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Contesting the Right to Sustainable Cities Under Neoliberalism: The Case of Macrocampamento Los Arenales, Chile

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Abstract

This article examines the grassroots urbanism of Los Arenales, a large informal settlement in Antofagasta, Chile, within the theoretical framework of Henri Lefebvre's right to the city and its application under neoliberal constraints. It critiques the limitations of the Sustainable Development Goals (SDGs), particularly their top-down implementation and neoliberal tendencies, by juxtaposing them with community-driven approaches rooted in spatial justice, participatory governance, and collective agency. Employing a mixed-methods, embedded case study approach, the study draws on data collected between 2017 and 2023, including participatory mapping, 14 semi-structured interviews, and engaged research initiatives. Two key projects—Chile's first cooperative bakery in an informal settlement and the Know Your City initiative—serve as focal points for analysing grassroots strategies. Findings highlight how these initiatives foster economic autonomy, social solidarity, and political advocacy, advancing residents' right to the city. However, challenges such as reliance on external support and systemic barriers underscore the limitations of grassroots efforts under neoliberal governance. The article concludes that Los Arenales exemplifies the transformative potential of grassroots urbanism, while advocating for structural reforms and inclusive policies to enable equitable urban development. It underscores the importance of integrating lived experiences into urban planning to achieve justice and sustainability within the Global South.

Keywords

contested urbanism; grassroots urban planning; informality; right to the city; Sustainable Development Goals

1. Introduction

The United Nations 2030 Agenda, articulated through the Sustainable Development Goals (SDGs), aspires to guide urban sustainability. Yet critics fault its limited transformative reach, reliance on voluntary pledges, and entanglement with growth-centred paradigms that entrench structural inequalities and asymmetrical power relations across (sub)national spaces (Liverman, 2018; Nightingale, 2018; Sultana, 2018). Such inequities are most acute in the Global South, where informal settlements subject residents to intensified deprivation and systemic neglect (Butcher, 2022).

Henri Lefebvre's right to the city (Lefebvre, 1968/2009)—later advanced by Harvey (2012), Mitchell (2003), and Purcell (2002)—offers a critical counter-frame, demanding collective control over urban space rather than mere access to its resources. Under neoliberalism, though, the slogan of the right to the city is routinely co-opted as urban branding, stripped of substantive calls for spatial justice (Fursova, 2018). Even so, Latin American grassroots movements continue wielding it as a counter-hegemonic claim to dignity, participation, and territorial autonomy (Vergara-Perucich & Arias-Loyola, 2019).

Chile embodies these tensions. Ranked 28th in the 2022 Sustainable Development Report, the country nonetheless lags on SDGs 1 and 10, while SDG 11 exposes a fragmented planning regime and stark socio-spatial segregation. The 2019 social uprising highlighted deficits under SDG 16, and multiscalar governance remains partial (SDG 17). Incremental reforms thus fail to redress deep-seated inequalities, signalling the need for a more radical reconceptualisation of development.

This article addresses the debate through Los Arenales, one of Chile's largest informal settlements in Antofagasta. Situated in the Atacama Desert, the region hosts vast copper and lithium reserves critical to global energy transitions (U. S. Geological Survey, 2024) and, since the commodity supercycle, attracts extensive Latin American migration (Arias-Loyola et al., 2022; Arias-Loyola & Vergara-Perucich, 2021). The 2010–2015 copper boom, peaking above $10,000 per tonne in 2011, later collapsed, exposing Chile's vulnerability to commodity dependence and revealing an urgent need for diversification.

Extractivist legacies shape Antofagasta's contested landscape. Successive nitrate, copper, and lithium cycles have produced labour influxes, dispossession, and ecological degradation (Galaz-Mandakovic, 2023; Galaz-Mandakovic & Rivera, 2021). Although the city functions as a logistical hub, it suffers soaring living costs, pollution, and acute housing shortages. As formal housing becomes unattainable, campamentos proliferate. Founded in 2014, Los Arenales shelters thousands of mainly migrant families in precarious structures lacking reliable water, electricity, and sanitation, yet collectively mobilises to exercise the right to the city through territorial resistance and self-management (Vergara-Perucich & Barramuño, 2023).

Our study interrogates how Los Arenales reconfigures SDG practice, especially Goals 1, 10, and 11, via two emblematic initiatives. The CINTRA cooperative bakery fosters local livelihoods, collective ownership, and food security. The Know Your City (KYC) programme, a participatory mapping endeavour, documents service gaps and hazards, leveraging data for claims-making. These projects illustrate how marginalised communities fashion spatial justice and territorial agency within informal urbanism, constituting counter-epistemologies against the technocratic SDG apparatus. Los Arenales thus emerges not as a site of passive lack but as a grassroots laboratory where informality, co-production, and critical pedagogy forge alternative development imaginaries.

Methodologically, the research draws on longitudinal action-planning (2017–2023): 14 semi-structured interviews, co-produced urban plans, and involvement in seminars and service-learning. This participatory stance foregrounds lived experience, interrogating both outcomes and ethical-ontological dimensions of community practice. Findings reveal the transformative capacity of bottom-up, adaptive strategies to advance urban sustainability and social justice.

First, the CINTRA bakery contests SDG 1's narrow income metrics by embedding solidarity-economy principles: collective governance, gender-inclusive employment, and reinvestment into local infrastructure. It reframes poverty alleviation as empowerment through cooperativism rather than market insertion. Second, KYC rematerialises SDG 11's abstract indicators via citizen-generated data that expose infrastructural absences and environmental risks, compelling municipal recognition. Together, these practices re-politicise development by linking survival strategies to claims of dignity and democratic participation.

