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Housing and choice in Iquique and Alto Hospicio, Chile: Possibilities and limitations regarding the 2030 agenda and SDG 11

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Access to housing, more than an enforceable right, has become a multidimensional problem in Chile. Faced with the impossibility of obtaining housing through subsidies, informal settlements—camps and land grabs—have expanded through the country's different cities since 2019. Given the evident collision with the Sustainable Development Goals (in particular Goal 11) commitments to sustainable cities, the Chilean State has increased its housing budget since 2020 to reactivate investment during the COVID-19 pandemic and expand the housing access alternatives for lower-class families with few possibilities chances of obtaining a bank mortgage. But is it possible to choose housing in contexts like the one described? In addition to environmental difficulties, cities in northern Chile, wedged between the sea and the desert, need to produce a socially sustainable environment in accordance with the requirements of complex, dynamic systems under permanent pressure to generate wellbeing. This manuscript seeks to explore and analyze these tensions in the cities of Iquique and Alto Hospicio, in Chile's Tarapacá Region. They form a dynamic conurbation, where daily mobility and the dispute over access to housing clash with the choice offered by the different subsidy programs and the expansion of camps on the edges of the desert. So, how far or how close is SDG 11 in places like these? Is there a viable alternative for urban sustainability in precarious spaces?

KEYWORDS

SDG 11, housing policy, Chile, Iquique, Alto Hospicio

1. Introduction

Inclusion is one of the most complex challenges to address in the urban framework of the United Nations 2030 Agenda. Decades of real estate and infrastructure transactions aimed at improving the quality of life of urban residents have evolved into the current mix of high housing prices, transport networks where cars are the main means of transportation and scant allocation of green areas or amenity spaces in the main cities around the world (da Silva, 2018; Mejia-Dugand and Pizano-Castillo, 2020; Croese et al., 2021; Manfredi-Sanchez et al., 2021). This is added to the slow delivery of housing through housing subsidies and direct allocations or emergency operations that make the city an unattainable space, both socioeconomically as well as politically and in terms of social integration (Murphy, 2014; Ansell and Cansunar, 2021; Airgood-Obyrcki et al., 2022; Singh, 2022).

The situation in Chile does not differ from the global context much. The lack of planning to mitigate disaster risks and the slow allocation of housing subsidies to access a home have created a symbolic and material differential that has become unsurmountable for cities like those in northern Chile. Arica and Copiapó, for example, fit within the framework of political intentions diluted by focalization of resources on producing more housing, but with environmental deficiencies and lack of integration in the complex and heterogeneous social fabric (Rehner and Rodríguez, 2018; Aedo, 2019). On the other hand, in the country's south, the relationship with rural economic activities, the dismantling of extractive productive matrixes or the dependence on new commodities like coal define the speed at which adjustments in the city take place over time (Godoy, 2015; Maturana et al., 2021; Prada-Trigo and Andrade Salamanca, 2022).

Nor has the pace of inclusion accelerated in other cities in the region. The expansion of the Buenos Aires conurbation and the growing peri-urbanization of social housing in central Mexico indicate that the course charted by urban policy has compounded the problem instead of limiting it in its territorial extension (Lawson et al., 2015; Rodríguez et al., 2020). In the case of central areas, critical populations such as La Roldós in Ecuador or Triángulo de Fenicia in Bogota are examples of how high densification rates do not ensure that inclusion based on residential indicators as an immediate effect (Klaufus, 2010; Álvarez, 2020). The opposite is usually the case.

The powerful and constant flows of migrant populations from neighboring South American countries and the illusion installed by the super-cycle of mineral resources created expectations regarding the quality of life that were not materialized in the short term (Daher et al., 2017). The price of copper, the Chilean economy's main commodity, reached its peak of US\$ 5.44 per pound in 2011 on international markets, after averaging less than a dollar, the benchmark used to establish national budgets in the 1990s (López and Palomeque, 2011). This data explains the increase in public spending on housing in the 2000s and the support and management of residential environments in the 2010s and onward, among other social areas considered strategic to the different Chilean governments, whose impact was unable to recalculate the limits of equity and better distribution of income (Mardones Poblete, 2011). In this framework, and with the possibility of keeping the gains in cities, inclusion did not reach the expected points (Rehner et al., 2018).

