



# Exclusion as a Defining Feature of Post-Disaster Recovery: Key Perspectives from Brazil

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## Abstract

This study critically interrogates dominant models of post-disaster recovery by combining an interdisciplinary review of critical scholarship with grounded empirical analysis from Brazil. It focuses on landless and unhoused populations, as well as residents of informal settlements, to explore how disaster recovery frameworks, rather than reducing vulnerability, often reproduce spatial inequality and deepen exclusion. The research draws on a multi-site, multi-temporal mixed-methods study conducted in collaboration with the *Movimento dos Atingidos por Barragens* (MAB), analyzing Brazil's most severe recent climate-related disasters: landslides and floods in Petrópolis (2011, 2022, 2024) and São Sebastião (2023). Fieldwork involved participant observation, over 200 semistructured interviews with affected residents and officials, and 110 completed questionnaires. Findings reveal that Brazil's disaster governance framework embeds exclusionary dynamics, privileging legally recognized property owners while marginalizing those without formal tenure. Recovery programs often simplify complex social realities through rigid eligibility criteria, thereby silencing diverse lived experiences. As a result, recovery often becomes a prolonged, secondary disaster for the most vulnerable. The article argues that prevailing recovery models, anchored in technocratic management and depoliticized resilience discourse, fail to address the structural roots of marginalization. By centering the role of grassroots movements such as MAB, this article highlights how collective action can expose recovery injustices and foster more inclusive, participatory, and transformative approaches to disaster governance.

**Keywords** Climate disaster · Decolonial studies · Marginalized groups · Post-disaster recovery · Public policies · Social exclusion

## 1 Introduction

Climate-related disasters are increasing in frequency and intensity (IPCC 2023), disproportionately affecting marginalized populations, often the same communities repeatedly. This persistent pattern raises critical questions about the effectiveness of post-disaster recovery models and their implementation. A growing body of critical literature (for example, Oliver-Smith 1986; Valencio and Darós 2012; Pin-aud 2014; Pinheiro 2015; Gould and Lewis 2021; Chmutina et al. 2023) has shown that recovery processes often fail to disrupt pre-existing socio-spatial inequalities. Instead, they tend to reinforce dominant power structures through

ostensibly “technical” solutions that mask underlying exclusions. This study builds on these insights to ask whether current disaster recovery models are inherently exclusionary, and if so, how do they operate across different spatial and temporal contexts? We engage this question through a dual approach: an interdisciplinary review of recovery scholarship and an empirically grounded analysis of recent disasters in Brazil, focusing on groups historically excluded from formal recovery programs.

This study offers three main contributions to the debate on post-disaster recovery. First, it provides further evidence on how conventional recovery models unfold in practice through a multi-site, multi-temporal analysis of Brazil's most severe recent climate-related disasters: landslides and floods in Petrópolis (2011, 2022, 2024) and São Sebastião (2023), developed in partnership with the *Movimento dos Atingidos por Barragens* (MAB), a national grassroots movement advocating for the rights of people affected by water-related disasters. This longitudinal and comparative

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analysis highlights how exclusionary dynamics unfold and are reproduced across successive recovery cycles.

Second, the article advances critical debates on how recovery models frequently produce outcomes at odds with their stated objectives. It contends that the dysfunctions of the recovery process must be explicitly acknowledged, not only in terms of implementation but also in how they hinder disaster risk reduction itself.

Third, the study addresses an additional gap in literature: the limited attention to the role of grassroots movements along with academia in exposing recovery injustices (Joseph et al. 2021), particularly how recovery approaches often overlook alternative and informal systems (Clark-Ginsberg et al. 2020; Gaillard 2022) and hinder transformative policies (Muir and Opdyke 2024).

### 1.1 Key Challenges, Research Questions, and Target Groups

Global disaster risk reduction (DRR) agendas often frame post-disaster recovery as a “window of opportunity” for development, increasingly shaped by the language of resilience and “Build Back Better” (BBB) (UNDRR 2015). These concepts, while appealing in principle, have become depoliticized catchphrases that obscure deeper questions of justice and accountability. Resilience, narrowly defined as a capacity to “bounce back” (Baker 2019), rarely interrogates what is being restored or for whom. Revisiting the questions posed by Pinaud (2014) and Cheek and Chmutina (2021): **bounce back to what, and better for whom?**

In practice, conventional recovery frameworks tend to reproduce inequalities. They normalize a return to a pre-disaster status quo that is often defined by systemic marginalization. Any meaningful discussions of recovery must thus begin with a sustained interrogation of power: **Who defines recovery? Whose knowledge is legitimized? Whose needs are prioritized, and whose are rendered invisible?**

We center the lived experiences of groups typically excluded from formal recovery processes: the unhoused, landless, renters, and residents of informal and precarious settlements. Following Spivak’s (1988) notion of the subaltern, we argue that these populations are not only excluded because of their legal or spatial status but also because they do not conform to the administrative logics embedded in recovery frameworks (Blomley 2020; Sarmiento et al. 2020; Jerolleman et al. 2024).

The article proceeds in three parts. First, we examine how disenfranchised populations are systematically erased or marginalized in official recovery narratives and policy frameworks. Second, we analyze how current recovery models, often grounded in neoliberal logics, standardized metrics, and technocratic solutions, collide with the realities and needs of affected communities (Chmutina et al.

2023). Finally, drawing on empirical data from Brazil, we interrogate the role of property regimes in shaping access to recovery, and argue that recovery itself frequently becomes a secondary site of disaster for marginalized groups.