Los Arenales also problematises SDG 10. Migrant residents confront legal precarity, xenophobia, and a speculative land market. In response, the settlement deploys a politics of presence—occupation, self-build, and collective service provision—that makes visible otherwise erased urban subjects. Such practices resonate with recent scholarship viewing resilience not as system stability but as community-driven autonomy, innovation, and resistance (Vergara-Perucich & Arias-Loyola, 2019). They exemplify a right to fail, in which experimental initiatives may falter without punitive fallout, turning setbacks into learning and heightened agency.

Overall, Los Arenales illuminates both the failures of neoliberal urban governance and the possibilities inherent in cooperative alternatives. Community initiatives do more than fill governance voids; they re-signify sustainability as a contested political project. By situating grassroots action within wider development debates, the case of Los Arenales underscores that genuinely inclusive cities must be co-produced from below.

The article proceeds by situating the right to the city in relation to SDG discourse, detailing the participatory methodology, and analysing Los Arenales' initiatives. It closes by advocating governance innovations rooted in horizontal, cooperative practice to confront Latin America's distinctive urban challenges. Only through such re-grounded, justice-oriented strategies can the SDGs transcend technocratic abstraction and engage the lived realities of the urban majority.

2. Theoretical Framework

2.1. A Critical Perspective on SDGs

Adopted in 2015, the SDGs extend the Millennium Development Goals' poverty-oriented agenda by embedding 17 goals and 169 targets that foreground interconnectedness, inclusion, and sustainability (United Nations, 2015). Yet their national-scale, indicator-driven approach has drawn sustained critique. Universal metrics often flatten territorial diversity and mask local power relations, thereby reproducing neoliberal logics and marginalising already-vulnerable groups (Liverman, 2018; Nightingale, 2018; Sultana, 2018). Quantification without spatial nuance obscures the intersectional character of deprivation, particularly in informal urban contexts (Butcher, 2022). Internal goal tensions—most visibly between growth

(SDG 8) and climate action (SDG 13)—further underscore the framework's contradictions (Kumar et al., 2024). Likewise, SDG 11's city-scale targets privilege formalised economies and infrastructure, sidelining informal settlements that house the urban majority across the Global South (Liverman, 2018). Re-embedding the SDGs in lived territorial realities thus demands a spatially sensitive, justice-oriented re-reading capable of challenging entrenched inequalities (Boano & Vergara-Perucich, 2017).

2.2. Sustainable Concrete Utopias Under Neoliberalism

Henri Lefebvre's right to the city asserts inhabitants' collective power to shape urban space against exclusionary structures (Balto, 2023; Strüver et al., 2021). Framed as a third-generation human right (Shingne, 2021), it underpins claims to adequate housing, democratic participation, and spatial justice (Kempin Reuter, 2019; Muñoz, 2018). Yet, neoliberal urbanism routinely co-opts the slogan of the right to the city: Growth-led smart-city agendas monetise space, reinforce class privilege, and eclipse resident needs (Nogueira & Shin, 2022). In the Global South, rolling back welfare, labour informalisation, and speculative land markets entrench precarity and widen inequalities (Burte & Kamath, 2023; Lam, 2024; Mendes & Lau, 2020). Neoliberal governance, inflected by colonial and racial hierarchies, also magnifies health disparities and social harm (Jamieson et al., 2020; Nunes, 2020).

Lefebvre's allied notion of concrete utopia offers a reparative counter-terrain: actionable, collectively imagined futures rooted in present possibilities (Mitchell, 2003; Purcell, 2013, 2014). Grassroots movements deploy these utopias to contest urban inequality, reclaim territory, and experiment with cooperative forms of provisioning (Harvey, 2012; Vergara-Perucich & Arias-Loyola, 2019). Such praxis privileges collaboration, ethics, and adaptive learning over competition, thereby aligning with SDG principles while rejecting the framework's technocratic reductionism (Liverman, 2018; Nightingale, 2018).

Central to these experiments is the right to fail: the freedom for marginalised communities to test social-economic alternatives—and learn from setbacks—without disproportionate punishment (Arias-Loyola & Vergara-Perucich, 2021). Valuing failure as a pathway to resilience embeds iterative innovation within collective action, helping informal actors navigate structural exclusion while pursuing transformative urban inclusion.

2.3. Space-Sensitive Methods to the Rescue

Geography, as a discipline, provides the epistemic tools necessary to expose and rectify the SDGs' scalar blind spots. Its spatial lens illuminates how social, political, and ecological processes combine unevenly across territories, enabling more nuanced assessments of goal interactions (Liverman, 2018). Conceptually, geographical thought insists on contextual, historically informed understandings of poverty and justice, challenging static universal indicators (Harvey, 2012; Smith, 2008). Methodologically, it critiques over-reliance on top-down metrics and advocates mixed-method, participatory approaches that foreground local agency (Sultana, 2018).

In practice, geographical information systems (GIS), participatory mapping and focus groups weave community knowledge into diagnostic and planning exercises, ensuring interventions accord with situated priorities (Arias-Loyola & Vergara-Perucich, 2021; Brown et al., 2015). Temporal-spatial analyses capture

dynamic phenomena such as seasonal livelihoods or migration pulses that static datasets overlook (Nightingale, 2018).

