ADAPTO

Climate Change Adaptation in Informal Settings :
Understanding and Reinforcing Bottom-Up Initiatives in Latin America and the Caribbean

Principal results in

Implementation

IDRC · CRDI

Canada

Université de Montréal

McGill University

Université Concordia University

Pontificia Universidad Javeriana Bogotá

Universidad del Bío-Bío

Universidad del Valle

Universidad Central "Marta Abreu" de las Villas

ueh Université d'Etat d'Haïti

Antioquia Presente

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Villa Clara, Cuba
Salgar, Colombia
Yumbo, Colombia
Concepción, Chile

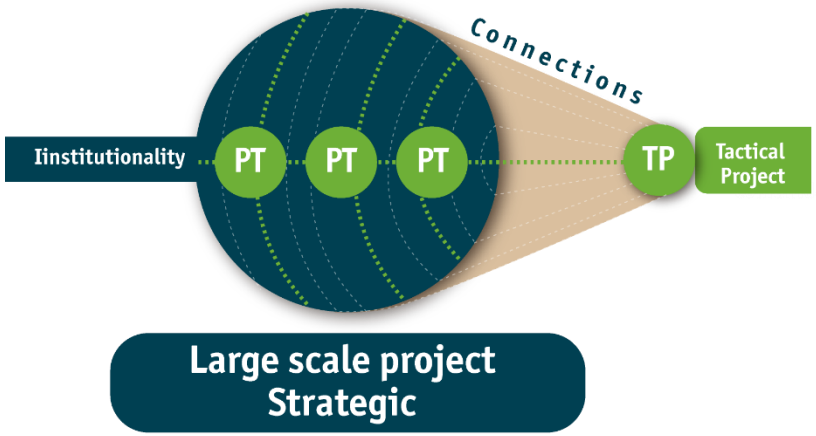
Type of risks

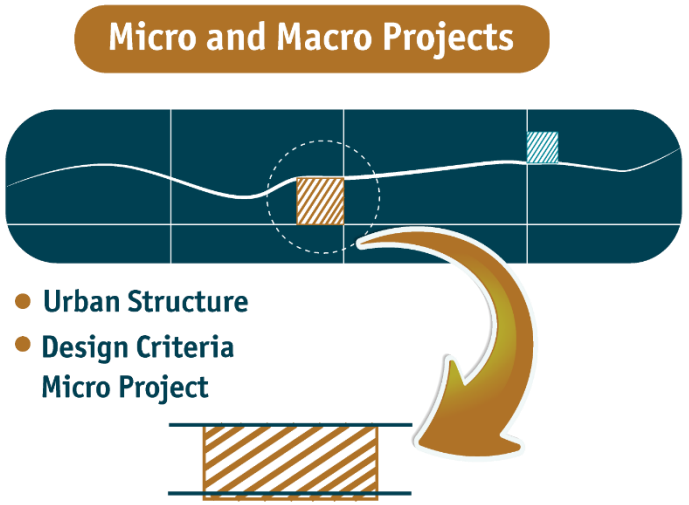
Flood
Sea-level rise
Landslides
Droughts
Pollution Air//Soil//Water
Food Insecurity
Deforestation
Food insecurity

