Global Periphery*. Cambridge University Press.
- Korpi, Walter. 1985. “Power Resources Approach vs. Action and Conflict: On Causal and Intentional Explanations in the Study of Power.” *Sociological Theory* 3(2):31–45. doi: 10.2307/202223.
- Lachmann, Richard. 2020a. *First Class Passangers in a Sinking Ship: Elite Politics and the Decline of Great Powers*. London: Verso.
- Lachmann, Richard. 2020b. “Nation-State Formation: Power and Culture.” Pp. 458–83 in *The New Handbook of Political Sociology*, edited by T. Janoski, C. de Leon, J. Misra, and I. William Martin. Cambridge University Press.
- Lange, Matthew, James Mahoney, and Matthias Vom Hau. 2006. “Colonialism and Development: A Comparative Analysis of Spanish and British Colonies.” *American Journal of Sociology* 111(5):1412–62.
- Langfur, Hal. 2023. *Adrift on an Inland Sea: Misinformation and the Limits of Empire in the Brazilian Backlands*. Stanford, California: Stanford University Press.
- Lawry, Steven, Cyrus Samii, Ruth Hall, Aaron Leopold, Donna Hornby, and Farai Mtero. 2017. “The Impact of Land Property Rights Interventions on Investment and Agricultural Productivity in Developing Countries: A Systematic Review.” *Journal of Development Effectiveness* 9(1):61–81. doi: 10.1080/19439342.2016.1160947.
- Lay, Jann, Ward Anseeuw, Sandra Eckert, Insa Flachsbarth, Christoph Kubitz, Kerstin Nolte, and Markus Giger. 2021. *Taking Stock of the Global Land Rush: Few Development Benefits, Many Human and Environmental Risks. Analytical Report III*. [object Object]. doi: 10.48350/156861.

- Le Tourneau, François-Michel, and Marcel Bursztyn. 2010. “Assentamentos rurais na Amazônia: contradições entre a política agrária e a política ambiental.” *Ambiente & Sociedade* 13(1):111–30. doi: 10.1590/S1414-753X2010000100008.
- Le Tourneau, François-Michel, Guillaume Marchand, Anna Greissing, Stéphanie Nasuti, Martine Droulers, Marcel Bursztyn, Philippe Léna, and Vincent Dubreuil. 2013. “Assessing the Impacts of Sustainable Development Projects in the Amazon: The DURAMAZ Experiment.” *Sustainability Science* 8(2):199–212. doi: 10.1007/s11625-013-0200-1.
- Leal, Davi Avelino. 2020. *Mundo Do Trabalho e Conflitos Sociais No Rio Madeira (1861-1932)*. Manaus: Editora Valer.
- Leal, Victor Nunes. 2012. *Coronelismo, enxada e voto: o município e o regime representativo no Brasil*. 7a ed. São Paulo: Companhia das Letras.
- Leroy, Jean-Pierre. 1991. *Uma Chama Na Amazônia*. Rio de Janeiro: Editora Vozes.
- Levien, Michael. 2018. *Dispossession without Development: Land Grabs in Neoliberal India*. Oxford, New York: Oxford University Press.