Urban studies complement this agenda by treating cities as crucibles where sustainability challenges concentrate. Spatial analytics map land-use change, housing access, transport, and green-space distribution, revealing intra-urban disparities and guiding targeted SDG action (Butcher, 2022). Participatory planning embeds residents in co-design, bolstering democratic legitimacy and equity (Brown & Raymond, 2014). Resilience research tracks urban adaptation to climate, resource, or demographic shocks, offering models for polycentric, flexible governance (Williams et al., 2019). Critical urban scholarship further dissects how neoliberal arrangements hollow out public goods, arguing for justice-centred alternatives (Boano & Vergara-Perucich, 2017). For the purpose of our analysis, resilience denotes community-driven capacity to generate political agency, autonomy, and innovation amid structural neglect, transforming adversity from a situation to endure into a collective practice of resistance, territorial appropriation, and alternative urban imaginaries, rather than just settling for stability or recovery.

By integrating geographical sensitivity, mixed methods, and politicised urban critique, these disciplines recalibrate SDG implementation toward concrete utopias grounded in everyday practice. They reveal that sustainable development cannot rest on universal metrics or market fixes but must be co-produced through context-specific, justice-oriented experimentation that honours both the right to the city and the right to fail.

3. Methodology

This article employs an embedded case study (Yin, 2009)—anchored in action research and participatory planning—to reinterpret grassroots urbanism in the macrocampamento Los Arenales, Antofagasta. Rather than gathering new data, it synthesises documentation produced between 2017 and 2023: prior projects, participatory-mapping outputs, service-learning reflections, and published analyses. Two emblematic initiatives structure the discussion: CINTRA, Chile's first cooperative bakery within an informal settlement, and the KYC participatory-mapping programme. Fourteen semi-structured interviews with residents, officials, academics, and NGO staff, alongside georeferenced maps and technical reports, are treated as testimonies of struggle, creativity, and resistance that unsettle mainstream SDG narratives.

Situated in a post-positivist epistemology that values co-produced knowledge, the study deploys participatory GIS, ethnographic observation, and community workshops to reconstruct territorial logics from inhabitants' standpoints. Transductive reasoning traces dialectical links between everyday spatial practices and wider political–economic structures, while the pedagogical dimension illustrates how knowledge generated in, with, and for marginalised communities can animate alternative imaginaries of urban development.

By reframing informal settlements as loci of political agency rather than passive policy targets, the article shows how grassroots urbanism exposes fissures in the SDG architecture and articulates concrete utopias for more just futures. Los Arenales thus becomes an instructive site for rethinking sustainability in the urban Global South, challenging universalist prescriptions without claiming blanket generalisability.

Figure 1 situates the right to the city where community engagement, grassroots innovation, and utopian projection overlap within neoliberal urbanism. Engagement and innovation are already channelled through SDGs 1, 10, and 11; dotted arrows mark their instrumentalisation by existing sustainability agendas. Utopia, by contrast, occupies the diagram's outer rim, signalling imaginaries that refuse managerial capture and push beyond reformism. The model frames the right to the city not as a neutral bridge but as contested terrain where local practices negotiate global governance imperatives, implying that transformative urban futures demand politicising sustainability beyond the SDG script.

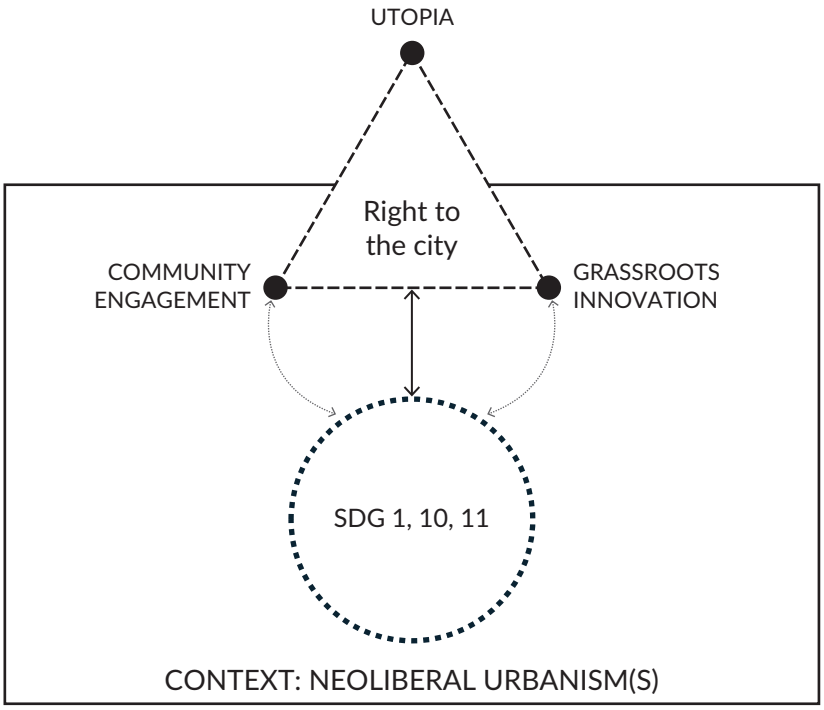

Figure 1. Synthesis of analysis.

4. Case Studies: Cooperative Bakery and KYC

Situated on public land at Antofagasta's northern fringe, Los Arenales is Chile's largest informal settlement and a vivid marker of extractive, speculative urbanism (Figure 2). More than 1,000 mainly Latin American migrant households occupied the site after the 2015–2016 copper crash, when shrinking mining jobs and one of the country's costliest housing markets barred them from formal options (Vergara-Perucich & Arias-Loyola, 2021). Early housing committees operated in isolation amid xenophobia, restrictive subsidies, and scant state support, framing the camp as a collective territorial claim against abandonment rather than a housing solution.

A turning point came in 2017, when United Nations Special Rapporteur Leilani Farha toured northern settlements to expose housing precarity, embedding Los Arenales within a rights-based discourse and legitimising self-management. Momentum grew after Rompiendo Barreras linked fragmented committees in 2016, culminating in the Ministry of Housing and Urbanism's December 2024 commitment to an in-situ upgrading plan.