### 1.2 Methodology

This study draws from and contributes to an interdisciplinary body of literature on disaster governance, neoliberalism, environmental justice, climate-related gentrification, and the “right to the city” (Lefebvre 1968; Harvey 2008), with particular emphasis on decolonial and Global South perspectives that challenge dominant disaster management paradigms. This growing body of scholarship reveals persistent gaps and contradictions in both academic discourse and institutional approaches to disaster recovery, especially regarding how recovery processes impact marginalized groups. Notably, there remains a lack of empirical data grounded in the lived experiences of unhoused, landless, and favela-dwelling populations following the implementation of recovery policies. By connecting international recovery frameworks with field-based observations, this study demonstrates how recovery is often deeply entangled with broader patterns of structural exclusion.

The research adopts a mixed-methods, participatory approach developed through institutional partnerships, combining qualitative and quantitative data with collaborative engagement. Fieldwork was conducted in three phases (May 2024, September 2024, and February 2025) in partnership with the *Movimento dos Atingidos por Barragens* (MAB) and the Federal Rural University of Rio de Janeiro (UFRRJ). This longitudinal design enabled continuous observation of evolving post-disaster conditions and close involvement with affected communities. Brazil was selected for its complex recovery landscape, offering both locally specific and globally relevant insights. The primary case studies are summarized in Table 1.

Data collection involved over 200 semistructured interviews and focus groups, conducted both in person and online, totaling approximately 97 hours of recorded material. Additionally, 110 questionnaires were completed across affected regions (Table 2). The survey instrument captured residents’ experiences across the disaster cycle, including tenure status, displacement trajectories, employment and income changes, cost of living (questionnaire 1), housing conditions (pre- and post-disaster), access to basic services, perceptions of institutional support, and self-assessed recovery levels (questionnaire 2). A third dataset, produced by UFRRJ and MAB in a separate 2025 survey, was also integrated, contributing responses from 87 additional households in São Sebastião. We used non-probability sampling methods—purposive, convenience, and snowball sampling. Survey items included drone, field notes, and a recorder.

**Table 1** Multi-site case study

Territory	City	Type of disaster	Date of disaster	Victims and displacements	Main affected population (from field data)
Vale do Cuiabá	Petrópolis (RJ)	Flood and landslide	12 January 2011	71 victims and more than 7,000 were left unhoused, with 30 missing people	Low-income black population, mainly women
Alto da Serra	Petrópolis (RJ)	Landslide	15 February 2022	241 victims and more than 4,000 were left unhoused, with 4 missing residents	Low-income black population, mainly women
Alto da Independência	Petrópolis (RJ)	Landslide	22 March 2024	4 victims and 275 were left unhoused	Low-income black population, mainly women
Vila Baiana, Morro do Esquimó, and Pantanal	São Sebastião (SP)	Flood and landslide	19 February 2023	Around 65 victims and 2,251 people were left unhoused	Caígaras (traditional community) and migrants (mainly black population) from the Northeast region

Applying a ground-up coding approach to the qualitative data enabled the identification and systematization of recurring themes across cases. This helped clarify how bureaucratic exclusion, tenure insecurity, and territorial dislocation shape both risk exposure and perception of recovery. Attention to diverse housing types (including self-built, rented, and informally acquired) was critical to assess eligibility barriers in post-disaster programs and to reflect the lived realities of “recovery.”

Regarding ethical procedures, all informants were verbally informed of the research objectives and their rights prior to data collection. Informed consent was obtained and reaffirmed throughout all stages of the research process. Participation was voluntary, and all interviews were conducted with full guarantees of anonymity and confidentiality.

## 2 Disenfranchised Groups and Incomplete Narratives of Post-Disaster Recovery

Disenfranchised groups can be marginalized across multiple dimensions. Geographically, they are often located in high-risk or poorly serviced areas. Socially and culturally, they belong to marginalized groups whose histories and experiences are frequently erased or overlooked by institutions. Economically, they are concentrated in low-value land zones, and politically, their voices remain excluded from planning and decision-making processes (Freire 1968; Spivak 1988; Aoki 2006; Gaillard and Cadag 2009). These layers of exclusion contribute to a chronic denial of rights and a lack of formal property recognition.

As Freire (1968) noted, the oppressed are not outside the system but embedded within structures that objectify and constrain them. The problem is not simply a lack of inclusion, but the need to transform systems that deny autonomy and reduce people to passive recipients of aid. In the context of DRR and recovery, this structural neglect is reproduced

through institutional omissions of these disenfranchised groups from censuses, maps, and policy documents.

In Brazil, such omissions are stark. Communities living in precarious or informal settlements are often left out of zoning regulations and master plans (Fantin et al. 2020). In some cases, physical infrastructure such as walls or barriers is used to conceal their presence (Oyama 2025), effectively rendering them invisible to public view and collective consciousness. This form of erasure is not limited to Brazil. Globally, precariously housed populations are consistently undercounted and overlooked (Borderon et al. 2021).

A striking example of institutional invisibility in Brazil is the absence of a national census on homelessness until 2023, despite a legal mandate issued in 2009 (Brazil 2009, 2023). For over a decade, national data collection ignored an estimated 330,000 homeless individuals, a figure still considered to be an undercount. This institutional blind spot is not an oversight, but a systemic practice. Exclusion from data collection translates into exclusion from rights. As Bringel and Varella (2016) argued, knowledge production that overlooks lived experience can itself perpetuate harm by erasing or delegitimizing the cultures and needs of certain communities.