- Levis, C., F. R. C. Costa, F. Bongers, M. Peña-Claros, C. R. Clement, A. B. Junqueira, E. G. Neves, E. K. Tamanaha, F. O. G. Figueiredo, R. P. Salomão, C. V. Castilho, W. E. Magnusson, O. L. Phillips, J. E. Guevara, D. Sabatier, J. F. Molino, D. Cárdenas López, A. M. Mendoza, N. C. A. Pitman, A. Duque, P. Núñez Vargas, C. E. Zartman, R. Vasquez, A. Andrade, J. L. Camargo, T. R. Feldpausch, S. G. W. Laurance, W. F. Laurance, T. J. Killeen, H. E. Mendonça Nascimento, J. C. Montero, B. Mostacedo, I. L. Amaral, I. C. Guimarães Vieira, R. Brien, H. Castellanos, J. Terborgh, M. De Jesus Veiga Carim, J. R. Da Silva Guimarães, L. De Souza Coelho, F. D. De Almeida Matos, F. Wittmann, H. F. Mogollón, G. Damasco, N. Dávila, R. García-Villacorta, E. N. H. Coronado, T. Emilio, D. De Andrade Lima Filho, J. Schietti, P. Souza, N. Targhetta, J. A. Comiskey, B. S. Marimon, B. H. Marimon, D. Neill, A. Alonso, L. Arroyo, F. A. Carvalho, F. C. De Souza, F. Dallmeier, M. P. Pansonato, J. F. Duivenvoorden, P. V. A. Fine, P. R. Stevenson, A. Araujo-Murakami, G. A. Aymard C., C. Baraloto, D. D. Do Amaral, J. Engel, T. W. Henkel, P. Maas, P. Petronelli, J. D. Cardenas Revilla, J. Stropp, D. Daly, R. Gribel, M. Ríos Paredes, M. Silveira, R. Thomas-Caesar, T. R. Baker, N. F. Da Silva, L. V. Ferreira, C. A. Peres, M. R. Silman, C. Cerón, F. C. Valverde, A. Di Fiore, E. M. Jimenez, M. C. Peñuela Mora, M. Toledo, E. M. Barbosa, L. C. De Matos Bonates, N. C. Arboleda, E. De Sousa Farias, A. Fuentes, J. L. Guillaumet, P. Møller Jørgensen, Y. Malhi, I. P. De Andrade Miranda, J. F. Phillips, A. Prieto, A. Rudas, A. R. Ruschel, N. Silva, P. Von Hildebrand, V. A. Vos, E. L. Zent, S. Zent, B. B. L. Cintra, M. T. Nascimento, A. A. Oliveira, H. Ramirez-Angulo, J. F. Ramos, G. Rivas, J. Schöngart, R. Sierra, M. Tirado, G. Van Der Heijden, E. V. Torre, O. Wang, K. R. Young, C. Baider, A. Cano, W. Farfan-Rios, C. Ferreira, B. Hoffman, C. Mendoza, I. Mesones, A. Torres-Lezama, M. N. U. Medina, T. R. Van Andel, D. Villarroel, R. Zagt, M. N. Alexiades, H. Balslev, K. Garcia-Cabrera, T. Gonzales, L. Hernandez, I. Huamantupa-Chuquimaco, A. G. Manzatto, W. Milliken, W. P. Cuenca, S. Pansini, D. Pauletto, F. R. Arevalo, N. F. Costa Reis, A. F. Sampaio, L. E. Urrego Giraldo, E. H. Valderrama Sandoval, L. Valenzuela Gamarra, C. I. A. Vela, and H. Ter Steege. 2017. “Persistent Effects of Pre-Columbian Plant Domestication on Amazonian Forest Composition.” *Science* 355(6328):925–31. doi: 10.1126/science.aal0157.
- Li, Tania Murray. 2014. “What Is Land? Assembling a Resource for Global Investment.” *Transactions of the Institute of British Geographers* 39(4):589–602. doi: 10.1111/tran.12065.

- Lima, Ruy Cirne. 1990. *Pequena História Territorial Do Brasil: Sesmarias e Terras Devolutas*. 4th ed. São Paulo: Secretaria de Estado da Cultura, São Paulo.
- Lipscomb, Molly, and Niveditha Prabakaran. 2020. "Property Rights and Deforestation: Evidence from the Terra Legal Land Reform in the Brazilian Amazon." *World Development* 129:104854. doi: 10.1016/j.worlddev.2019.104854.
- Logan, John R., Harvey Luskin Molotch, and Harvey Luskin Molotch. 1987. *Urban Fortunes: The Political Economy of Place*. 1. pr. Berkeley, Calif.: Univ. of California Press.
- Lovejoy, Thomas E., and Carlos Nobre. 2019. "Amazon Tipping Point: Last Chance for Action." *Science Advances* 5(12):eaba2949. doi: 10.1126/sciadv.aba2949.
- Loveman, Mara. 2007. "Blinded Like a State: The Revolt against Civil Registration in Nineteenth-Century Brazil." *Comparative Studies in Society and History* 49(1):5–39. doi: 10.1017/S0010417507000394.
- Loveman, Mara. 2014. *National Colors: Racial Classification and the State in Latin America*. Oxford: Oxford University Press.
- Lowder, Sarah K., Jakob Skoet, and Terri Raney. 2016. "The Number, Size, and Distribution of Farms, Smallholder Farms, and Family Farms Worldwide." *World Development* 87:16–29. doi: 10.1016/j.worlddev.2015.10.041.