Grassroots initiatives flourished despite the absence of water, electricity, tenure security, or the laying-out of a street (Figure 3). Residents erected self-built dwellings, communal infrastructure, and planning alliances with NGOs, academics, and sympathetic officials—practices read as situated resilience but better understood as everyday resistance to Chile's neoliberal urban model (Arias-Loyola & Vergara-Perucich, 2021; Vergara-Perucich & Boano, 2021).

Two projects typify this ethos. The CINTRA cooperative bakery—Chile's first within an informal settlement—emerged through partnerships with local organisations and universities; by transforming daily bread-making into a collective enterprise, it restored dignity, generated income, and enacted Lefebvrian spatial production (Arias-Loyola & Vergara-Perucich, 2021). The KYC programme, financed by Slum Dwellers International, provided leadership training, participatory mapping, service-learning studios, and technical audits; its cartographic outputs armed residents to negotiate with state agencies while cultivating political confidence (Andrade & Bickel, 2022).

Los Arenales thus operates as an urban laboratory where mutual aid, gendered leadership, and territorial knowledge expose fissures in the SDGs' technocratic script. Far from a governance gap, the settlement shows how grassroots innovation can rebut neoliberal urbanism and articulate concrete utopias for more just futures (Sugranyes, 2023).

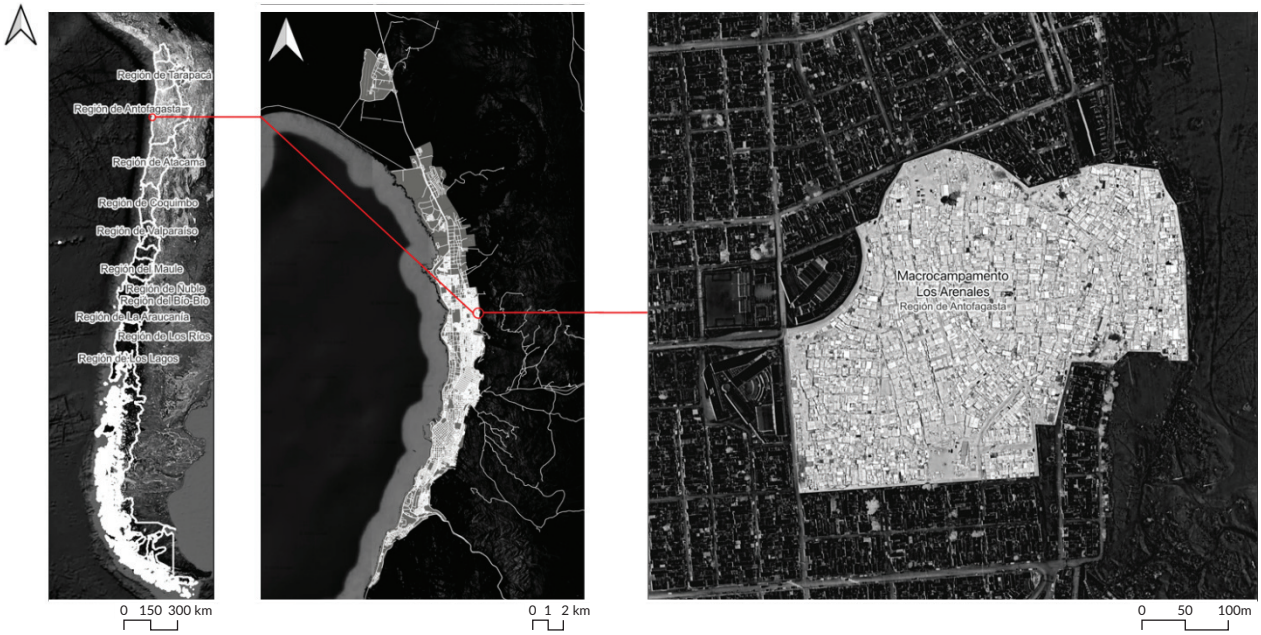

Figure 2. Macrocampamento Los Arenales in the city of Antofagasta.

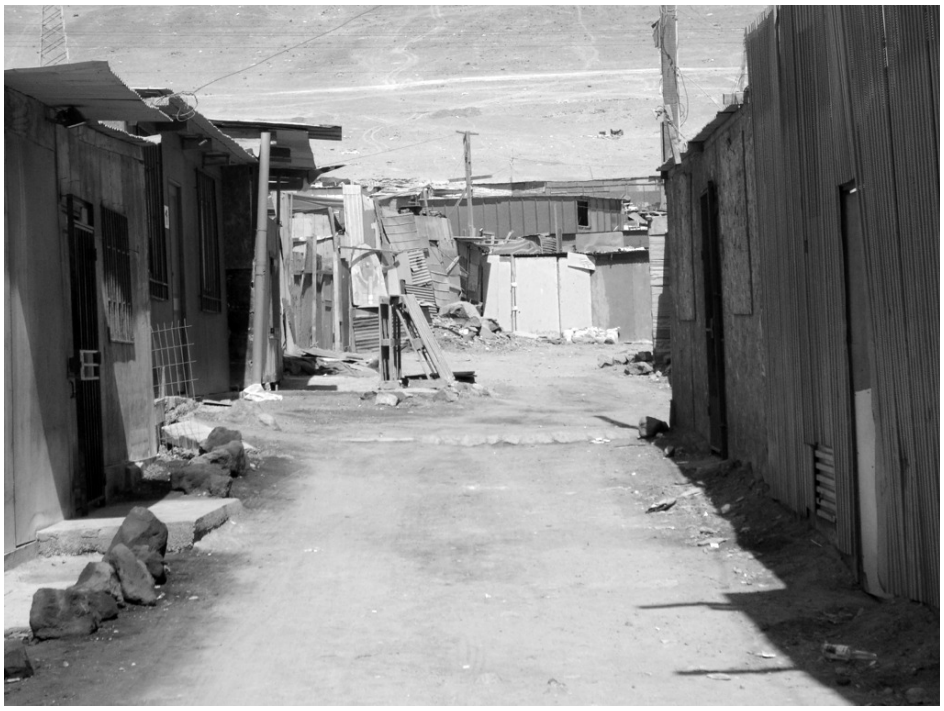

Figure 3. View of a street in the macrocampamento Los Arenales.