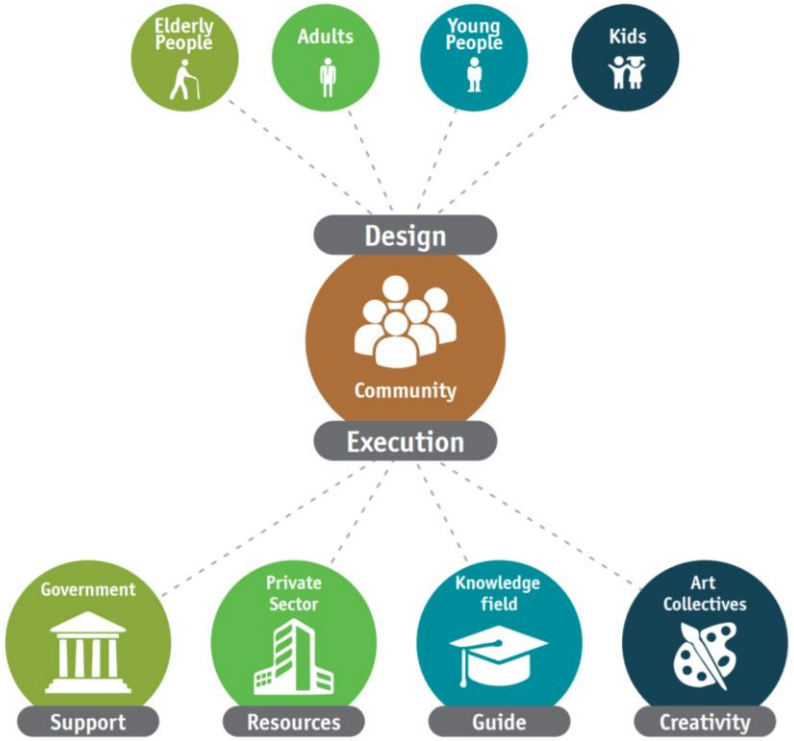
Main results in implementation

	Bottom-up initiative	Location	Type	Type of risk								Type of response					View of disaster		
				Flood	Sea-level rise	Landslides	Droughts	Pollution Air/Soil/Water	Food insecurity	Deforestation	Crime and violence	Urban agriculture	Sports and recreational	Art and cultural events	Education and training	Infrastructure/urban	Anthropocentric disaster	Anthrop. and environ.	Environmental disaster
1	Family Garden (I and II)	Yumbo, Colombia	B						▯			▯						▯	▯
2	Reforesting Gunanabitas (I and II)	Yumbo, Colombia	B			▯				▯					▯	▯			▯
3	Sustainable Urban Drainage System (I and II)	Yumbo, Colombia	A	▯		▯				▯	▯		▯			▯		▯	▯
4	Water Management System	Yumbo, Colombia	A	▯		▯				▯			▯			▯		▯	▯
5	Community Gardens	Yumbo, Colombia	A						▯	▯		▯			▯			▯	▯
6	Reforesting Yumbo	Yumbo, Colombia	A			▯	▯			▯					▯				▯
7	Ecosystem Adaptation	Salgar, Colombia	B			▯				▯				▯	▯				▯
8	Managing the Risk	Salgar, Colombia	B					▯		▯				▯	▯		▯	▯	
9	Botanical Illustration	Concepción, Chile	B							▯				▯	▯				▯
10	Classrooms Natural Environments	Concepción, Chile	B					▯		▯				▯	▯				▯
11	Forest Therapy	Concepción, Chile	B							▯				▯	▯				▯
12	Plaza Nonguen	Concepción, Chile	A/B							▯	▯			▯	▯	▯		▯	▯
13	Estuary Dome	Concepción, Chile	B						▯		▯	▯		▯	▯	▯			▯
14	Recovering water	Concepción, Chile	B	▯			▯	▯		▯		▯			▯	▯			▯
15	Vertical Community Garden	Concepción, Chile	A						▯		▯	▯			▯			▯	▯
16	Pottery Workshop	Concepción, Chile	A	▯					▯					▯	▯			▯	
17	Natural Mitigation and Irrigation Barrier	Concepción, Chile	B			▯												▯	▯
18	Resilient Housing	Carahatas, Cuba	A		▯											▯	▯		
19	Community Group *Mujeres del Mar*	Carahatas, Cuba	A		▯									▯	▯	▯			▯
20	Circle of interest *Yo me adapto*	Carahatas, Cuba	A		▯						▯			▯	▯				▯
21	Giving a voice to Carahatas	Carahatas, Cuba	B	▯	▯		▯								▯				
22	Coastal Festival	Carahatas, Cuba	A		▯									▯	▯				▯

Who / how?


Connections
Iinstitutionality
PT
PT
PT
TP
Tactical Project
Large scale project
Strategic


Micro and Macro Projects
Urban Structure
Design Criteria
Micro Project


Elderly People
Adults
Young People
Kids
Design
Community
Execution
Government
Support
Private Sector
Resources
Knowledge field
Guide
Art Collectives
Creativity

Methods: 5 plans and 7 strategies

Strategies	A. Knowledge Plan	B. Partnership Plan	C. Micro-projects Plan	D. Training Plan	E. Dissemination Plan
1. **Disciplined conversation**	●	●	●	●	●
2.Case studies	●				●
Ethnography	●		●		
Policy analysis	●				
3.International design workshops	●	●	●	●	●
Charettes	●		●		
Studios	●		●		
Field courses	●		●		●
4. Narrative analysis	●				
5. Exchanges		●			
6. Training			●	●	●
7.Project process analysis	●		●		

Universities

(300 undergraduate students on issues related to climate adaptation in informal settings, and more than 110 graduate students on research methods and tools to improve current understanding of climate disasters and risk)

+

Community

(1250 community members)