But what is an integrated residential environment and how does it relate with the possibility of housing choice in a system that promotes competition among members of the same social class? The bulk of urban research describes subsidies as a technical-political devices that foster socio-spatial inequality because they reduce housing choice opportunities. However, they have also been evaluated as an exception for specific cases, where resolving the problem of access to property ownership is resolved through participation and inclusion mechanisms (Salcedo, 2010; Fuster-Farfan, 2019).

This manuscript proposes determining the proximity to or distance from the urban inclusion indicators proposed in SDG 11, based on a descriptive matrix of observational qualities to be assessed. The case study focuses on Alto Hospicio and Iquique, the two largest municipalities in the Tarapacá Region, located between

the Atacama Desert and the northern Chilean coast. The former, created in 2004, opened a door to reduce urban precariousness and contain the degradation of home ownership, for maintained for decades through land grabs and self-construction, both processes that delay access to urban improvement resources. The latter is the largest port in the far north, given its condition as a duty-free zone and its high trade connectivity with Bolivia and the inland cities of Tarapacá. These cases are off the Metropolitan radar of the large Chilean cities like Valparaiso and Santiago, which allows the impact of housing subsidy management to be assessed on a different scale by evaluating mid-sized cities.

2. Social and urban integration in the framework of 2030 SDGs

Justice must be one of the most invoked concepts in interdisciplinary studies on urban space (Uitermark and Nicholls, 2017; Fitzgibbons and Mitchell, 2019; Ruiz Sanchez and Ardua Urquiaga, 2020; Santos, 2021; Zazyki et al., 2022). In this context, justness, something complex to define, would be a force endowed with a set of actions to build dwellings in cities where it is possible to distribute common goods, participate in leisure activities and make collective decisions to project an idea of the future. From this perspective, social and urban integration is installed as a catalyst for the ideal of justice that is part of the 2030 Agenda.

Based on more or less established concepts in the academic debate, social integration is determined based on comprehensive parameters regarding the ways in which urban social groups with different social, economic, ethnic or cultural origins interact with and encounter each other (Meegan and Mitchell, 2001; Arbaci and Malheiros, 2010; Chaskin and Joseph, 2013; Ye, 2019). Classic studies on urban segregation focused on the creation of cohesive territorial units of migrant populations based on support networks, which tended to strengthen ties among them rather than foster their encounter with the local population (Freeman and Sunshine, 1976; Farley, 1977; Pampel and Choldin, 1978). The results of these processes in Latin America, also the product of migration, were different. The Peruvian and Bolivian neighborhoods in Greater Buenos Aires, Argentina, face major barriers to integration because they are considered opposite others due to their location in degraded areas or outside the city's zoning plan (Cuberos-Gallardo, 2022; Hendel and Florencia Maggi, 2022).

On the other hand, urban integration depends on the collective covenant that cities and their inhabitants forge and update from time to time with the purpose of participating in the co-construction of a city project (Bedoya-Ruiz et al., 2022). In contrast to social integration, it does not depend on material qualities related to income, but rather on a set of paths to acknowledge the broad social spectrum and validate mechanisms for participation in the urban space through mutually agreed instances. Urban integration is generally evaluated according to access to public goods, the availability of essential services for the exercise of rights—like health and education—and the maintenance of spatial units destined for people's emotional development, such as green areas, museums or libraries (Rojas Trejo and Silva Burgos, 2021).

The organizing concept of the targets set in SDG 11 is inclusion. In this way, justice is the vehicle that mobilizes inclusive actions

in the urban space and promotes the technical and regulatory apparatus for their realization. Both integration dimensions face the same element of tension regarding the 2030 Agenda, which is that approaching SDG 11 not only requires regulatory and budgetary adjustments, but also a powerful material transformation of territories that is unfeasible in the short or medium terms. On the other hand, the 2030 Agenda emphasizes mobilizing political wills, transdisciplinary visions and the expansion of the actors participating in planning decisions. Thus, it can propose guidelines but not a coercive set of directives. Thus, it builds the scaffolding of a debate aimed at fostering favorable scenarios for climate change, for example. This adjustment is made to observe the cases of Iquique and Alto Hospicio regarding the 2030 Agenda, its limitations and its possibilities.