5. Findings

5.1. Cooperatively Owning a Means of Production: Conflicts and Learnings From CINTRA, the First Cooperative Bakery

Established in 2017, CINTRA Los Arenales is Chile's first cooperative bakery in an informal settlement in Chile (Vergara-Perucich & Arias-Loyola, 2019). Led by migrant women and aided by academics, NGOs, and officials, it tackles poverty while contesting neoliberal housing policy. Bread exceeds nutrition: Collective production restores dignity, affirms cultural diversity, and claims the right to shared space. Loaves blending Peruvian, Colombian, Chilean, and Bolivian recipes weave communal identity and ensure that no resident is excluded (Arias-Loyola & Vergara-Perucich, 2020).

Guided by Lefebvrian spatial justice and diverse-economy theory, CINTRA reframes informality as autonomy, not deficit (Arias-Loyola & Vergara-Perucich, 2021). Logistical and financial hurdles expose Chile's neoliberal limits yet confirm a right to fail: each setback deepens collective learning, strengthens internal networks, and raises public visibility. Collaboration is decisive: grassroots drive plus academic know-how and NGO logistics secure equipment, training, and legal status.

An engaged-research model replaces extractive data collection with horizontal co-learning, embedding theory in residents' realities, though dependence on external grants preserves tensions between autonomy and responsibilisation. Nevertheless, CINTRA yields tangible gains: vocational skills, mutual aid, and a narrative that shifts Los Arenales from stigmatised periphery to locus of creativity and agency—making bread both sustenance and emblem of urban inclusion (Arias-Loyola & Vergara-Perucich, 2020).

The CINTRA bakery offers broader insights into grassroots cooperatives in the Global South, highlighting their dual role as spaces of resistance and negotiation. It exemplifies how marginalised communities can carve out autonomy and dignity within oppressive systems while exposing structural barriers to sustained transformation. As an experimental socio-economic model, it provides valuable lessons for fostering equitable and inclusive urban futures. One representative explains:

> [Before the bakery and the KYC project,] when we had a [general] meeting, no one wanted to [attend] because they were scared that something might happen to them while walking to the meeting. But then, [the neighbours] slowly started to know each other, and realised we all have the same problems [which increased] the degree of trust…and in believing more in our struggle [for a dignified life]…[These projects] have allowed us to become an organisation of dwellers, to dream about having dignified and fair housing. (INT1)

5.2. Community Mapping the Informal Space: Grassrooted Architectures for Living Better

Los Arenales' ad-hoc morphology speaks of urgency and scarcity. Set on arid municipal land, its sub-campamentos—Eulogio Gordo, Nuevo Amanecer Latino, and others—exist without paved roads, sewers, or potable water. Extreme heat, flash-flood gullies, and dwellings fashioned from pallets and corrugated zinc blend affordability with hazard, revealing exclusion from Antofagasta's formal housing market.

Yet residents carve plazas, meeting halls, and committees that sustain social life. The KYC initiative harnessed this energy through a public-participation GIS campaign (Vergara-Perucich & Arias-Loyola, 2021). Mixed workshops of migrants, academics, and NGOs fused sketch maps with GPS traces to chart boundaries, taps, risk zones, and occupation timelines from 2013. Four iterative stages—recounting origins, reconstructing spatial histories, mapping priorities, and publicly validating findings—produced layered cartographies now used to demand in-situ upgrading, tenure security, and equitable services (Figure 4).

Mapping also cultivated belonging. Visualising shared struggles consolidated consensus on cooperative plot allocation, countering Antofagasta's speculative land logic. While such bottom-up planning still confronts a neoliberal policy regime that outsources housing and withholds recognition, Los Arenales' cartographic praxis demonstrates how situated knowledge politicises space, strengthens collective agency, and presses the state to honour the right to the city.

The evolution of Los Arenales highlights the potential of informality as a site of resistance and collective agency. Rather than framing informality as a problem to eradicate, the settlement demonstrates how marginalised communities reclaim urban spaces and challenge dominant urban planning paradigms. Its spatial practices, from cooperative land allocation to participatory mapping, offer valuable insights for reimagining urban governance in ways that prioritise equity and justice. This experience was highly valued by Los Arenales inhabitants as one of the KYC outputs. Interviewee 7 underscores the pivotal role of the KYC initiative, noting that the combination of soil analysis and participatory mapping carried out "with the neighbours…is very important for the community and for me." Building on this collective praxis, Interviewee 8 insists that "we, the neighbours, will be part of this participatory organisation, becoming builders of our own space and our own city." That aspiration, Interviewee 13 adds, must be realised in an urban future "grounded in solid technical foundations and animated by a clear ideological commitment."

Figure 4. Community-made map of macrocampamento Los Arenales. Source: Vergara-Perucich and Arias-Loyola (2021).