- L'Roe, Jessica, Lisa Rausch, Jacob Munger, and Holly K. Gibbs. 2016. "Mapping Properties to Monitor Forests: Landholder Response to a Large Environmental Registration Program in the Brazilian Amazon." *Land Use Policy* 57:193–203. doi: 10.1016/j.landusepol.2016.05.029.
- Mahoney, James. 2003. "Knowledge Accumulation in Comparative Historical Research: The Case of Democracy and Authoritarianism." Pp. 131–76 in *Comparative historical analysis in the social sciences*, edited by J. Mahoney and D. Rueschemeyer. Cambridge: Cambridge University Press.
- Mahoney, James. 2012. "The Logic of Process Tracing Tests in the Social Sciences." *Sociological Methods & Research* 41(4):570–97. doi: 10.1177/0049124112437709.
- Maia, Bóris. 2021. "A institucionalização do concurso público no Brasil: uma análise sócio-histórica." *Revista do Serviço Público* 72(3):663–84. doi: 10.21874/rsp.v72.i3.4639.
- Mangla, Akshay. 2022. *Making Bureaucracy Work: Norms, Education and Public Service Delivery in Rural India*. 1st ed. Cambridge University Press.
- Mann, Michael. 1984. "The Autonomous Power of the State: Its Origins, Mechanisms and Results." *European Journal of Sociology* 25(02):185. doi: 10.1017/S0003975600004239.
- Mann, Michael. 1993. *The Sources of Social Power, Volume 2: The Rise of Classes and Nation-States, 1760–1914*. Cambridge: Cambridge University Press.
- Martins, José de Souza. 1984. *A Militarização Da Questão Agrária No Brasil*. Petrópolis: Vozes.
- Martins, José de Souza. 1986. *A Reforma Agrária e Os Limites Da Democracia Na "Nova República"*. São Paulo: Editora Hucitec.

- Martins, José de Souza. 1990. "The Political Impasses of Rural Social Movements in Amazonia." in *The Future of Amazonia: destruction or sustainable development?*, edited by D. Goodman and A. Hall. New York: St. Martin's Press.
- Martins, José de Souza. 2009. *Fronteira: A Degradação Do Outro Nos Confins Do Humano*. 2a ed., rev. e atualizada. São Paulo, SP: Editora Contexto.
- Marx, Karl. 1992. *Capital: Volume 1: A Critique of Political Economy*. London ; New York, N.Y: Penguin Classics.
- Mascarenhas, Artur Fernando Silva, and Dilma Maria dos Anjos Antunes. 1994. *Estrutura Fundiária e Ocupação do Solo e Subsolo: caracterização geral do município de Itaituba*. Belém, Pará: Secretaria de Estado de Indústria, Comércio e Mineração.
- McAdam, Doug, and Hilary Boudet. 2012. *Putting Social Movements in Their Place: Explaining Opposition to Energy Projects in the United States, 2000-2005*. 1 edition. Cambridge: Cambridge University Press.
- McDonnell, Erin Metz. 2017. "Patchwork Leviathan: How Pockets of Bureaucratic Governance Flourish within Institutionally Diverse Developing States." *American Sociological Review* 82(3):476–510. doi: 10.1177/0003122417705874.
- McDonnell, Erin Metz. 2020. *Patchwork Leviathan: Pockets of Bureaucratic Effectiveness in Developing States*. Princeton, NJ: Princeton University Press.
- Menezes, Thereza Cristina Cardoso. 2020. "Environmental Governance and Regularization of Land Ownership: Development and Multiple Territorial Dynamics in the Amazon." *Vibrant: Virtual Brazilian Anthropology* 17:e17452. doi: 10.1590/1809-43412020v17d452.
- Merriman, Ben, and Josh Pacewicz. 2022. "The Great Interstate Divergence: Partisan Bureaucracies in the Contemporary United States." *American Journal of Sociology* 127(4):1221–66. doi: 10.1086/719256.
- Mertz, Ole, and Charlotte Filt Mertens. 2017. "Land Sparing and Land Sharing Policies in Developing Countries – Drivers and Linkages to Scientific Debates." *World Development* 98:523–35. doi: 10.1016/j.worlddev.2017.05.002.
