

Co-reducing risk at the periphery



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Key messages

- Lima's dynamic peripheral areas warrant further attention, being at the forefront of the effects of urban expansion. In these areas, everyday risk can be reduced by addressing two key driving forces; by promoting greater consolidation within a community and by managing expansion.
- In order for strategies to be effective in addressing these driving forces in an appropriate and sustainable manner, they should follow some key guiding principles: Acknowledge collective capacity to act; be inclusive of all actors; approach transformation incrementally; and be flexible to accommodate change.
- Local, informal practices have been notably effective in mitigating everyday risk in JCM.
- In recognising this, these capacities can be further harnessed and applied to new approaches to further reduce risk.
- Vulnerable groups in the community and the natural environment who are commonly underrepresented must be appropriately prioritised in designing strategies aimed at reducing risk.
- In conjunction with core guiding principles shaping the co-production of strategies, the context of institutional support through cooperation, resources and inclusive urban planning, is fundamental in enabling change that is truly transformative.

Introduction

Over 30% of Lima's population lives on the slopes of ravines (quebradas) at the city's periphery, where poor and marginalized communities experience everyday risks associated with lack of water and sanitation provision and small-scale episodic disasters. José Carlos Mariátegui (JCM) exemplifies this landscape of reverse urbanism, in which people first settle, then incrementally build infrastructure, connect to services and acquire legal titles. Peripheral areas, such as JCM, present the joint challenge of limiting further horizontal expansion in order to protect the area's ecological infrastructure from uncontrolled urban sprawl, while promoting consolidation of the urbanised areas in order to reduce, if not mitigate everyday risk.

Acknowledging people's urgent and differential needs in improving their living conditions, understanding the processes that exacerbate everyday risks and expose people differentially to risk traps, as well as recognising blockages that inhibit consolidation, is critical. This briefing recommends three co-produced strategies, which effectively work towards co-reducing everyday risk within dynamic contexts where conditions are changing every day.

In approaching these complex factors influencing risk, strategies need to follow key principles so that they are applicable to a diverse range of situations, drive sustainable change and are truly effective in addressing injustices prevalent in the city.

Guiding principles

Collective capacity

- Acknowledging the value of existing community capabilities and knowledge and its potential agency in disrupting risk traps.
- Recognising that communal initiatives and outputs provide more lasting benefits to all involved.

Inclusiveness

- Taking into account the diverse range of voices in the planning process.
- Placing special emphasis on recognising and promoting the voices of those who are most likely to be excluded, especially the voices of the most vulnerable in society and concerns relating to the natural environment.

Incrementalism

- Approaching transformation at a rate of time and degree of magnitude appropriate to the capacities of the actors involved.
- Acknowledging that small-scale and gradual changes may be significant in reducing risk.
- Recognising actions carried out by informal means.

Flexibility

- Incorporating measures to accommodate changing circumstances into the strategy.
- Removing barriers to participation by planning for risk and uncertainty and including measures favouring adaptability.



Strategy 1: Framing the Lomas

This strategy has the twofold purpose of limiting horizontal expansion and promoting conservation of the *lomas* (slopes), as well as promoting community capacity to manage and benefit from their preservation. We propose creating a dispersed, productive and collectively-managed green buffer zone along the perimeter of the *quebrada* that restricts further housing developments on the *lomas*.

Recognition of the *Lomas* – Environmental infrastructure

The *lomas* help maintain the area's environmental integrity. Encroachment hazards include short-term impacts (soil destabilisation, which increases the probability of rockslides and landslides) and long-term impacts (overcrowding conditions, decline in air quality restricting the environment's ability to recharge groundwater, thus intensifying water shortages across the city).

Recognition of the *Lomas* – Productive potential

The proposed dispersed buffer zone may be reimagined and developed for diverse uses. Community members from one of the ravine's highest settlements, Bio huerto Paraíso, grow fruit and vegetables in small gardens outside their plots, exhibiting skills and knowledge with regards to food production. Existing capacities may be harnessed through support such as training and materials, in order to extend these benefits to a wider-scale.

Integrating the buffer zone into the community may provide safe public spaces for recreation, physical activities, and social events to promote health, social cohesion, and inclusiveness within the community.

Inclusive Strategy - Guardians of the *Lomas*

In a workshop organised in the community, several women and single mothers, forming part of the vulnerable groups identified, expressed interest and willingness to dedicate time to preparing, planting and protecting proposed buffer zone as part of their mandatory weekly communal activities known as *faenas*.

