



Co-producing NbS in the “Remodelación Panamericana Norte”

The regeneration of the “Remodelación Panamericana Norte” neighborhood, facilitated by the program “Quiero Mi Barrio,” enabled the improvement of the neighborhood by bringing in Nature-based Solutions (NbS). The accompanying five-step collaborative process supported improving social security and cohesion alongside environmental benefits.



78% of the planned green space are **brownfield sites**

Planned reclamation of
2,339m²
green spaces

>20 activities in
2+ years of
collaboration

Nature-based Solutions Benefits



Challenges

Increasing community participation

Ensuring long-term maintenance

Implementing NbS in future neighborhood regeneration projects

Background

Santiago faces inequity in the distribution and quality of green spaces, especially in low socio-economic neighborhoods. This inequity limits access to recreation spaces, which also affects their physical and mental well-being, further aggravating existing equity gaps. In 2006, the Ministry of Housing and Urban Development started the national “Quiero Mi Barrio” neighborhood regeneration program (PQMB) to improve the quality of life of the inhabitants of neighborhoods affected by deterioration, segregation, and social vulnerability. A participatory process is set up involving local authorities and the beneficiary community to transform these neighborhoods by providing and improving public spaces, such as parks and community centers, and equipment like benches, lighting, and sports facilities. Despite institutional efforts, as other social issues take center stage, major challenges remain in the quest for a more equitable distribution of urban green space.



Alliance for a greener neighborhood

To integrate more nature into low socio-economic neighborhoods, a pilot project was developed to regenerate the neighborhood “Remodelación Panamericana Norte”, Conchalí Municipality, under the umbrella of the Program “Quiero Mi Barrio” (PQMB). This neighborhood faces numerous social, environmental, and economic problems, including a lack of green spaces. To support the environmental perspective throughout the urban regeneration process, an alliance was formed between the team of the PQMB for the “Remodelación Panamericana Norte” neighborhood, the local community, and the University of Chile. Collaboratively, they developed Nature-based Solutions (NbS) in five operational steps based on the PQMB phases while testing indicators, different activities, and design criteria.

Bringing in an environmental perspective in steps of the Quiero Mi Barrio program

Green inaugural milestone

The regeneration process began with an inaugural event involving local authorities and

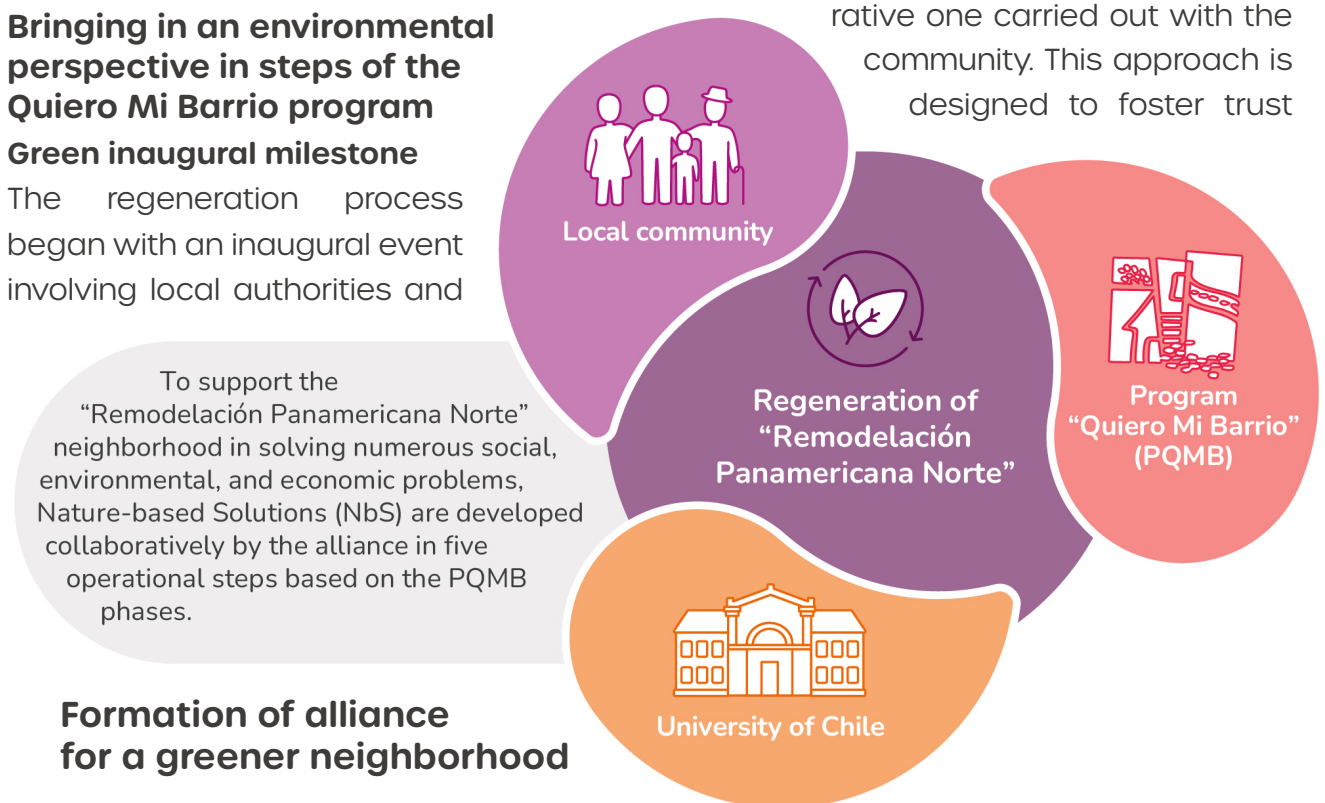
To support the “Remodelación Panamericana Norte” neighborhood in solving numerous social, environmental, and economic problems, Nature-based Solutions (NbS) are developed collaboratively by the alliance in five operational steps based on the PQMB phases.