5.3. A Critical Pedagogy: Walls, Painting, and College Students

As a spin-off from the KYC initiative, a service-learning programme embedded architecture, accounting, and business students and faculty in Los Arenales to tackle local challenges through spatial and organisational interventions (Arias-Loyola et al., 2023). Anchored in the right to the city, the scheme fused technical know-how with residents' lived knowledge: Inhabitants mapped service gaps and power relations, while students translated these insights into design proposals, accounting tools, and governance plans. Co-produced outputs—painting workshops, façade upgrades, and organisational guides—met immediate needs yet also pursued the longer goal of formal urban integration. Students gained experiential insight into grassroots realities, and residents strengthened their advocacy and planning capacities, showing how service-learning can align academic practice with community-driven inclusion.

Drawing on Freire's emancipatory pedagogy, the programme embedded education within residents' struggles, treating local experience as expertise (Freire, 2005). Participatory mapping, design sessions, and public art fostered collective memory, negotiation skills, and ownership of space, challenging portrayals of informal settlements as zones of failure.

Sustainability remains precarious: Fragile infrastructure, insecure tenure, and political marginalisation constrain continuity, while reliance on external academics and NGOs risks misalignment with shifting priorities. These tensions expose how empowerment rhetoric can inadvertently reinforce neoliberal logics of individual responsibility. Nonetheless, the programme demonstrates that critical pedagogy and co-production can generate tangible improvements and socio-political agency, positioning Los Arenales as a site where grassroots knowledge reframes urban futures.

Despite these tensions, critical pedagogies in Los Arenales offer valuable lessons for educators, planners, and policymakers. Embedding education within the socio-spatial realities of marginalised communities ensures relevance and transformative potential. These initiatives foster resilience, solidarity, and collective agency, providing a powerful model for addressing urban inequalities through participatory and emancipatory education. In the words of one of the participating students:

> When you come to study, it's not just about preparing yourself. And when you leave here, you're not always going to be surrounded by books; you're going to interact with a world where there are people. If you only look out for yourself and don't care about others, we're not going to achieve a truly developed society. (Business student in Observatorio Regional de Desarrollo Humano, 2018)

The critical pedagogies of Los Arenales illustrate the profound possibilities and persistent tensions of grassroots education in contexts of urban informality. By centring the voices and experiences of residents, these initiatives challenge dominant paradigms of education and urban development, offering a compelling vision of what an inclusive and equitable urban future might entail. At the same time, they remind us of the need for structural changes that go beyond localised efforts, addressing the root causes of urban exclusion and inequality. As such, the experience of Los Arenales provides both inspiration and critical insights for advancing the transformative potential of education in the struggle for urban justice. In the words of one of Los Arenales' representatives:

> For me, it was very important when the young people came to paint the façades of our sports field. We hope they can continue coming to do such beautiful projects. This way, they don't get carried away by the comments or the bad reputation we have for irregularly occupying these lands, and they can see the reality of the families living here and how we coexist. The entire project the young people carried out, bringing colour to the heart of the settlement, which is the sports field, was incredible. (INT2)

6. Discussion

The findings from Los Arenales intersect meaningfully with the SDGs, particularly SDGs 1 (No Poverty), 10 (Reduced Inequalities), and 11 (Sustainable Cities and Communities). The grassroots initiatives analysed challenge the SDG framework's emphasis on top-down approaches by highlighting the importance of community-driven processes. While the SDGs aim for inclusivity and sustainability, the Los Arenales case reveals how these goals can fall short when implemented within neoliberal structures that marginalise informal settlements. The bakery and participatory mapping projects serve as counterpoints, demonstrating how localised, context-sensitive interventions can address inequalities in ways that the SDGs often fail to achieve. These initiatives illustrate that advancing the SDGs requires not only measurable outcomes but also methodologies that engage the lived realities of marginalised populations and prioritise their agency. While this article emphasises the challenges of precarity in Los Arenales, the findings also reveal a more nuanced terrain of collective agency. Beyond formal initiatives such as KYC or the cooperative bakery, residents of Los Arenales have enacted informal planning practices, including self-built housing, cooperative land allocation, and mutual care networks among women. These socio-spatial practices not only contest neoliberal planning logics but also cultivate dignified living through grassroots self-management. Recognising these forms of territorial agency helps to move beyond deficit framings and positions the community as active political subjects in shaping their urban futures.

Table 1 reframes the SDGs—especially SDGs 1, 10, and 11—through the lens of grassroots praxis under structural neglect:

- SDG 1 (No Poverty): In Los Arenales, poverty alleviation is not an outcome of formal jobs or state transfers but of self-managed production anchored in social ties. The CINTRA bakery shows how economic resilience stems from a shared craft—bread-making—that restores territorial dignity and expands residents' capacity to act rather than merely boosting income (Vergara-Perucich & Arias-Loyola, 2019).
- SDG 10 (Reduced Inequalities): Inequality in Los Arenales is experienced as systemic exclusion modulated by race, migrant status, and institutional neglect. Co-governance and intersectional solidarity—rather than national redistribution alone—emerge as key bottom-up strategies.
- SDG 11 (Sustainable Cities and Communities): Los Arenales contests technocratic visions of sustainability that privilege market housing and expert planning. Informal land allocation, participatory mapping, and cooperative enterprise advance a situated sustainability rooted in everyday territorial struggle.

Table 1. Key insights based on research on Los Arenales aligned with the SDGs.