These women could become "Guardians of the *Lomas*," responsible for landscaping and maintaining the buffer zone. As the territory to the top of the *quebrada* currently lacks clear governance in relation to surrounding municipalities, the Guardians may play a critical role in the area's governance, including by continuously monitoring the land and preventing illegal land acquisition

Integrated action

The implementation of this strategy is predicated on a number of actors. The first step could be implemented at the community level, where individuals participate in mapping exercises and transect walks that could be organised by CENCA, who have previously arranged such activities in other *quebradas*. The purpose of these activities is to clearly identify land that may be developed into the dispersed buffer zone, meaning that although the protected area would be located towards the top of the *quebrada*, green corridors would extend throughout. Harnessing the collective capacity demonstrated in our study area, local 'agrupaciones familiares' (family groupings) or AFs can take part in the creation of green corridors, as well as share knowledge about agricultural practices during the weekly *faenas*. In addition, the federation of AFs may exert pressure on the Ministry of the Environment to declare the *quebrada's lomas* a 'fragile ecological zone'. A similar process was successful in the case of the Mangomarca community.

Strategy 2: Co-production of risk mitigation measures

The aim of this strategy is to establish cooperation between institutions and the community to co-produce accessibility and risk mitigation actions, through the establishment of a group of 'ingenieros comunitarios' (community engineers) made up of community members, qualified engineers and technical experts from different institutions working together to identify, plan and implement measures to reduce risk. By activating the existing capacities shown by the community with expert knowledge, communities will be able to consolidate their infrastructure more effectively.

Community engineers

Inhabitants living in JCM have exhibited collective capacities and expertise in developing informal solutions to cope with and mitigate everyday risk, by building the community's infrastructure and implementing solutions for basic service provision through *faenas*. These capacities and their results may be harnessed by linking them with supportive mechanisms from the state and other institutions, in terms of technical expertise, advice, capacity building and access to necessary resources.

Inclusive Co-production – Within and between communities

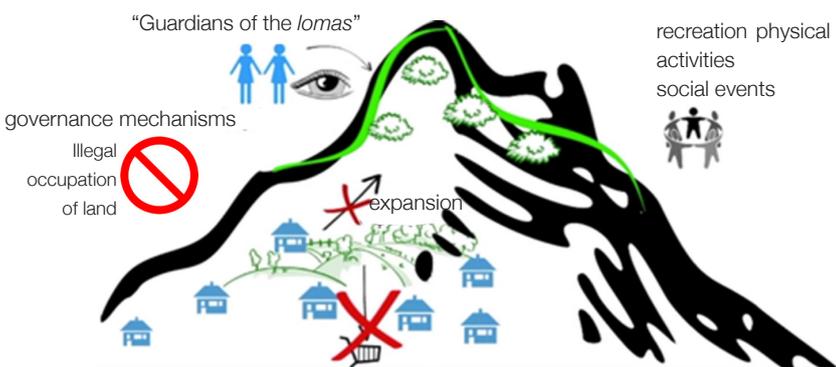
The *ingenieros comunitarios* could be made up of members from across different AFs. AFs have different specific needs in terms of consolidation, yet display a wide and diverse range of skills between them. Jointly addressing risk could improve collaboration between communities, as well as include the needs of less consolidated AFs in a more effective way. Risk mitigation work could be part of already-established *faenas*.

The time invested, diverse skills and knowledge gained by community members could be rewarded through certification that would allow individuals to access employment opportunities elsewhere.

Engaging institutions

The participation of relevant experts from the risk and urban development areas of the Municipality of San Juan de Lurigancho (SJDL) as well as INDECI, CENEPRED and experts from SEDAPAL and EDELNOR would be crucial to this strategy. Institutions already working with the

Figure 1. Strategy 1



communities of JCM, like CENCA, could have a key role in terms of supporting capacity building, organisation and monitoring of the project in general.

Opening cooperation

The project would be implemented throughout the quebrada, through the integration and cooperation of the different AFs, which would require initial meetings between their leaders. The prioritisation of risk mitigation solutions could be decided in the communities' assemblies.

There is an opportunity to obtain funding for materials from the Municipality of SJD, through their Participatory Budgeting Scheme.

Strategy 3: Land and housing

Land occupation and the resulting construction of housing in our study area, as in many low income places throughout Latin America, follow an incremental process, in that plot structure, housing infrastructure and acquisition of services and access routes develop organically, according to people's needs and resources. This strategy is built upon this pre-existing system, as well as seeking to harness the potential of current capacities in place regarding the financing, construction and management of properties, while reimagining their form. This would ease demand on continued horizontal expansion and move away from the process of illegal land occupation by providing an alternative to settlement on the upper reaches of slopes, which condemns people to precarious and risky conditions. The strategy proposes to gradually build vertically to provide secure accommodation in lower-risk areas of the ravine, as an alternative for new settlers coming into the area, but also for people in need of improved housing.

Air rights

One of the main pull factors for new inhabitants is the opportunity to obtain land and the possibility of eventually gaining secure tenure. This strategy requires that the 'air rights' to build vertically be settled with house owners in lower-risk areas. Recognition by the Municipality is necessary to support and encourage air rights and ensure legitimacy.