Disaster studies have long emphasized that marginalization increases vulnerability (Susman et al. 1983; Wisner et al. 2004). Vulnerability does not end with the disaster: it often intensifies during recovery, particularly when underlying structures of exclusion remain unchallenged. The growing body of literature on recovery injustices underscores how conventional approaches routinely overlook vulnerable groups and preserves structural inequality.

Oliver-Smith’s *The Martyred City* (Oliver-Smith 1986) remains foundational in this field. His long-term ethnographic work on Yungay, Peru—destroyed by a 1970 landslide—showed how recovery not only reflects existing social hierarchies but also becomes a tool of social control, imposing new administrative, spatial, and behavioral

**Table 2** Semistructured interviews and questionnaires applied in each case study

Semistructured interview		No. of interviews with affected people	No. of interviews with public officials
Petrópolis	Vale do Cuiabá (2011 disaster)	35	16
	Alto da Serra (2022 disaster)	34	
	Alto da Independência (2024 disaster)	35	
São Sebastião	Vila Baiana, Morro do Esquimó, Pantanal, Baleia Verde, and Maresias (2023 disaster)	68	8
National level	Total	172	1 25
Questionnaire 1		No. of responses from affected people	
Petrópolis	Vale do Cuiabá (2011 disaster)	21	
	Alto da Serra (2022 disaster)	10	
	Alto da Independência (2024 disaster)	13	
São Sebastião	Vila Baiana, Morro do Esquimó, Pantanal, Baleia Verde, and Maresias (2023 disaster)	30	
	Total	74	
Questionnaire 2		No. of responses from affected people	
Petrópolis	Vale do Cuiabá (2011 disaster)	10	
	Alto da Serra (2022 disaster)	7	
	Alto da Independência (2024 disaster)	5	
São Sebastião	Vila Baiana, Morro do Esquimó, Pantanal, Baleia Verde, and Maresias (2023 disaster)	14	
	Total	36	

norms on affected populations. Similar dysfunctional patterns have been documented across numerous disaster contexts. In Sri Lanka after the 2004 tsunami (Gamburd 2013), New Orleans post-Katrina (Klein 2007; Tierney 2015; Stone 2021), Haiti after the 2010 earthquake (Oliver-Smith 2010; Schuller 2012), Japan following the 2011 Great East Japan Earthquake (Iuchi and Mutter 2020), and Brazil after the 2011 floods and landslides in

the mountainous region of Rio de Janeiro (Pinheiro 2015; Oyama 2024). In each case, recovery processes disproportionately failed the most vulnerable, excluding them altogether from assistance or relegating them to prolonged states of precarity.

Building on these studies, this article draws attention to persistent shortcomings in the way justice is conceptualized and operationalized within recovery frameworks.

**Event-centrism:** Disaster recovery is often framed as an immediate, event-focused endeavor, focused on immediate rebuilding efforts without acknowledging the historical and structural inequalities that precede the disaster.

**Technocratic governance:** Recovery remains largely bureaucratic and technocratic, led by institutional actors who define the goals, metrics, and scope of recovery in ways that often fail to reflect the lived realities and needs of marginalized groups.

**Tokenistic participation:** While terms like “participation” and “inclusion” are increasingly present in official recovery discourse, they often operate as procedural formalities rather than genuine mechanisms for redistributing power.

**Legal inaccessibility:** Legal and institutional mechanisms for redress or reparation remain largely inaccessible particularly for marginalized populations without formal property titles.

These limitations demonstrate that recovery, far from being a neutral or universally beneficial process, can actively reinforce and deepen exclusion. Recognizing and addressing these embedded injustices is essential to reimagining recovery as a transformative, rather than merely restorative process.

### 3 Post-Disaster Recovery: Between Foundational Principles and Social Reality

Drawing on the previous section, this part deepens the formal conceptualization of recovery, examining how both international and national frameworks operate not only as strategies for reconstruction but also as mechanisms that reproduce power relations, social exclusion, and territorial reordering—often to the detriment of already disenfranchised groups.

#### 3.1 Conventional Approaches and Their Limitations

Although post-disaster recovery has a long history, its definition, scope, and implementation remain under-theorized and inconsistently applied (Iuchi 2014; Few et al. 2021). Conventional recovery frameworks are generally structured around two key understandings. The first frames recovery as a “return to normalcy,” a restoration of pre-disaster conditions (Haas et al. 1977; Valencio 2010a). In Brazil, this logic is institutionalized within the civil defense system, which defines recovery as restoring a pre-disaster “state of normality” (Brazil 2012). The second treats recovery as a “window of opportunity” for development, a chance to rebuild in ways that enhance resilience and sustainability (UN 2005). This

notion appears commonly in global policy agendas, including the BBB principle (Chmutina et al. 2023).

These two perspectives underpin global frameworks such as the Sendai Framework for Disaster Risk Reduction 2015–2030 (SFDRR), which emphasizes a shift from hazard-focused approaches to those centered on vulnerability and resilience, emphasizing the linkage between disaster risk, inequality, and development. However, the implementation of these frameworks often exposes tensions between normative ideals of equity and the realities of governance and practices on the ground. While their language reflects more progressive intentions, operationalization often fails to live up to these ideals as reflected in the recent recovery injustice literature (Joseph et al. 2021).

Critics have highlighted how resilience is commonly reduced to quantifiable metrics, either as system-level functionality or as an individual attribute, often imposed by external actors (Gaillard and Jigyasu 2016). This technocratic approach dehistoricizes vulnerability, treating it as a static outcome rather than a process with its sociopolitical roots (Wisner et al. 2004; Faas 2016). Moreover, recovery metrics usually track only those who remain in place, rendering displaced populations statistically and politically invisible (Easton et al. 2019; Cheek and Chmutina 2022).