SDG	Pending Challenges in Chile	Los Arenales Contribution	Critical Concepts	Relevant Sub-Targets
SDG 1—No Poverty	Persistent poverty among migrants.	Cooperative bakery builds local economic resilience and food security.	Territorial agency; self-management; everyday dignity.	1.5: Build the resilience of the poor and those in vulnerable situations; 1.8: Create sound policy frameworks based on pro-poor and gender-sensitive strategies.
SDG 10—Reduced Inequalities	Entrenched regional and social inequalities.	Collective land allocation and organisation mitigate exclusion.	Grassroots solidarity; intersectionality; co-governance.	10.2: Empower and promote the social, economic, and political inclusion of all; 10.3: Ensure equal opportunity and reduce inequalities of outcome.
SDG 11—Sustainable Cities and Communities	Socio-spatial segregation and weak integrative planning.	Self-built urbanism legitimises informal spatial production.	Right to the city; spatial justice; informal urbanism.	11.1: Ensure access for all to adequate, safe, and affordable housing; 11.3: Enhance inclusive and sustainable urbanisation and participatory planning.

Urban-resilience discourse often praises the capacity to absorb shocks; Los Arenales instead accents collective action, territorial appropriation, and political agency (Williams et al., 2019). Grassroots initiatives—CINTRA and KYC mapping—rework dominant spatial logics, aligning resilience with autonomy, dignity, and alternative urban imaginaries (Balto, 2023; Strüver et al., 2021). These practices are better read as deliberate resistance to neoliberal planning than as passive adaptation: Migrant-led land allocation, cooperative production, and

informal governance constitute a counter-urbanism that positions informality as innovation and epistemic plurality (Kielin-Maziarz, 2021).

Henri Lefebvre's right to the city thus returns as a lived framework. Self-built housing, mutual-care networks, and collectively managed infrastructure translate the right into everyday practice. CINTRA reconfigures urban space through cooperation, turning bread into a vehicle of solidarity; KYC mapping recovers collective memory and renegotiates relations with the state (Shingne, 2021). Such initiatives corroborate claims that structurally supported grassroots agency can transform urban governance (Turok & Scheba, 2019).

Los Arenales' gains remain fragile. They rely on external funding and alliances with NGOs, academics, and sporadically sympathetic officials. Migrant residents still confront an extractive, exclusionary economy, exposing the limits of bottom-up action under neoliberalism (Jamieson et al., 2020). Pursuing economic self-sufficiency can slide into neoliberal responsibilisation, obscuring the need for systemic reform (Mendes & Lau, 2020; Nogueira & Shin, 2022). Service gaps, insecure tenure, and hostile policies continually test community initiatives.

The community's right to fail (Arias-Loyola & Vergara-Perucich, 2021) values experimentation and learning from missteps. Leaders shifted tactics—from autonomous mobilisation to selective engagement with formal planning—mirroring a dialectic between resistance and institutional negotiation. This pragmatism bore fruit in 2024 when Chile's Ministry of Housing and Urbanism approved a master plan for Los Arenales: embryonic recognition that grew from persistent territorial claims.

Los Arenales illuminates how grassroots initiatives can reinterpret SDGs from below, advancing poverty reduction, equality, and urban sustainability outside conventional policy channels. By elevating territorial dignity, co-governance, and situated knowledge, the settlement demonstrates that informality can generate political agency and alternative urban futures—yet only if external partnerships shift from managerial support to genuine solidarity that addresses structural injustice.

Importantly, the symbolic dimension of these practices cannot be overstated. Bread-making, public murals, and participatory design workshops do not merely serve utilitarian functions but generate shared meaning, identity, and political cohesion. Such aesthetic and cultural practices contest the stigma often associated with informal settlements, resisting homogenising urban imaginaries and asserting the legitimacy of difference (Arias-Loyola et al., 2023). Yet this symbolic power must not obscure material precarities. There is a risk that celebrating the creativity of informality can romanticise its conditions, obscuring the structural violence that underpins them. Thus, recognising informal settlements as sites of experimentation and resilience must always be paired with an analysis of their structural subordination and a commitment to dismantling the systems that perpetuate it.

Participatory urbanism, in this sense, is not a panacea but a strategic tool. It enables communities to articulate spatial claims, generate data, and engage with planning systems from a position of relative strength. The mapping exercises in Los Arenales not only helped residents document their histories and boundaries but also became instruments for negotiating infrastructure provision and tenure security (Vergara-Perucich & Arias-Loyola, 2021). These methodological tools bridge epistemic divides and legitimise local knowledge within formal planning frameworks, reinforcing calls for more inclusive and situated forms of governance (Brown & Raymond, 2014; Kempin Reuter, 2019).

Ultimately, the experience of Los Arenales raises broader questions about the scalability and institutionalisation of grassroots practices. Can such initiatives inform metropolitan planning without losing their radical edge? Does the engagement with state institutions signify co-optation or a strategic negotiation? And are these practices exceptional or indicative of a broader shift among informal urban communities in Latin America? Answering these questions requires comparative research and longitudinal tracking of such initiatives beyond their pilot stages. What Los Arenales offers is not a model to be replicated wholesale, but a critical perspective on how grassroots agency, symbolic action, and territorial struggle can reconfigure the terrain of urban justice in deeply unequal cities.

In policy terms, the lessons are clear. Urban planning must move beyond deficit-based framings of informality, recognising settlements like Los Arenales as sites of knowledge, experimentation, and political possibility. This requires embedding participatory methodologies—such as mapping, co-design, and collaborative governance—within formal systems, without subordinating them to technocratic imperatives. Moreover, symbolic acts, like the collective production of bread, must be taken seriously in policy discourse, not as cultural add-ons but as expressions of agency and visions of alternative futures. Ultimately, the transformative potential of grassroots urbanism depends on a political willingness to see in the informal not a failure of planning, but an invitation to reimagine it altogether.