- Meyfroidt, P., R. Roy Chowdhury, A. de Bremond, E. C. Ellis, K. H. Erb, T. Filatova, R. D. Garrett, J. M. Grove, A. Heinemann, T. Kuemmerle, C. A. Kull, E. F. Lambin, Y. Landon, Y. le Polain de Waroux, P. Messerli, D. Müller, J. Ø. Nielsen, G. D. Peterson, V. Rodriguez García, M. Schlüter, B. L. Turner, and P. H. Verburg. 2018. "Middle-Range Theories of Land System Change." *Global Environmental Change* 53:52–67. doi: 10.1016/j.gloenvcha.2018.08.006.
- Miceli, Thomas J., C. F. Sirmans, and Joseph Kieyah. 2001. "The Demand for Land Title Registration: Theory with Evidence from Kenya." *American Law and Economics Review* 3(2):275–87.
- Miki, Yuko. 2018. *Frontiers of Citizenship: A Black and Indigenous History of Postcolonial Brazil*. 1st ed. Cambridge University Press.
- Millikan, Brent H. 1992. "Tropical Deforestation, Land Degradation, and Society: Lessons from Rondonia, Brazil." *Latin American Perspectives* 19(1).

- Milmanda, Belén Fernández, and Candelaria Garay. 2020. "The Multilevel Politics of Enforcement: Environmental Institutions in Argentina." *Politics & Society* 48(1):3–26. doi: 10.1177/0032329219894074.
- Molotch, Harvey. 1976. "The City as a Growth Machine: Toward a Political Economy of Place." *American Journal of Sociology* 82(2):25.
- Monkkonen, Paavo. 2012. "The Demand for Land Regularisation: Theory and Evidence from Tijuana, Mexico." *Urban Studies* 49(2):271–88. doi: 10.1177/0042098011405691.
- Moore Jr., Barrington. 1967. *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World*. 1st ed. Boston, Massachusetts: Beacon Press.
- Murtazashvili, Ilia, and Jennifer Murtazashvili. 2019. "The Political Economy of Legal Titling." *The Review of Austrian Economics* 32(3):251–68. doi: 10.1007/s11138-019-00442-3.
- Murtazashvili, Jennifer Brick, and Ilia Murtazashvili. 2021. *Land, the State, and War: Property Institutions and Political Order in Afghanistan*. 1st ed. Cambridge and New York: Cambridge University Press.
- Nascimento, Rosa Maria. 2007. "Cadastro de Imóveis Rurais - Instrumento de Justiça."
- Neves, Ângela Moraes, and Ana Maria Teixeira Lopes. 1979. "Os Projetos de Colonização." in *A organização do espaço na faixa da Transamazônica*. Vol. 1. Rio de Janeiro: IBGE/INCRA.
- Neves, Eduardo G., and Michael J. Heckenberger. 2019. "The Call of the Wild: Rethinking Food Production in Ancient Amazonia." *Annual Review of Anthropology* 48(1):371–88. doi: 10.1146/annurev-anthro-102218-011057.
- Newman, Simeon J. 2022. "The Emergence of de Facto Bureaucratic Priorities: Extending Urban Citizenship in *Fin-de-Millénaire* Lima, Peru." *The Sociological Quarterly* 63(2):266–95. doi: 10.1080/00380253.2020.1816863.
- North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. 59262nd edition. Cambridge ; New York: Cambridge University Press.
- Nozoe, Nelson. 2006. "Sesmarias e Aposseamento de Terras no Brasil Colônia." *Economia* 7(3):19.
- O'Donnell, Guillermo. 1993. "On the State, Democratization and Some Conceptual Problems: A Latin American View with Glances at Some Postcommunist Countries." *World Development* 21(8):1355–69. doi: 10.1016/0305-750X(93)90048-E.
- Oliveira, Gustavo, and Susanna Hecht. 2016. "Sacred Groves, Sacrifice Zones and Soy Production: Globalization, Intensification and Neo-Nature in South America." *The Journal of Peasant Studies* 43(2):251–85. doi: 10.1080/03066150.2016.1146705.
- Oliveira Viana, Francisco de. 1938. *Evolução Do Povo Brasileiro*. Vol. 10. 3a ed. São Paulo: Companhia Editora Nacional.