While the SFDRR’s purports promote inclusiveness, its operational focus remains narrow. Inclusion is often reduced to gender, age, disability, and visa status, failing to engage with deeper structural exclusions like informal tenure, racialization, and class (Gaillard 2022). The result is a paradox of “exclusive inclusion,” where the most vulnerable are made visible only through externally defined, often reductive, categories.

In practice, resilience becomes a placeholder for return-to-function metrics, focused on how quickly infrastructures or communities can “bounce back,” rather than a transformative tool to challenge preexisting structural conditions. Recovery timelines are compressed under political urgency, privileging speed and infrastructure over meaningful engagement or participatory planning (Olshansky et al. 2012; Joseph et al. 2021). Affected populations are typically treated as passive recipients of aid, while decision making is centralized within state agencies and international organizations (Iuchi 2014).

This dynamic reduces recovery to a technocratic, standardized product: typologies are imposed, needs are simplified, and solutions are operationalized through pre-determined spatial interventions (Cannon et al. 2014; Few et al. 2021). The BBB paradigm, in particular, assumes a universal applicability of development-based models that are often culturally and socially incongruent. As Cheek and Chmutina (2021) noted, the semantics of “Build,” “Back,” and “Better” encode neoliberal assumptions: “Build” implies formalized development; “Back” assumes the pre-disaster

status quo is desirable; and “Better” imposes normative hierarchies, where certain ways of living are viewed as inherently superior.

Under these assumptions, recovery is often considered complete once housing units are rebuilt or subsidies distributed, regardless of cultural fit, community ties, or long-term livelihood impacts. Recovery thus becomes a standardized product, imposed rather than co-created.

In order to examine how these conventional views shape disaster governance in practice, we systematized the most influential DRR frameworks, notably those promoted by the United Nations, in Table 3. Although these frameworks are not binding policy instruments, their influence on how recovery is conceptualized and implemented at the national and local level—as in Brazil—is undeniable.

### 3.2 Recovery as Selective Displacements

The institutionalization of recovery under global DRR frameworks often results in clashes between bureaucratic imperatives and community realities. Table 4 synthesizes how conventional recovery strategies, rooted in neoliberal logic and technocratic control, tend to generate collisions of visions and values between affected populations, government, and private actors. Rather than redressing past injustices, recovery becomes a vehicle for their reinforcement.

This pattern is evident in cycles where disasters disproportionately affect disenfranchised groups: public funds are mobilized, and those resources are subsequently captured or misdirected (Vieira 2024). Empirical studies have found little evidence linking increased aid or government spending to improved recovery outcomes (Aldrich 2012). Instead, the literature underscores how disasters are often leveraged to advance neoliberal agendas (Cheek and Chmutina 2021).

States of emergency—ostensibly declared to protect lives—often operate as legal instruments to suspend democratic processes and expedite centralized decision making (Imperiale and Vanclay 2021). Agamben’s notion of the “state of exception” (Pinheiro 2015) aptly captures this shift, where temporary suspensions of legal norms become normalized in post-disaster settings. Such spaces evolve into what Vainer et al. (2013) described as “cities of exception,” inundated with public and private funds. Yet these resources are frequently redirected to serve opportunistic political and economic interests rather than affected communities, constituting a process of elite capture (Platteau 2004).

This pattern was clearly observed in our case studies. In Petrópolis, despite over R\$ 2.27 billion (approximately USD 409 million) allocated for recovery following the 2011 disaster, only half of that amount was actually utilized by local governments (O Globo 2022). In this context, displacements were often selectively applied: some families were forcibly removed from high-value areas,

while others were left in place without adequate support. Valencio (2010a) described this process as “monitored abandonment,” where the state is present enough to control but absent in terms of care or accountability. Widespread distrust among affected residents was reflected in interviews: nearly 90% of participants in Petrópolis ( $n = 10$ ) and nearly 60% in São Sebastião ( $n = 14$ ) reported little to no trust in municipal authorities. These sentiments were supported by a 2014 report from the Legislative Assembly of Rio de Janeiro (ALERJ 2014), which documented corruption, opaque bidding processes, and the use of forced displacements disguised as risk mitigation.

These outcomes reflect Klein’s (2007) theory of disaster capitalism, where crises become opportunities to implement neoliberal reforms that would otherwise face resistance. Public-private partnerships now dominate housing and infrastructure recovery, displacing community-based processes and transforming land into speculative real estate. Loewenstein (2015) further argued that disaster response is often co-opted by corporate and state actors for profit under the guise of humanitarianism.

The post-disaster gentrification, a class-based displacement (Lees et al. 2015; Best and Jouzi 2022), is a recurring pattern in this context. In our case studies, particularly in the post-2011 disaster in Petrópolis, Vale do Cuiabá neighborhood, displaced families were relocated to peripheral zones, often under surveillance and lacking adequate services. Meanwhile, previously working-class areas were redeveloped for upscale commercial use. One longtime resident in Vale do Cuiabá captured this process succinctly: “They took the poor people from below [the main road] and put them on the hill where no one could see them. The low-income houses went out, and the upscale restaurants came in.” A local human rights advocate described the trend in starker terms: “The more [poor] people die, the more the city profits.” In such contexts, recovery becomes an instrument of “urban sanitization”—what some scholars refer to as “hygienisation”—a process that reorders urban space to benefit elites while displacing the poor (Pinheiro 2015).

## 4 Recovery as Reconstruction of the Status Quo: The Case of Brazil

Building on previous critiques of exclusionary recovery frameworks, this section examines how these dynamics unfold in Brazil. Drawing on empirical data, we show how recovery processes—shaped by property regimes and bureaucratic norms—often reinforce historical inequalities, framing exclusion as administrative necessity and normalizing long-term displacement.