+

Government

(7 municipalities /// 90 officers and local authority representatives)

+

Privates / ONG

(4 non-governmental organizations (NGOs) /// 16 private companies)

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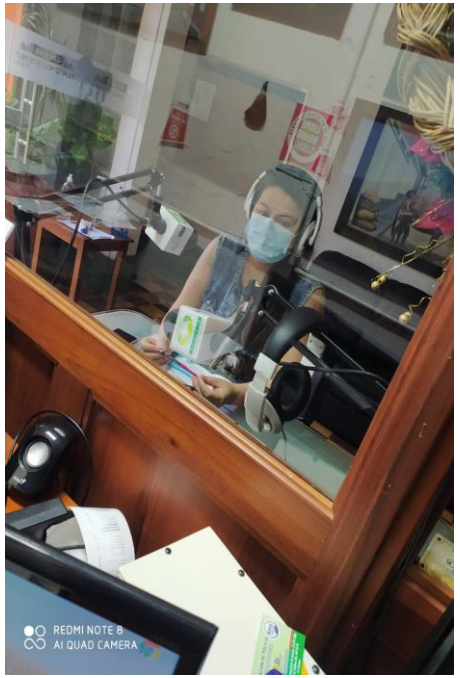
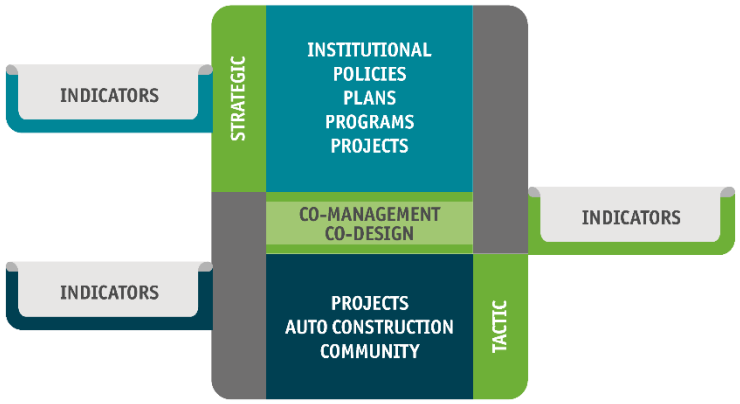


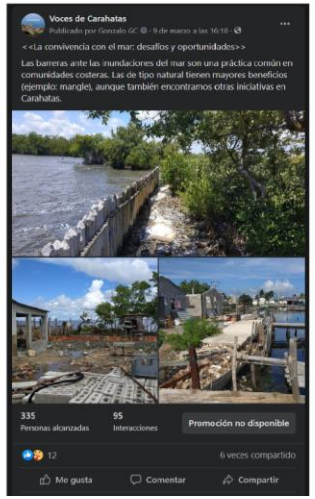
Type of responses

- Urban Agriculture
- Green infrastructure
- Education
- Sports and recreational spaces
- Art and cultural events



SUSTAINABLE URBAN INTERVENTION

Micro-proyecto “Voces de Carahatas”



Proyecto de pasarela de unión entre Campus UBB y barrio circundante.
Taller de Barrio 2020

ADAPTO

Artefacts of Disaster Risk Reduction

Community-based initiatives to face climate change in Latin America and the Caribbean

Vertical Community Garden: Recovery of a community space through urban horticulture

07/01/2021 Chile, Corporación Antioquia Presente, Education and training, Floods, Food insecurity, Universidad del Bío-Bío, university-led, Urban agriculture

by Claudio Araneda and Roberto Burdiles

Read more →

Urban Slope Edge: Sustainable Urban Drainage System (SUDS)

06/01/2021 Colombia, Floods, Infrastructure, Landslides, Universidad del Valle, university-led

by Adriana López

Read more →

Systematization of results

[+] Micro-Projects in Carahatas, Cuba: An opportunity to understand the deep connections between people, housing, and the ocean.

CU-01. Resilient Housing by Community Self-Management (type B)
CU-02. Community Group Mujeres del Mar (Women of the sea) (type A)
CU-03 Circle of interest Yo me adapto (type A)
CU-04 Coastal Marine Festival (type A)

[+] Micro-Projects in Concepción, Chile: The desire to establish a new social contract and better relationships with nature.