- Ondetti, Gabriel. 2016. "The Social Function of Property, Land Rights and Social Welfare in Brazil." *Land Use Policy* 50:29–37. doi: 10.1016/j.landusepol.2015.08.028.

- Ostermann, Susan L. 2019. "Regulatory Pragmatism, Legal Knowledge and Compliance with Law in Areas of State Weakness." *Law & Society Review* 53(4):1132–66. doi: 10.1111/lasr.12432.
- Ostrom, Elinor. 2009a. "Collective Action Theory." in *The Oxford Handbook of Comparative Politics*. Vol. 1, edited by C. Boix and S. C. Stokes. Oxford University Press.
- Ostrom, Elinor. 2009b. "Design Principles of Robust Property Rights Institutions: What Have We Learned?" Pp. 25–51 in *Property Rights and Land Policies*. Lincoln Institute of Land Policy.
- Ostrom, Elinor. 2015. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, United Kingdom: Cambridge University Press.
- Otsuki, Tsunehiro, Ian W. Hardie, and Eustáquio J. Reis. 2002. "The Implication of Property Rights for Joint Agriculture–Timber Productivity in the Brazilian Amazon." *Environment and Development Economics* 7(2):299–323. doi: 10.1017/S1355770X02000190.
- Pacheco, Pablo. 2009. "Agrarian Reform in the Brazilian Amazon: Its Implications for Land Distribution and Deforestation." *World Development* 37(8):1337–47. doi: 10.1016/j.worlddev.2008.08.019.
- Palmeira, Moacir. 1994. "Burocracia, Política e Reforma Agrária." in *Assentamentos Rurais: Uma Visão Multidisciplinar*. São Paulo: Editora UNESP.
- Peluso, Nancy Lee, and Christian Lund. 2011. "New Frontiers of Land Control: Introduction." *The Journal of Peasant Studies* 38(4):667–81. doi: 10.1080/03066150.2011.607692.
- Peña, Ximena, María Alejandra Vélez, Juan Camilo Cárdenas, Natalia Perdomo, and Camilo Matajira. 2017. "Collective Property Leads to Household Investments: Lessons From Land Titling in Afro-Colombian Communities." *World Development* 97:27–48. doi: 10.1016/j.worlddev.2017.03.025.
- Penna, Camila. 2013. "Conexões e Controvérsias No INCRA de Marabá: O Estado Como Um Ator Heterogêneo." Tese de Doutorado em Sociologia, Universidade de Brasília, Brasília.
- Penna, Camila. 2015a. "A relação de parceria entre o INCRA e os movimentos sociais no processo de implementação das políticas de reforma agrária." *Interseções: Revista de Estudos Interdisciplinares* 17(1). doi: 10.12957/irei.2015.18052.
- Penna, Camila. 2015b. *Conexões e controvérsias no INCRA de Marabá: O Estado como um ator heterogêneo*. Garamond.
- Pereira, Cloves Farias. 2017. "Estado e Agronegócio: etnografia de um processo de regularização fundiária e descaracterização de territórios no sul do Amazonas." *Antropologia Social*, Universidade Federal do Amazonas, Manaus, Amazonas.
- Pires, Roberto Rocha C., Gabriela Lotta, and Vanessa Elias de Oliveira, eds. 2018. *Burocracia e Políticas Públicas No Brasil: Interseções Analíticas*. Brasília: Instituto de Pesquisa Econômica Aplicada.
- Piven, Frances Fox, and Richard A. Cloward. 2005. "Rulemaking, Rulebreaking, and Power." in *The Handbook of Political Sociology: States, Civil Societies, and Globalization*. Cambridge University Press.

- Polanyi, Karl. 2001. *The Great Transformation: The Political and Economic Origins of Our Time*. 2nd Beacon Paperback ed. Boston, MA: Beacon Press.
- Pompeia, Caio. 2021. *Formação política do agronegócio*. São Paulo: Efeante Editora.
- Pompermeier, Malori José. 1979. "The State and the Frontier in Brazil: A Case Study of the Amazon." PhD Dissertation, Stanford University, Palo Alto.
- Porro, Roberto, and Noemi Sakiara Miyasaka Porro. 2022. "State-Led Social and Environmental Policy Failure in a Brazilian Forest Frontier: Sustainable Development Project in Anapu, Pará." *Land Use Policy* 114:105935. doi: 10.1016/j.landusepol.2021.105935.