**Table 3** Evolution of global disaster risk reduction (DRR) frameworks

Framework and adoption	Main acknowledged limitations	Proposed solutions by the frameworks
<b>Yokohama strategy for a safer World</b> I World conference on disaster reduction Yokohama, Japan, 1994	<ul style="list-style-type: none"> <li>• Reactive, relief-centric model with uncertain outcomes.</li> <li>• Neglect of long-term prevention and structural vulnerabilities.</li> <li>• Disproportionate impact on developing nations not adequately addressed.</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of a global DRR coordination (now known as the United Nations Office for Disaster Risk Reduction).</li> <li>• Shift to a comprehensive approach integrating prevention, preparedness, and mitigation.</li> <li>• Emphasis on community participation and bottom-up approaches to leverage local knowledge and empower populations.</li> </ul>
<b>Johannesburg plan of implementation</b> World summit on sustainable development Johannesburg, South Africa, 2002	<ul style="list-style-type: none"> <li>• Fragmented approach treating disaster mitigation, reconstruction, and sustainable development as separate domains.</li> </ul>	<ul style="list-style-type: none"> <li>• Integration of disaster-related concerns and sustainability into broader development policies.</li> <li>• Alignment of post-disaster recovery with UN's overarching strategies for economic development, especially in the Global South.</li> </ul>
<b>Hyogo framework for action 2005–2015 (HFA)</b> II World conference on disaster reduction Kobe, Japan, 2005	<ul style="list-style-type: none"> <li>• Insufficient integration of DRR with sustainable development, governance, and risk factor analysis.</li> </ul>	<ul style="list-style-type: none"> <li>• DRR positioned as a core element of sustainable development and poverty reduction.</li> <li>• Incorporation of gender equality and cultural diversity into DRR planning.</li> <li>• Explicit linkage of disaster impacts to pre-existing societal inequalities.</li> </ul>
<b>Sendai framework for disaster risk reduction 2015–2030 (SFDRR)</b> III World conference on DRR Sendai, Japan, 2015	<ul style="list-style-type: none"> <li>• Persistent underlying risk drivers (for example, inequality, poor urban planning) not sufficiently addressed.</li> <li>• Top-down and insufficiently inclusive DRR models.</li> <li>• Narrow scope excluding technological and biological hazards.</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of a foundational definition of community resilience.</li> <li>• Expand scope to explicitly encompass natural and human-made hazards, including technological, environmental, and biological hazards.</li> <li>• Reframing of disaster risk as a sociopolitical construct rooted in inequality.</li> <li>• Assert the primary responsibility of states to prevent and reduce disaster risks.</li> <li>• Emphasis on inclusive, multi-stakeholder governance and shared responsibility.</li> <li>• Introduction of “Build Back Better” as a guiding principle for resilient recovery.</li> </ul>

**Table 4** Post-disaster recovery—conventional approaches and power dynamics

Critical question	Synthesized claim	Illustrative references
Who makes decisions and whose knowledge informs them?	Decision making is concentrated among institutional and technical elites; local knowledge is often disregarded or devalued, while some selected groups are framed as more “developed” or “resilient.”	Tierney et al. (2006); Gamburd (2013); Cheek and Chmutina (2021); Chmutina et al. (2021); Gaillard (2022); Lam (2024)
On whose behalf?	Recovery resources and financial inflows, though framed as humanitarian aid, often serve political and economic elites through processes of “elite capture,” reinforcing lobbying interests and preserving pre-disaster inequalities rather than transforming them.	Platteau (2004); Klein (2007); Barrios (2014); Loewenstein (2015); Oliver-Smith (1986); Vieira (2024)
What are the priorities?	Dominant frameworks prioritize speed, physical infrastructure, and economic stability over cultural adequacy, social justice, or long-term well-being. Vulnerability is reframed as individual failure, and “self-recovery” becomes normalized.	Aldrich (2012); Chandrasekhar et al. (2014); Baker (2019); Iuchi and Mutter (2020); Cheek and Chmutina (2022)
How is it implemented?	Recovery is operationalized through bureaucratic categorization, property regimes, and discourses of public safety and disaster risk, which often serve to legitimize displacement, militarization, and the privatization of space.	Alexander (2002); Klein (2007); Valencio (2010a); Pinheiro (2015); Joseph et al. (2021); Chmutina et al. (2023)
Who benefits from this process?	Those with formal land tenure, political connections, and economic power disproportionately benefit from resources. Meanwhile, displaced and marginalized groups face prolonged exclusion and cycles of deterritorialization.	Oliver-Smith (1986); Marchezini (2010); Alexander and Davis (2012); Gamburd (2013); Sarmiento et al. (2020); Terolleman et al. (2024)

#### 4.1 The Knot of Property: Recovery as a Privilege and Source for Territorial Reordering

Brazil is the country with the highest wealth concentration (UBS Global Wealth Management 2025) and land/property concentration (Chancel et al. 2022; World Bank 2024) in the world. Among the most oppressed groups, almost 16.5 million people—8.1% of the country’s population (IBGE 2022)—live in informal settlements/favelas, characterized by precarious tenure.