Theoretically, the findings from Los Arenales contribute to debates on sustainability, justice, and autonomy in urbanism. By emphasising the dialectical relationship between grassroots agency and systemic structures, the case illustrates how marginalised communities navigate and resist neoliberal constraints while advancing their visions of spatial justice. The concept of concrete utopias, rooted in Lefebvre's work, emerges as a vital framework for imagining and realising alternative urban futures. Furthermore, the case challenges the romanticisation of informality by showing that while grassroots practices can be transformative, they must be complemented by systemic reforms to dismantle structural inequities. These insights imply a critical re-evaluation of how sustainability is defined and pursued in urban contexts, advocating for a holistic approach balancing autonomy with broader institutional support, to achieve justice-driven urban development.

7. Conclusions

Los Arenales illustrates how grassroots urbanism can reshape urban governance while revealing the structural constraints of neoliberal frameworks. Two flagship initiatives—CINTRA, a cooperative bakery, and the KYC participatory-mapping programme—render Lefebvre's right to the city tangible, reinterpreting informal settlements as sites of resistance, resilience, and innovation rather than pure deprivation. CINTRA's model of solidarity-based ownership advances economic self-sufficiency and reconfigures social relations; KYC's mapping workshops enable residents to historicise their territory, lobby for infrastructure, and embed community knowledge in planning processes.

These practices sit at the nexus of grassroots agency, the right to the city, and the SDGs. By mobilising cooperative labour, self-built infrastructure, and collective governance, Los Arenales contests technocratic readings of SDG 1 (No Poverty), SDG 10 (Reduced Inequalities), and SDG 11 (Sustainable Cities and Communities). Poverty is re-understood as a rupture of territorial dignity; inequality appears as systemic exclusion structured by race, migratory status, and institutional neglect; sustainability emerges through

everyday mutual aid rather than market-centred innovation. Informal settlements thus become arenas where SDG agendas are inhabited, contested, and redefined through situated practice.

Los Arenales also resonates with anarchist-geographical principles of mutual aid, decentralised decision-making, and non-hierarchical organisation (Ince, 2012, 2019; Springer, 2016; Springer et al., 2012). Yet it is not a fully anarchist polity: Episodes of autonomy—emergency kitchens, improvised healthcare—were transitory, and leadership eventually sought formal recognition from municipal, regional, and national authorities. The settlement embodies pragmatic politics: strategic oscillations between autonomy and negotiation, aimed at securing tenure and services without sacrificing collective agency.

The study underscores the fragility of such initiatives under neoliberalism. CINTRA and KYC depend on support from NGOs, academics, and occasional state allies, raising questions of sustainability and autonomy. Their right to fail (Arias-Loyola & Vergara-Perucich, 2021)—embracing experimentation, learning, and recalibration—offers a critical counterpoint to managerial efficiency, yet it remains vulnerable to funding cycles and political shifts. Longitudinal and comparative research across Latin American cities is needed to gauge the scalability and durability of these grassroots strategies.

Symbolic practices warrant closer attention. Bread-making, public art, and participatory aesthetics forge collective identity, legitimise space, and nourish mobilisation. Such cultural repertoires have political weight: They translate solidarity into visible form and challenge narratives that cast informality as pathology. Recognising informal settlements as epistemic laboratories can expand global urban scholarship, positioning places like Los Arenales as producers of theory rather than objects of intervention.

Policy implications flow from this reframing. Governments should institutionalise participatory governance that acknowledges informal settlements as legitimate urban territories instead of temporary anomalies. Financial schemes must supply long-term resources without eroding local autonomy—moving from project-based aid to sustained, community-controlled funds. Urban integration policies should preserve the grassroots ethos, allowing resident-led design and incremental upgrading rather than replacing self-built environments with top-down blueprints.

Public officials can adopt participatory methodologies—community mapping, service-learning studios, co-design workshops—to incorporate residents' knowledge into statutory planning. These practices should be anchored in the affective and cultural dimensions of collective life, recognising how territorial identity sustains social cohesion and political commitment.

Future research ought to track how grassroots innovations adapt across varied institutional contexts. Comparative case studies can reveal how different socio-spatial conditions enable or constrain co-operative economies and participatory planning. Interdisciplinary methods—merging geography, urban studies, anthropology, and design—will be essential to refine critical urban praxis and broaden debates on socio-spatial justice.

Los Arenales contributes to theoretical discussions of informality, neoliberalism, and resistance. Its initiatives demonstrate that resilience, conceived as collective agency, is constantly produced through trial, error, and iterative learning (Balto, 2023; Strüver et al., 2021; Williams et al., 2019). They caution, however, against

romanticising informality. External partnerships can reproduce dependency, and the pursuit of self-reliance can slip into neoliberal responsibilisation, obscuring demands for structural reform (Jamieson et al., 2020; Mendes & Lau, 2020; Nogueira & Shin, 2022).

Yet Los Arenales offers a compelling model of grassroots urbanism grounded in dignity, solidarity, and collective autonomy. It challenges planners and policymakers to reconceive urban development through more horizontal, inclusive lenses. This potential was partially recognised in December 2024, when Chile's Ministry of Housing and Urbanism approved an in-situ upgrading plan for the settlement. While symbolically powerful, the plan remains embryonic and has yet to fully integrate the participatory practices that catalysed it—highlighting the enduring tension between bottom-up mobilisation and top-down planning in the pursuit of urban justice.

Ultimately, Los Arenales is not a singular anomaly but a paradigmatic terrain for interrogating the contradictions of SDG implementation under systemic exclusion. Its experiences—especially CINTRA and KYC—reveal the capacity of marginalised communities to articulate alternative urban futures, demonstrating that informal settlements can generate rigorous social innovation and critical urban knowledge when given space to flourish.

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Conflict of Interests

The authors declare no conflict of interests.

Data Availability

Further information can be obtained from the authors by e-mail on request.

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