- Prado Jr., Caio. 2019. *Formação Do Brasil Contemporâneo: Colônia*. São Paulo: Companhia das Letras.
- Przeworski, Adam, and Henry Teune. 1970. *The Logic of Comparative Social Inquiry*. New York: Wiley-Interscience.
- Rajão, Raoni, Britaldo Soares-Filho, Felipe Nunes, Jan Börner, Lilian Machado, Débora Assis, Amanda Oliveira, Luis Pinto, Vivian Ribeiro, Lisa Rausch, Holly Gibbs, and Danilo Figueira. 2020. "The Rotten Apples of Brazil's Agribusiness." 4.
- Reis, Arthur Cezar Ferreira Reis. 1979. *Santarém: Seu Desenvolvimento Histórico*. Rio de Janeiro: Civilização Brasileira.
- Reydon, Bastiaan, Mathilde Molendijk, Nicolas Porras, and Gabriel Siqueira. 2021. "The Amazon Forest Preservation by Clarifying Property Rights and Potential Conflicts: How Experiments Using Fit-for-Purpose Can Help." *Land* 10(2):225. doi: 10.3390/land10020225.
- Reydon, Bastiaan Philip, Vitor Bukvar Fernandes, and Tiago Santos Telles. 2020. "Land Governance as a Precondition for Decreasing Deforestation in the Brazilian Amazon." *Land Use Policy* 94:104313. doi: 10.1016/j.landusepol.2019.104313.
- Rezende de Carvalho, Maria Alice. 1998. *O Quinto Século: André Rebouças e a Construção Do Brasil*.
- Robinson, Brian E., Margaret B. Holland, and Lisa Naughton-Treves. 2014. "Does Secure Land Tenure Save Forests? A Meta-Analysis of the Relationship between Land Tenure and Tropical Deforestation." *Global Environmental Change* 29:281–93. doi: 10.1016/j.gloenvcha.2013.05.012.
- Rochon, Thomas R., and Daniel A. Mazmanian. 1993. "Social Movements and the Policy Process." *The Annals of the American Academy of Political and Social Science* 528(1):75–87. doi: 10.1177/0002716293528001006.
- Rolemberg, Igor. 2022. "Terra, Estado e Movimentos: Declínio Da Reforma Agrária a Partir de Uma Etnografia Na Amazônia Oriental." *Estudos Sociedade e Agricultura* 30(2):e2230201. doi: 10.36920/esa-v30-2_01.
- Rudel, Thomas K. 2007. "Changing Agents of Deforestation: From State-Initiated to Enterprise Driven Processes, 1970–2000." *Land Use Policy* 24(1):35–41. doi: 10.1016/j.landusepol.2005.11.004.

- Rudel, Thomas K. 2009. "How Do People Transform Landscapes? A Sociological Perspective on Suburban Sprawl and Tropical Deforestation." *American Journal of Sociology* 115(1):129–54. doi: 10.1086/597794.
- Rudel, Thomas K. 2016. "Land Use and the Great Acceleration in Human Activities: Political and Economic Dynamics." Pp. 190–206 in *The Sociology of Development Handbook*, edited by G. Hooks. Oakland: University of California Press.
- Rudel, Thomas K., and Monica Hernandez. 2017. "Land Tenure Transitions in the Global South: Trends, Drivers, and Policy Implications." *Annual Review of Environment and Resources* 42(1):489–507. doi: 10.1146/annurev-environ-102016-060924.
- Rueschemeyer, Dietrich, Evelyne Huber, and John D. Stephens. 1992. *Capitalist Development and Democracy*. Chicago: University of Chicago Press.
- Saffon, María Paula, and Juan F. González Bertomeu. 2020. "What/Whose Property Rights?: The Selective Enforcement of Land Rights under Mexican Liberalism1." Pp. 208–34 in *The Politics of Institutional Weakness in Latin America*, edited by D. M. Brinks, S. Levitsky, and M. V. Murillo. Cambridge University Press.
- Santos, Ronaldo Pereira. 2022. "A 'grilagem 2.0' na era da internet: mecanismos e desafios para gestão das terras públicas na Amazônia." *Equidade: Revista Eletrônica de Direito da Universidade do Estado do Amazonas* 1(1).