In Brazil, the concept of the “land knot” (“*nó da terra*”) articulated by Maricato (2008) captures how land constitutes not only a privilege; it is entrenched within the political, economic, and structural power dynamics of the country. The “land knot” reflects the historical roots of inequality, stemming from long-standing patterns of land concentration. Corrêa Junior et al. (2024) expands on this, describing the “latifundia as form and exclusion as rule,” showing how land ownership in Brazil is an enduring mechanism of structural exclusion. The fact that an estimated 1% of the population owns more than half of Brazil’s total wealth and land (IBGE 2022; Oxfam 2025) exemplifies this power imbalance.

From this perspective, the exclusionary conditions surrounding land access in Petrópolis (RJ), São Sebastião (SP), and many other parts of Brazil are not anomalies but manifestations of long-standing patterns of land concentration and social vulnerability. In many ways, the “land knot” is a “knot of disasters” in Brazil.

Our research builds on this by demonstrating how post-disaster recovery processes in Brazil often reproduce and intensify these vulnerabilities. Ownership frequently becomes a prerequisite for accessing recovery resources, reinforcing a system in which private property determines who is included or excluded from recovery processes. Those without legal titles are often excluded from compensation and formal assistance—making property not only a legal category but also a mechanism of systemic exclusion.

This pattern is particularly acute in contexts of recurrent disasters. Figure 1 presents the field data results regarding types of land ownership and access to the two main recovery programs available to low-income populations: the housing rental subsidy (“social rent”) and social housing.

In both cases, renters and precarious possessors were mostly excluded from any form of reparation, unable to access recovery programs primarily due to the lack of formal ownership. As of April 2025, many still remained in risk-prone areas or had been involuntarily relocated to other hazardous zones, revealing a process of secondary displacements within the recovery phase itself.

Beyond this finding, certain pathways stand out—particularly in the case of Petrópolis—illustrating a recurrent pattern: none of the affected informants were renters before the disaster; all had some form of homeownership

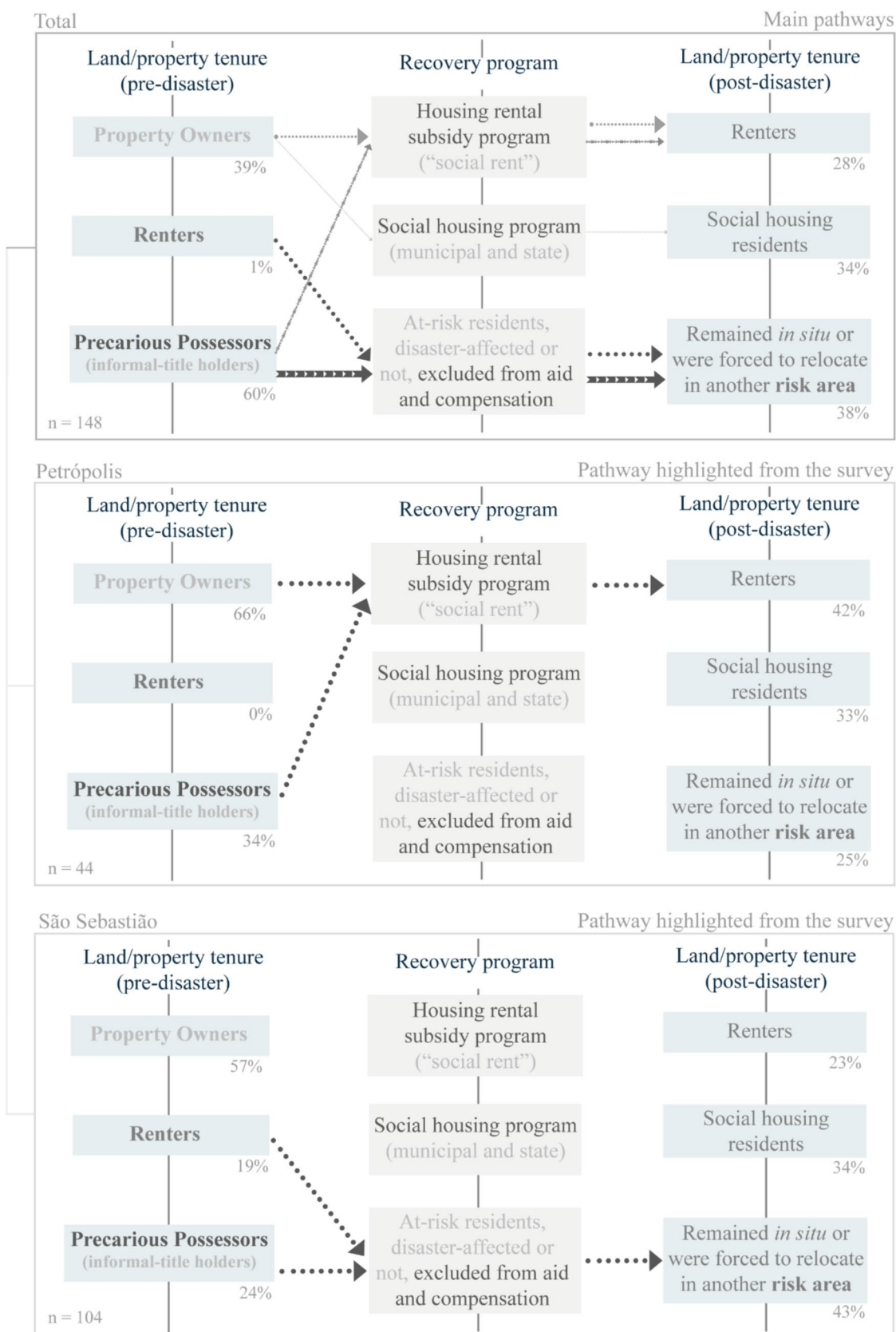


Fig. 1 Land ownership and recovery pathways

(purchased, ceded, or self-built). In the aftermath, however, precarious possessors in their various forms became renters, most of them forced to move far from their original territories. This shift signals a clear trend of post-disaster gentrification, in which reconstruction and compensation mechanisms restructure tenure relations and consolidate spatial inequalities.