3. A view of the sea: Iquique and inclusion regarding amenities

The capital of the Tarapacá Region has undergone progressive urban development, with the construction of a long recreational seaside promenade and well-known heritage areas with nightlife. It has a Duty-Free zone that makes it a strategic location for inland Chilean cities inland and others in central Bolivia. Without being the largest one in the country, the port of Iquique is fundamental to the access to technology, means of transport and other manufactured goods in the far north of the country and neighboring provinces (Toro and Orozco, 2018; Prado Díaz et al., 2022).

Real estate development has made steady progress in the city, even after the 2014 earthquake (Tomita et al., 2016). Following this natural disaster, the state allocated housing subsidies to low-income families that had lost their homes, allowing urban projection zones to be consolidated while improving degraded central spaces. At the same time, it authorized the construction of new residential developments focused on higher-income homeowners in the southern part of the city.

This policy left out the provision of green areas in the city, increasing built space to the detriment of allocating land to amenities. The proximity and latitudinal projection opposite the coast could compensate for this, but the distance between peripheral dwellings and the beach is considerable and there are no areas inland that might replace the long travel times. So, families living in one of the post-earthquake reconstruction developments can see the ocean from their homes but cannot access its enjoyment.

These elements call into question Iquique's proximity in the inclusive sense considered in the SDG. Inclusiveness is the guarantee of access to all daily alternatives of participation in a city's activities for all of people in a given region. This includes care, work and, of course, the amenities associated with open and public spaces. In the interpretation of relationships such as this one, it is established that the only amenities possible in cities are those characterized by green parks, very typical of countries in the global north. In the case of Iquique, the coastline is the space for amenities and leisure practices, though conceptually it appears distant.

4. With its back to the desert: Alto Hospicio

Created in 2004, the municipality of Alto Hospicio is east of Iquique on the interprovincial road that ascends Duna Dragón before heading into the northern part of the Atacama Desert. The settlement of this city originated with the displacement of people lacking sufficient economic income to stay in Iquique. The incorporation of Alto Hospicio as a municipality raised expectations for optimized public investment, the attraction of private investment and the generation of a development hub open to the desert and projected with regard to the sea (Imilan et al., 2020).

Housing operations with state contributions have provided a consolidated urban system in some sectors of the city, especially in the central and southern parts of the urban area. However, a significant portion of land in Alto Hospicio corresponds to informal settlements whose regularization—property deeds, for example—has been gradual. With the waves of migration from other South American countries, land grabs and camps have increased in density, occupying areas outside the urban limits.

This context is accompanied by a complex weakness regarding SDG 11. Creation of the municipality considered the construction of a public hospital to avoid transfers from Alto Hospicio to Iquique and to attend to the needs of towns further inland in the Tarapacá Region. The start date for the works predates the decree creating the municipality, but it remains unfinished as of 2022.

Healthcare is one of the most complex variables of analysis in studies on urban segregation. The Chilean public health service is considered a problem for patients, due to the long waiting times and the lack of doctors specializing in critical areas. These difficulties are amplified in cities like Alto Hospicio, which prompts people to seek care in Iquique and incur high costs in terms of travel time and resources. This includes health services ranging from childbirth and early childhood care to surgeries of varying complexity.

5. Housing as a key to empowerment

There is nothing new to arguing that the Chilean housing subsidy policy is a balm for sustaining shortcomings like those described. It implements material improvements to the quality of life, mainly by avoiding informal settlements without drinking water or regular electricity supplies (Cortés Morales, 2013). No less relevant is the contradiction that the results are not revealed in a clearly objective way. It is the Chilean urge to belong to a middle social class, one that best represents the current situation regarding their capacities and quickly drives families away from the worst possible scenario of urban poverty (Stillerman, 2010; Barozet and Espinoza, 2016). Various studies have illustrated this condition, but there is scant discussion in the context of SDG 11.