Formation of alliance for a greener neighborhood

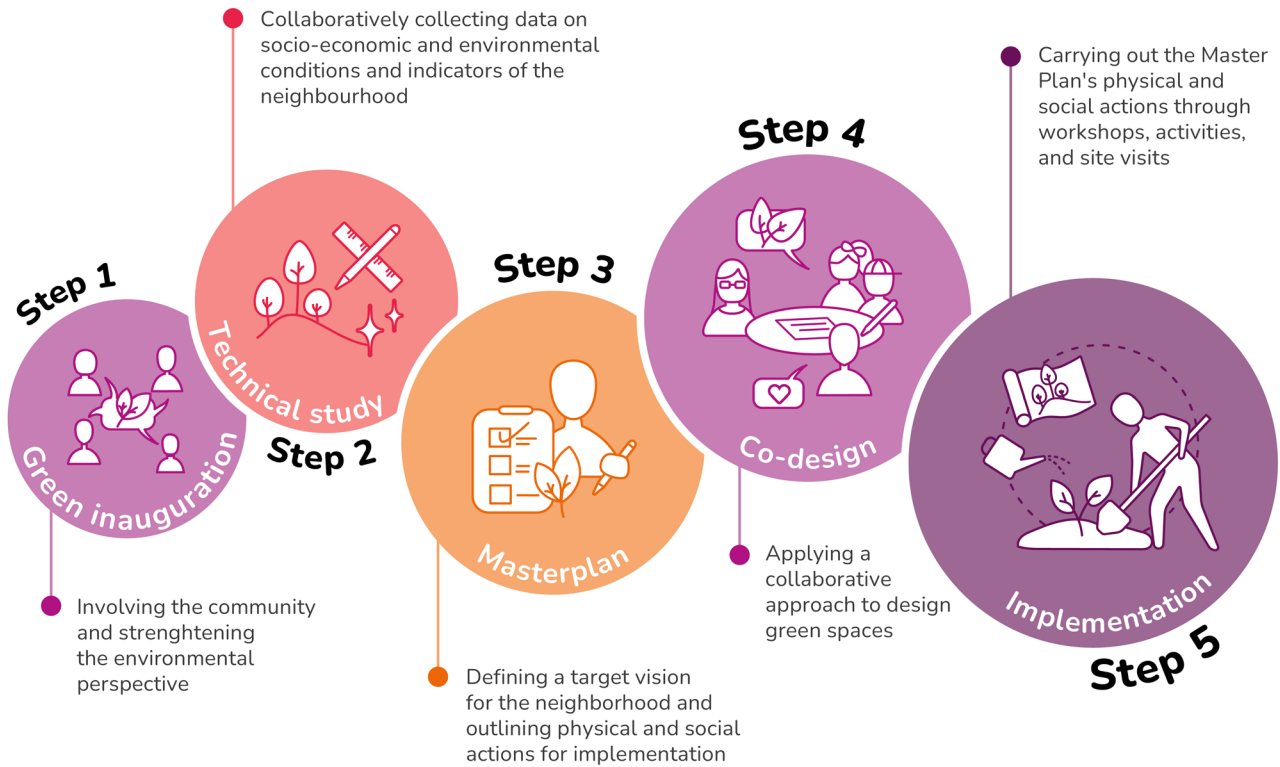
community members. This event highlighted nature’s role in enhancing health and well-being. To further strengthen the environmental perspective and demonstrate commitment to environmental sustainability at the inaugural event, 40 trees were planted in different parts of the neighborhood with information on the tree species and their required care.