- Sauer, Sérgio. 2018. "Soy Expansion into the Agricultural Frontiers of the Brazilian Amazon: The Agribusiness Economy and Its Social and Environmental Conflicts." *Land Use Policy* 79:326–38. doi: 10.1016/j.landusepol.2018.08.030.
- Sauer, Sérgio. 2019. "Rural Brazil during the Lula Administrations: Agreements with Agribusiness and Disputes in Agrarian Policies." *Latin American Perspectives* 46(4):103–21. doi: 10.1177/0094582X16685176.
- Schmink, Marianne. 1982. "Land Conflicts in Amazonia." *American Ethnologist* 9(2):341–57. doi: 10.1525/ae.1982.9.2.02a00080.
- Schmink, Marianne, Jeffrey Hoelle, Carlos Valério A. Gomes, and Gregory M. Thaler. 2019. "From Contested to 'Green' Frontiers in the Amazon? A Long-Term Analysis of São Félix Do Xingu, Brazil." *The Journal of Peasant Studies* 46(2):377–99. doi: 10.1080/03066150.2017.1381841.
- Schmink, Marianne, and Charles H. Wood. 1992. *Contested Frontiers in Amazonia*. New York: Columbia Univ. Pr.
- Schwade, Tiago Maiká Muller. 2019. "A formação da propriedade capitalista no Amazonas." Doutorado em Geografia Humana, Universidade de São Paulo, São Paulo.
- Schwartzman, Stephan, Ane Alencar, Hilary Zarin, and Ana Paula Santos Souza. 2010. "Social Movements and Large-Scale Tropical Forest Protection on the Amazon Frontier: Conservation From Chaos." *The Journal of Environment & Development* 19(3):274–99. doi: 10.1177/1070496510367627.

- Scott, James C. 1999. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, Conn.: Yale University Press.
- Scott, James C. 2009. *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*. New Haven London: Yale University Press.
- Secreto, María Verónica. 2007. “Legislação Sobre Terras No Brasil Do Oitocentos: Definindo a Propriedade.” *Raízes* 26(1 e 2):10–20.
- Sihlobo, Wandile, and Johann Kirsten. 2018. “Smallholder Farmers Can Be Commercial but Just at a Small Scale.” *Business Day*. Retrieved November 21, 2018 (<https://www.businesslive.co.za/bd/opinion/2018-10-10-smallholder-farmers-can-be-commercial-but-just-at-a-small-scale/>).
- Silva, Eduardo. 2015. “Social Movements, Protest, and Policy.” *ERLACS* 0(100):27. doi: 10.18352/erlacs.10122.
- Silva, José Gomes da. 1987. *Caindo Por Terra: Crises Da Reforma Agrária Na Nova República*. São Paulo: Editora Busca Vida.
- Silva, Ligia Maria Osório. 1996. *Terras devolutas e latifúndio: efeitos da lei de 1850*. Editora da Unicamp.
- Silva, Ligia Maria Osório, and María Verónica Secreto. 1999. “Terras Públicas, Ocupação Privada: Elementos Para a História Comparada Da Apropriação Territorial Na Argentina e No Brasil.” *Economia e Sociedade* 12:109–41.
- Skidmore, Thomas E. 1988. *The Politics of Military Rule in Brazil, 1964-85*. New York: Oxford University Press.
- Skocpol, Theda. 1992. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States*. Cambridge, Mass.: Harvard University Press.
- Skocpol, Theda, and Margaret Somers. 1980. “The Uses of Comparative History in Macrosocial Inquiry.” *Comparative Studies in Society and History* 22(2):174–97.
- de Soto, Hernando. 1989. *The Other Path: The Economic Answer to Terrorism*. New York: Basic Books.
- de Soto, Hernando. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. New York, NY: Basic Books.
- Souza, Márcio. 2009. *História Da Amazônia*. Manaus: Editora Valer.
- Sparovek, Gerd, Bastiaan Philip Reydon, Luís Fernando Guedes Pinto, Vinicius Faria, Flavio Luiz Mazzaro de Freitas, Claudia Azevedo-Ramos, Toby Gardner, Caio Hamamura, Raoni Rajão, Felipe Cerignoni, Gabriel Pansani Siqueira, Tomás Carvalho, Ane Alencar, and Vivian Ribeiro. 2019. “Who Owns Brazilian Lands?” *Land Use Policy* 87:104062. doi: 10.1016/j.landusepol.2019.104062.