To a certain extent, state contributions that promote housing ownership grow every year and are expected to be expanded into the so-called emerging middle sectors, the nomenclature used by the state to refer to socioeconomic groups at the bottom of the broad spectrum of the middle class with limited savings of their own, which are unattractive to the mortgage market (Hidalgo et al.,

2022). The increase in the amounts allocated for the purchase of housing means a higher unit price and, therefore, a higher mortgage to compensate for the savings. For example, the DS 19 subsidy program finances the acquisition of homes priced between USD 58,696 and USD 80,707, where the state contributes up to USD 40,353. These are not small amounts. They involve more expensive homes whose mortgages will also be higher, and which will require a higher household or personal income to pay for them off every month. So, while it is true that SDG 11 aims at affordability, it does not offer options to social sectors excluded from the mortgage market so they can participate in the best quality subsidized homes within this market segment.

On the other hand, the absence of health services installs a critique of SDG 11 indicator 11.3.2. Marginality is not established by inhabiting the spatial margins of a city, but by the impossibility of accessing the minimum exercise of guaranteed rights as a city's resident, such as healthcare. An expensive home without access to healthcare points to emerging difficulties on top of baseline ones and is a critical aspect for cities like Alto Hospicio.

Both elements make planning a point of connection and a break at the same time. Subsidies with these characteristics fit comfortably within the boundaries of SDG 11, but do not constitute reverse engineering exercises and are incapable of reversing long-lasting processes, as is the case with informal settlements that become permanent housing or the impossibility of resolving the high cost of mortgages and housing in general. Even though property continues to be the asset base of Chilean society, the distance in access to leisure and amenity activities such as the coastline or healthcare remains and is increasing.

In Chile, housing is generally held up as an essential step to cross the poverty line and achieve social mobility. For urban segregation to become inserted as an element of debate in the SDGs is because the strategies proposed are insufficient for cities with locations as dynamic as those described in Iquique and Alto Hospicio. Even isolating resilience in earthquake and tsunami-related reconstruction situations—where Chile has extensive experience—the exceptionality of the territorial conformation of both municipalities makes the SDG's main approaches more complex.

The table below analyzes the core elements of the SDG and the characteristics of both cities regarding their socioeconomic realities in a context of broad housing subsidy coverage (Table 1).

6. Final considerations

The debate on who inhabits the cities of the SDGs, especially Goal 11, is just beginning. The cases presented here consider types of cities with limited resources to execute large infrastructure works, while simultaneously having capabilities that are modeled by the intrinsic features of their location. The desert and coast are far from being curiosities. Rather, this is the scenario in which urban life develops outside the consolidated limits of other cities that are thinking about electromobility to mitigate greenhouse gases, for example.

Alto Hospicio can only project sustainable planning if it is able to reduce its inclusion difficulties, especially regarding healthcare at all levels. In the same way, a city like Iquique, with the latitudinal

TABLE 1 Summary of SDG 11, indicators and characteristics of Iquique and Alto Hospicio, Chile.

SDG 11	Indicator	Situation in Iquique and Alto Hospicio
Safe and affordable housing	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing	Inclusion of mortgages to complete the high cost of housing for the emerging middle classes (range from USD 58,696 to USD 80,707).
Urban planning management	11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically	Protracted construction of the Alto Hospicio Hospital (2004 to present) and impossibility of accessing and exercising the right to public health services.
Open space in cities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	Iquique coastline equipped for recreational purposes, but far from subsidized housing in both cities.

Source: SDG Tracker 11 (<https://sdg-tracker.org/cities>).

presence of the sea in its territory, will be capable of forging a more harmonious relationship with its inhabitants.

The challenge in implementing SDGs is to read cities based on their own trajectories, without imposing a given rule that makes them spaces that are metaphors of others. It is a matter of considering the spatial and locational potentials of each urban unit to translate it into a moment of harmony between what they want to be and what is needed to become more just and inclusive. As inclusion is studied more from exclusion, it illustrates a problem that critical studies have failed to address, because it has not shown solutions that contribute to the common good nor to the configuration of robust communities in material and community terms. One of the keys to inclusion is participation and commitment to others, which is present in SDG 11 but weak in highly degraded areas such as Alto Hospicio and Iquique.

Due to the above, housing subsidies solve part of the problem, given that they contribute to the consolidation of a longer-lasting ownership. However, they become a disjointed swarm of territorial units orbiting zones that assume a complementarity in rights and functions. Spatial justice involves reducing this segregation, which prevents the link between the two bodies of rights: to the city and to inclusion.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

Both authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships

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