Complementing the diagnosis

The PQMB conducts a technical study of the neighborhood, including socio-economic and housing characterization, perception of, and satisfaction with security, participation, equipment, and green areas. This study collects data on the quality of the green spaces, the perception of security, the perception of accessibility or remoteness, and the possibilities of using the neighborhood’s facilities and green areas for joint activities. This diagnosis is not a one-sided process but a collaborative one carried out with the community. This approach is designed to foster trust



The 5 operational steps based of the Program “Quiero Mi Barrio” phases



and encourage community members to identify the main issues to be addressed by the program, making them integral to the process. It also strengthens trust with local actors in the neighborhood. With CONEXUS, we went beyond the usual diagnosis by gathering data on additional socio-ecological indicators. The monitoring included bird and tree diversity and perception of the quality of the green spaces, including independent evaluation of equipment, vegetation, and maintenance. Moreover, indicators of place attachment were measured using three dimensions: place dependence, affective attachment, place identity, and social bonding.

Master Plan: a network of green spaces

Based on the technical study and the collaborative diagnosis, a Master Plan is collectively developed. This process

includes defining a target vision for the neighborhood and outlining short-medium-, and long-term physical and social actions to implement the Master Plan beyond the run time of implementing the PQMB. To promote NbS, various dialogue and knowledge exchange activities were organized on the importance of biodiversity in cities, different types of green spaces, and their role in biodiversity and human well-being. This collective effort set a positive environment for incorporating a robust environmental perspective into the Master Plan. The physical actions included in the Master Plan aim to promote an interconnected network of green spaces, restore existing public green spaces, provide community access to nature, and foster relationships among neighbors. Social actions focus on promoting environmental responsibility, community building, and community

and municipal engagement to ensure the long-term maintenance of the green areas in the neighborhood.

Co-design of green spaces

PQMB contemplates a collaborative-design process once the Master Plan is defined. This process promotes the idea that the needs and interests of the community are an integral part of the development of physical and social actions. To co-design the green spaces defined in the Master Plan and to foster a dialogue with the community, participatory methodologies, such as participatory mapping, participatory transects, surveys, and discussion sessions were employed. These methods identified the role and use of the different spaces, ensuring that each area's design aligned with the needs and preferences of the community. For example, during participatory mapping sessions, community members highlighted areas where recreational areas or vegetation were most needed. The discussion sessions provided a platform for participants to evaluate various NbS interventions, resulting in design criteria being included in the proposal for the green areas. These criteria included the use of native species to attract pollinators, the selection of plants with low water requirements for better water management, and the integration of rain gardens for water infiltration.

Implementation

Implementation is the most extended phase of the neighborhood regeneration process. It aims to carry out the established physical and social actions described in the Master Plan. As part of

the social interventions defined in the Master Plan, environmental education and action workshops were carried out. These workshops fostered greater environmental awareness and promoted community participation in transforming the neighborhood environment and the care and maintenance of green spaces. Participants learned practical skills such as composting, native plant gardening, and bird watching, which they could apply in their homes and community areas.