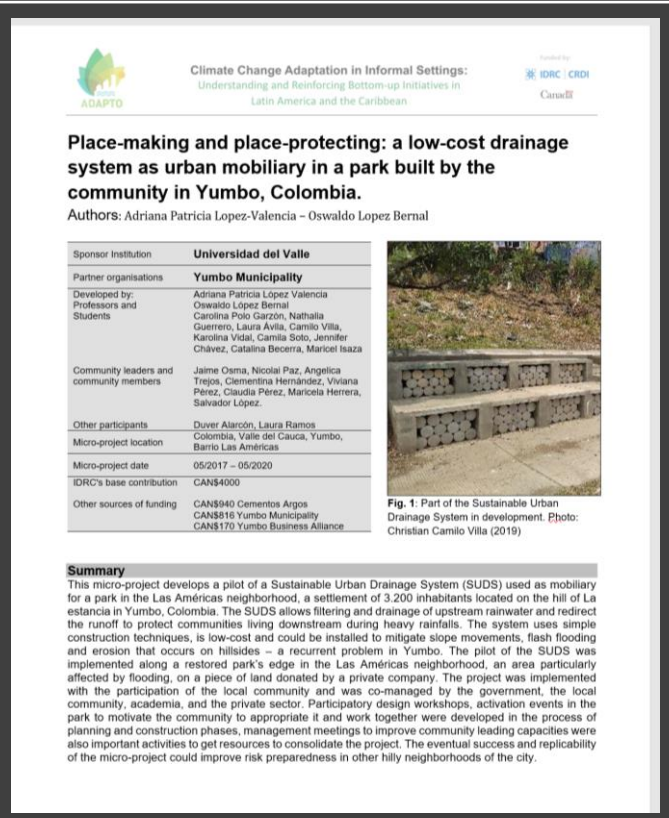
CH-01 Vertical Community Garden, Barrio Bellavista, Tomé (type A)
CH-02 Pottery Workshop, Quinchamalí (type A)
CH-03 Natural mitigation and irrigation barrier (type A)
CH-04 Botanical Illustration (type A)
CH-05 Classrooms in Natural Environments (type B)
CH-06 Forest Therapy (type B)
CH-07 Plaza Nonguén (type A)
CH-08 Estuary Dome (type A)
CH-09 Recovering water (type B)

[+] Micro-Projects in Yumbo, Colombia: Dealing with the cascading effects of multiple threats.

CO-01 Urban Edge - Sustainable Urban Drainage System (SUDS) (type A)
CO-02 Water Management System for the micro-projects (type A)
CO-03 Community gardens (type A)
CO-04 Reforesting Yumbo (type A)
CO-05 Family Garden (type B)
CO-06 Reforesting Yumbo (type B)

[+] Micro-Projects in Salgar, Colombia: Understanding climate-related risks after a major tragedy.

CO-07 Ecosystem Adaptation (type B)
CO-08 Managing Risk (type B)



Climate Change Adaptation in Informal Settings:
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Place-making and place-protecting: a low-cost drainage system as urban mobiliary in a park built by the community in Yumbo, Colombia.

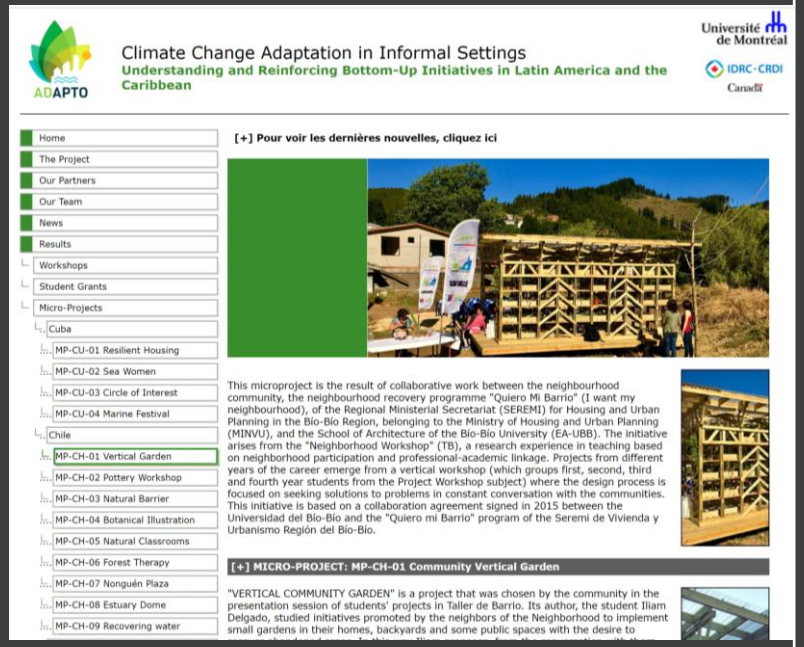
Authors: Adriana Patricia Lopez-Valencia – Oswaldo Lopez Bernal