Thus, an additional finding from the “social rent” program shows that Petrópolis is increasingly becoming a city of renters (Fig. 1), a trend largely overlooked in disaster management literature (Dundon and Camp 2021). According to IBGE (2022), the city already shows a significant proportion of tenants—one in every four residents lives in rental housing. Although it was only with the most recent national census that the number of tenants in each municipality was estimated—making it impossible to perform a statistical analysis using public data—it can be inferred from residents currently enrolled in the “social rent” program that Petrópolis has, with each successive disaster, increasingly become a city of tenants.

Petrópolis experiences disasters almost annually, with the highest fatality records in 1966, 1979, 1988, 2001, 2011, 2013, and 2022 (Memorial Petropolis 2022). The growing number of low-income residents who lost their own homes and now live in rented housing after recent disasters is revealing. According to data obtained from the Petrópolis Municipality (April 2025), in relation to the 2022 landslide disaster, 3,693 families are still receiving social rent assistance, and other 173 families are enrolled following the 2024 disaster. Beyond post-disaster gentrification processes seen in Vale do Cuiabá in the post-2011 disaster, there is a clear rise in the tenant population among marginalized groups.

## 4.2 The Brazilian Model of Recovery

In Brazil, the Civil Defense coordinates all phases of disaster risk management, prioritizing the restoration of pre-disaster “normality” (Brazil 2012) and focusing predominantly on post-disaster response, still often through militarized and narrowly technical approaches (Valencio 2010b). Social assistance, meanwhile, is often the most present public institution among vulnerable populations, acting across response, recovery, and prevention phases. Yet, they too reproduce the notion of “returning to normal,” implementing policies that function as mechanisms of “poverty management” (Carlos and Rizek 2022) rather than addressing structural inequality.

Mainstream recovery frameworks in Brazil—grounded in the notion of a return to “normality” and often articulated through resilience and BBB paradigms—mirror and deepen a pre-existing baseline of injustice, where recovery is typically reduced to minimal interventions such as the provision of basic goods or temporary housing (Siena 2012).

Valencio (2010a) observed that this “normality” preserves the geographic marginalization of poor populations—allocating them to areas peripheral to the interests of the real estate market. The result is a discourse that equates development and resilience with sanitized, orderly cities, erasing informal settlements and their histories.

This logic is not new. In Brazil, even before the most recent national census—IBGE (2022), conducted every 10 years—the official designation for territories occupied by favela dwellers was “subnormal clusters” (*aglomerados subnormais*), referring to multiple forms of existence deemed unacceptable or incompatible with the formal system. Processes of relocation and eligibility categorization, therefore, simplify complex social realities and silence those who do not conform to administrative norms.

Indeed, from late nineteenth-century modernization projects to more recent climate discourses, narratives that portray favelas as “problems” or “inherently risky” have long rationalized eviction and urban sanitization (Valladares 2005; Moretti et al. 2019; Nogueira and Souza 2020). During mega-events, particularly the 2016 Olympics, such narratives enabled the forced displacement of over 77,000 people, many into high-risk zones or militia-controlled territories (Faulhaber and Azevedo 2015; Oyama 2025).

Rolnik (2001) and other authors have described this as the “urbanization of risk”: a process in which wealth, services, and opportunities are concentrated in legalized, affluent areas while poor and informal communities are relegated to environmentally fragile zones. These populations are forced into areas lacking infrastructure precisely because such spaces are economically accessible. Our case studies reflect this historical continuity. The Brazilian recovery model’s reliance on pre-disaster normality naturalizes injustice, reinforcing disempowering narratives that blame the oppressed for their vulnerability while excluding them from future-oriented planning.

## 4.3 Recovery Phase as Secondary Disaster for Marginalized Groups

Field data from Petrópolis and São Sebastião represent two extremes, yet far from exceptional, cases in Brazil, encapsulating key debates in disaster recovery. They highlight how recovery, as experienced by affected populations, can be highly dysfunctional and diverge sharply from institutional definitions. For public authorities interviewed, “successful” recovery is often reduced to physical reconstruction—particularly the provision of housing—while giving little attention to solution quality, level of participation, or long-term impacts on livelihoods and community cohesion.

Lack of ownership (as seen among renters and precarious possessors) is the first barrier to accessing the recovery procedure. Among those who are able to access the

recovery program, disaster-affected families in Petrópolis and São Sebastião usually remain in temporary or substandard housing. Self-built homes with strong social ties have been replaced by geographically isolated units that lack community cohesion. Initial temporary conditions often become permanent (Marchezini 2010) and as many informants revealed, they continue to experience repeated (“ping-pong”) relocations long after the disaster, resulting in ongoing spatial dislocation and a growing sense of alienation.

In both cities, real estate speculation following disaster events significantly inflated rental markets. After the 2011 disaster, Petrópolis saw rental prices rise by up to 30% following the introduction of social rent subsidies (“aluguel social”) (UOL News 2011). Subsidy stagnation, amid surging prices, forced many into further displacement.

Our fieldwork and surveys documented the extent of this precarity. São Sebastião recorded up to eight relocations within one year (2023), with an average of four relocations per person. In Petrópolis, some individuals relocated up to nine times over 13 years. Across cases, displacement led to disruptions in employment, income, and education—deepening cycles of vulnerability.