- Spracklen, D. V., and C. A. S. Coelho. 2023. “Modeling Early Warning Signs of Possible Amazon Forest Dieback.” *Science Advances* 9(40):eadk5670. doi: 10.1126/sciadv.adk5670.

- Strauss, Julia C. 2017. "Campaigns of Redistribution: Land Reform and State Building in China and Taiwan, 1950–1953." in *States in the Developing World*.
- SUDAM. 2021. "Zona de Desenvolvimento Sustentável dos Estados do Amazonas, Acre e Rondônia: Documento Referencial 2021-27."
- Tan, Willie. 1999. "The Development of Cadastral Systems: An Alternative View." *Australian Surveyor* 44(2):159–64. doi: 10.1080/00050352.1999.10558791.
- Tendler, Judith. 1998. *Good Government in the Tropics*. Baltimore: Johns Hopkins University Press.
- Thomas, Shaji, Oriana Almeida, and Elysângela Sousa Pinheiro. 2019. *Projeto agroextrativista e gestão participativa dos recursos comuns na várzea amazônica*. Belém: Gapta / Ufpa.
- Tilly, Charles. 1990. *Coercion, Capital, and European States, AD 990-1990*. Cambridge, Mass.: Basil Blackwell.
- Torres, Mauricio. 2018. "Grilagem para principiantes: guia de procedimentos básicos para o roubo de terras públicas." Pp. 285–314 in *Perspectivas da Natureza: geografia, formas de natureza e política*. Annablume.
- Torres, Maurício Gonsalves. 2016. "Os Assentamentos Fantasma e a Metafísica Da Reforma Agrária: Análise Da Relação Entre o INCRA No Oeste Paraense, a Extração Ilegal de Madeira e Os Números Do II PNRA." *Geographia* 18(37).
- Velho, Otávio Guilherme. 2013. *Frentes de expansão e estrutura agrária: estudo do processo de penetração numa área da Transamazônica*. 3a edição. Manaus: UEA Edições.
- Weaver, John C. 2003. *The Great Land Rush and the Making of the Modern World, 1650-1900*. 1st edition. Montreal ; Ithaca: McGill-Queen's University Press.
- Weber, Max. 1946. *From Max Weber: Essays in Sociology*. edited by H. H. Gerth and C. W. Mills. New York: Oxford University Press.
- Weber, Max. 1978. *Economy and Society*. 2013th ed. Berkeley: University of California Press.
- Weinstein, Barbara. 1983. *The Amazon Rubber Boom, 1850-1920*. 1st edition. Stanford, Calif: Stanford University Press.
- West, Thales A. P., and Philip M. Fearnside. 2021. "Brazil's Conservation Reform and the Reduction of Deforestation in Amazonia." *Land Use Policy* 100:105072. doi: 10.1016/j.landusepol.2020.105072.
- Wolford, Wendy. 2016a. "State-Society Dynamics in Contemporary Brazilian Land Reform." *Latin American Perspectives* 43(2):77–95. doi: 10.1177/0094582X15623768.
- Wolford, Wendy. 2016b. "The Casa and the Causa: Institutional Histories and Cultural Politics in Brazilian Land Reform." *Latin American Research Review* 51(4):24–42. doi: 10.1353/lar.2016.0047.

- Wolford, Wendy W., Ben White, Ian Scoones, Ruth Hall, Marc Edelman, and Saturnino M. Borras. 2024. "Global Land Deals: What Has Been Done, What Has Changed, and What's Next?" *The Journal of Peasant Studies* 1–38. doi: 10.1080/03066150.2024.2325685.
- World Bank. 2014. *Doing Business 2015: Going Beyond Efficiency*. The World Bank.
- Yanai, Aurora Miho, Euler Melo Nogueira, Paulo Maurício Lima De Alencastro Graça, and Philip Martin Fearnside. 2017. "Deforestation and Carbon Stock Loss in Brazil's Amazonian Settlements." *Environmental Management* 59(3):393–409. doi: 10.1007/s00267-016-0783-2.