Additionally, visits to other successful NbS experiences in the city were organized to raise motivation, strengthen knowledge about the benefits and challenges of NbS interventions, and exchange lessons about their implementation. These visits included a visit to the initiative "EcoBarrio Maipú" to meet with local environmental leaders and exchange experiences and a visit to the initiative "Jardín Biodiverso," a community engagement program created by the School of Architecture and Landscape at the Central University of Chile for experimentation and education on developing native plant associations with landscape value that can be incorporated into urban areas, boosting biodiversity and fostering a landscape with a local identity (Fernández et al., 2020).

Moreover, through the collective effort of the local community, particularly the core group mainly composed of older women, the University of Chile, and the PQMB team, funds were secured from the Ministry of Environment to reclaim an abandoned public space (Costa Rica Square) to develop a community garden. This garden features compost bins, insect



hotels, nesting houses, and various native plants to attract pollinators. The transformation of Costa Rica Square has led to a series of positive social and environmental benefits for the community, such as an increased presence of birds, more security, and greater social cohesion. In the future, a major project will reclaim 2,339 m² to create a green corridor, further enhancing the environmental and social benefits.

“Before, the space in the square was brownfield; there was nothing. But now it is beautiful, it looks green, and it is a pleasure to go there. It is relaxing to work with the plants; it gives security, tranquility, and comfort”

(Participant in the reclamation of Costa Rica Square)

Upscaling

The results and lessons learned from this pilot could strengthen the environmental perspective in the “Quiero Mi Barrio” Program. This program has a collaborative approach, which is essential for NbS implementation, especially in vulnerable neighborhoods. Being a well-established state program with national reach, the potential incorporation of NbS could significantly impact the poorest populations’ access to nature and its benefits across the country. The pilot “Remodelación Panamericana Norte” provides valuable information on indicators, activities, and mechanisms to support the uptake of NbS in the program.

The implementation of NbS encompasses social and environmental benefits such as improved security, enhanced well-being,

better human health, increased thermal comfort, and effective flood control, all of which are advantages over conventional gray infrastructure solutions and very pressing issues in neighborhoods affected by deterioration, segregation, and social vulnerability.

To promote the upscaling of the learnings of this pilot, progress has already been made through training the PQMB teams, developing technical guidelines on the participatory process for the co-creation of NbS, and designing NbS for water and vegetation management.



Related Projects

-  Ecobarrio Maipú
<https://www.instagram.com/ecobarrio4alamos/?hl=es>
-  Municipio de Pavlos Melas
<https://oppla.eu/casestudy/24728>
-  Refugios BioUrbanos
<https://noticias.utem.cl>
-  CONEXUS Factsheet - Bogotá
<https://oppla.eu/product/31779>

References

FERNÁNDEZ, F, et al. (2020, December). Jardín Biodiverso. Evocaciones al Paisaje de Chile Central. Diseño Urbano y Paisaje DUEP, 38 (December 2020), 47-48. <http://dup.ucentral.cl>

TOLOZA, E, et al. (2022). Barrio Piloto SbN Remodelación Panamericana Norte, Conchalí. In Seminar Soluciones basadas en la Naturaleza como estrategia en tiempos de crisis: Santiago, Lisboa, Bogotá.

TOLOZA, E, et al. (2021). Informe N°5 Programa de Recuperación de Barrios: Mejoramiento Barrio Remodelación Panamericana Norte, Comuna de Conchalí.

MORÁN, A. (2022). Áreas verdes del Programa “Quiero Mi Barrio” y su posible contribución a ciudades más justas: Un análisis desde la justicia ambiental urbana [Report for the professional degree of Geographer], Universidad de Chile. Academic Repository of the University of Chile.

Lessons learned



1. Seek alliances with government programs or pre-existing processes.
2. Involving the community actively in short-term actions to provoke local transformations is vital to maintaining interest and commitment.
3. Early horizontal participation and openness to dialogue are essential.
4. Promoting spaces for environmental education and knowledge exchange fosters new ways of understanding and relating to nature.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 867564

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