These frequent involuntary displacements are not isolated episodes; they reflect a broader pattern of prolonged instability that significantly disrupts the daily lives of affected populations. In particular, they have direct consequences on employment (up to eight job changes were reported among analyzed cases), income stability, and children’s education, contributing to a cycle of social vulnerability and exclusion that post-disaster recovery frameworks fail to address adequately.

Affective dimensions are equally significant. Among 34 respondents (ranging from the 2011 events to those in 2022, 2023, and 2024) asked whether they felt “recovered,” only two said yes—both of whom had lived in extreme precarity before receiving social housing. Others described worsening conditions, mental health struggles, and a growing sense of abandonment. As one resident put it: “We will never be recovered. I think the [current] house even makes the situation worse, because the dissatisfaction with the unit is greater than before. People are dying after receiving the house: of anguish, depression, and from being placed in unfamiliar neighborhoods.” Three suicides were recorded in Petrópolis following the 2022 landslide disaster, involving residents who returned to condemned or destroyed homes due to a lack of alternatives.

Surveillance and control further compound exclusion. Residents of newly constructed social housing reported feeling imprisoned or even criminalized, with cameras monitoring even private spaces. This condition of “monitored abandonment,” reflected in the informants’ statements, is seen as a structural neglect masked by technical and security-oriented interventions.

An additional layer emerged during the interviews. In both cases, many affected residents reported having experienced previous disasters and relocations before settling in their current (often still at risk) housing. This pattern underscores the cyclical nature of vulnerability and displacement, in which households repeatedly move, each time with fewer resources and weaker tenure security.

Ultimately, current recovery models in Brazil reproduce spatial and social inequality. They transform disaster into a pretext for displacement and territorial reordering, where safety, dignity, and political visibility become privileges for the few. The distinction between evacuation and migration collapses as affected populations are often barred from returning and, lacking permanent housing solutions, are repeatedly forced to migrate to increasingly precarious locations (Valencio 2010a)—producing a spiral of degradation in which recovery becomes a mirage: promised, but never delivered.

For marginalized groups, the recovery phase often becomes a secondary—or even an ongoing—disaster. As noted earlier, prevailing resilience and recovery metrics tend to privilege those who remain in place and can access formal aid programs, while systematically sidelining displaced individuals from both narratives and institutional support structures. Following Cheek and Chmutina (2022), this raises critical questions: do current recovery processes safeguard the rights and histories of displaced populations, or do they compound their invisibility?

In this context, grassroots movements such as MAB play a crucial role in supporting marginalized affected families and making their needs and aspirations visible and validated. Their actions reflect a broader trust in social movements—a sentiment shared by nearly all interviewed participants—and stand in sharp contrast to the widespread distrust toward formal institutions. As Escobar (2010) argued, grassroots movements should be understood as knowledge producers, grounded in the belief that both knowledge and resistance emerge from local practices of contention and from broader historical struggles. In São Sebastião, for instance, the direct involvement of affected residents in multiple stages of a co-produced report documenting human rights violations—currently under submission to the Ministry of Justice—represents a significant step toward more just and transformative recovery policies.

## 5 Conclusion

Recovery is not a neutral or universally-experienced concept: it is deeply political, shaped by historical inequalities, institutional logics, and contested definitions. This article has shown how conventional recovery frameworks, while often framed in terms of resilience and development, can

reproduce and intensify exclusion, particularly for disenfranchised populations without formal property recognition or political visibility. As we argued:

- 1) Recovery gaps often precede the disaster itself, since chronic issues such as inadequate access to housing and land are deeply embedded in structural inequalities—and, in the Global South, particularly rooted in colonial legacies and dynamics of property concentration (Galeano 1971; Rivera 2022).
- 2) Recovery processes frequently deepen existing inequities. Far from addressing root causes, conventional approaches often favor those already in positions of legal or spatial legitimacy, excluding the displaced, the landless, and the informally housed. The notion of a “return to normal” becomes problematic when “normal” perpetuates geographical marginalization and structural injustice, reducing recovery to minimal interventions.
- 3) Our empirical cases from Brazil illustrated the disconnect between normative recovery policy goals and the lived experiences of affected populations, especially disenfranchised groups. In Petrópolis and São Sebastião, recovery has been characterized by lack of participation and agency, repeated displacement, surveillance, and prolonged uncertainty. Metrics focused on rebuilding infrastructure fail to account for fractured livelihoods, social ties, and psychological harm.

Faced with administrative demands for categorization and eligibility, governments often simplify complex, contested realities, erasing those who defy easy classification (Bornstein et al. 2013), creating a dichotomy of “deserving” versus “undeserving” beneficiaries. This reality of recovery processes is underrepresented in disaster literature, despite being ever-present in the experience of the most affected and their territories.

We argued that the concept of the “knot of property” captures the entanglement between legal ownership, access to recovery, and systemic exclusion. It highlights how recovery frameworks can serve as instruments of territorial control and urban sanitization, rather than pathways to justice. When formal ownership becomes the condition for recognition, when a single way of living becomes a parameter, recovery becomes a privilege, not a right.

In contrast to this prevailing dynamic of recovery, a “right to the city” perspective demands that recovery must go beyond the formal procedure of material reconstruction. It must recognize the political claims of those historically excluded—not only as victims to be relocated, but as co-authors of their futures. Recovery, in this sense, should be understood not as a return to injustice, but as a collective reimagining—grounded in memory, dignity, and transformation.

As Airton Krenak (2019) reminded us, postponing the end of the world requires telling one more story—especially the stories of those whose lives and losses remain absent from official narratives. The work of recovery is not only about rebuilding structures, but about making space for those stories to be heard.

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