Sponsor Institution	**Universidad del Valle**
Partner organisations	**Yumbo Municipality**
Developed by: Professors and Students	Adriana Patricia López Valencia Oswaldo López Bernal Carolina Polo Garzón, Nathalia Guerrero, Laura Ávila, Camilo Villa, Karolina Vidal, Camila Soto, Jennifer Chávez, Catalina Becerra, Maricel Isaza
Community leaders and community members	Jaime Osma, Nicolai Paz, Angelica Trejos, Clementina Hernández, Viviana Pérez, Claudia Pérez, Maricela Herrera, Salvador López.
Other participants	Duver Alarcón, Laura Ramos
Micro-project location	Colombia, Valle del Cauca, Yumbo, Barrio Las Américas
Micro-project date	05/2017 – 05/2020
IDRC's base contribution	CAN$4000
Other sources of funding	CAN$940 Cementos Argos CAN$816 Yumbo Municipality CAN$170 Yumbo Business Alliance

Fig. 1: Part of the Sustainable Urban Drainage System in development. Photo: Christian Camilo Villa (2019)

Summary

This micro-project develops a pilot of a Sustainable Urban Drainage System (SUDS) used as mobiliary for a park in the Las Américas neighborhood, a settlement of 3.200 inhabitants located on the hill of La estancia in Yumbo, Colombia. The SUDS allows filtering and drainage of upstream rainwater and redirect the runoff to protect communities living downstream during heavy rainfalls. The system uses simple construction techniques, is low-cost and could be installed to mitigate slope movements, flash flooding and erosion that occurs on hillsides – a recurrent problem in Yumbo. The pilot of the SUDS was implemented along a restored park's edge in the Las Américas neighborhood, an area particularly affected by flooding, on a piece of land donated by a private company. The project was implemented with the participation of the local community and was co-managed by the government, the local community, academia, and the private sector. Participatory design workshops, activation events in the park to motivate the community to appropriate it and work together were developed in the process of planning and construction phases, management meetings to improve community leading capacities were also important activities to get resources to consolidate the project. The eventual success and replicability of the micro-project could improve risk preparedness in other hilly neighborhoods of the city.



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MP-CU-02 Sea Women
MP-CU-03 Circle of Interest
MP-CU-04 Marine Festival
Chile
MP-CH-01 Vertical Garden
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MP-CH-03 Natural Barrier
MP-CH-04 Botanical Illustration
MP-CH-05 Natural Classrooms
MP-CH-06 Forest Therapy
MP-CH-07 Nonguén Plaza
MP-CH-08 Estuary Dome
MP-CH-09 Recovering water

[+] Pour voir les dernières nouvelles, cliquez ici

This microproject is the result of collaborative work between the neighbourhood community, the neighbourhood recovery programme "Quiero Mi Barrio" (I want my neighbourhood), of the Regional Ministerial Secretariat (SEREMI) for Housing and Urban Planning in the Bío-Bío Region, belonging to the Ministry of Housing and Urban Planning (MINVU), and the School of Architecture of the Bío-Bío University (EA-UBB). The initiative arises from the "Neighborhood Workshop" (TB), a research experience in teaching based on neighborhood participation and professional-academic linkage. Projects from different years of the career emerge from a vertical workshop (which groups first, second, third and fourth year students from the Project Workshop subject) where the design process is focused on seeking solutions to problems in constant conversation with the communities. This initiative is based on a collaboration agreement signed in 2015 between the Universidad del Bío-Bío and the "Quiero mi Barrio" program of the Seremi de Vivienda y Urbanismo Región del Bío-Bío.

[+] MICRO-PROJECT: MP-CH-01 Community Vertical Garden

"VERTICAL COMMUNITY GARDEN" is a project that was chosen by the community in the presentation session of students' projects in Taller de Barrio. Its author, the student Iliam Delgado, studied initiatives promoted by the neighbors of the Neighborhood to implement small gardens in their homes, backyards and some public spaces with the desire to

Challenges turned into impact factors

1. Communication between actors and fulfillment of defined roles

2. Scaling up local strategies

3. keep leaders and communities involved in long processes

4. articulate the scales of intervention with the territorial and sectoral plans

5. Maintain female leadership despite the contextual circumstances

6. Difficult to manage political contexts and power relations

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