Incremental housing

This strategy allows the housing system to evolve in a gradual manner, together

Figure 2. Strategy 2

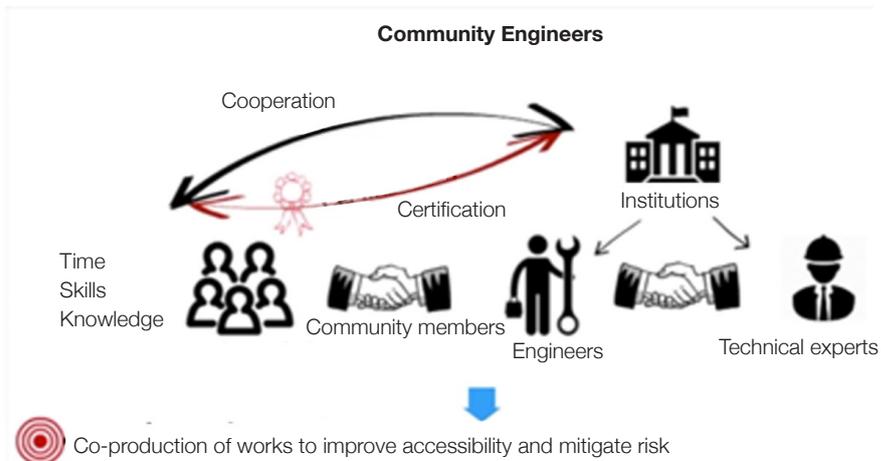
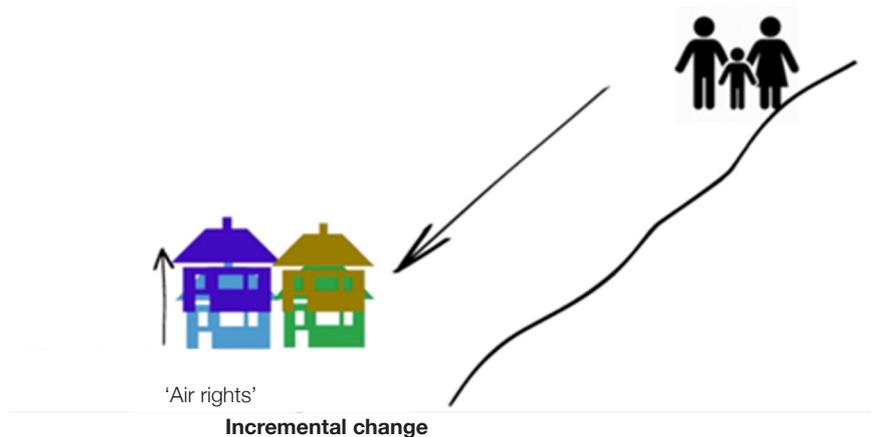


Figure 3. Strategy 3



with the people in the area. Housing would be provided with a view to future incremental infrastructural changes and in accordance with the changing needs and resources of dwellers over time.

Financing and flexibility

Financing could partly be sourced from government subsidies and loans but also from mobilising community resources, both through household savings and by community participation in the building process. Community members spoke of average budgets of 24,000 soles (approximately £5,000) of personal investments currently allocated to improvements of homes in upper slope areas that could instead be invested in the manner

suggested. Building on existing community capacities, community building may introduce a means of reducing the cost that families would pay for their new homes. Through our participatory workshops, we were able to identify that people would be willing to commit weekly faena working hours to the construction of new houses.

The strategy supports alternatives relating to the ownership process and allows for forms of payment to be determined according to individual conditions. A monthly subscription or systems of collective ownership of air rights, where individuals join together in a collective rental scheme, could be established.

Institutional considerations

The strategies proposed must be accompanied by further political and institutional efforts. Decision makers should consider the following points:

- **Enabling municipalities.** At the institutional level, land ownership rights, as well as the boundaries of all settlements and districts, should be clearly defined and registered in official municipal records, in order to avoid land trafficking and the uncontrolled acquisition of land.
- **Cooperation.** Accommodating the capacities and making use of local informal practices to inform policy is essential to ensuring appropriate and lasting improvements. Communities' valuable knowledge may be harnessed within a participatory framework.
- **Resources needed.** Allocation of resources from the Ministry of Economy and Finance, the Metropolitan Municipality of Lima, INDECI, and CENEPRED to local municipalities is necessary; in order to provide peripheral communities with the materials, expertise, and technical advice required for the implementation of risk reduction measures.
- **Inclusive Urban Planning.** A comprehensive Urban Development Plan addressing land-use regulations, horizontal expansion in high risk areas and the adequate provision of housing for low-income groups should be at the forefront of State institutions' agenda.

Looking forward

In the context of urbanization in Lima, there is a complex challenge facing peripheral areas such as JCM, in terms of both limiting horizontal expansion to protect the city's ecological infrastructure, whilst also meeting housing demand in ways that accommodate the population's diverse conditions, particularly with regard to the most vulnerable and underrepresented. The principles guiding the strategies outlined in this policy brief strive to pave a way towards a more integrated and inclusive quebrada in the study area, while also being applicable to other peripheral areas.

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