Supplementary material

Residential satisfaction- Community Participation-Resilience and adaptation to climate change-amenity in public spaces

Confidentiality of Information: This survey is fully anonymous, and no personally identifiable information will be collected. The information provided will be used solely for this study and will be kept confidential.

The objective of this survey is to analyze residents' relationships with public spaces, their residential satisfaction, and their perceptions of safety related to stormwater management. It also seeks to evaluate community participation in proposed measures to address climate change and to identify improvements that promote sustainability and well-being in neighborhood public spaces.

Table S1. Original indicators, sections, and questions of the survey.

Original indicators	Section	Question
------	1. Respondent profile	1. Which of the following best describes your relationship with this neighborhood? I live in the neighborhood. I work in the neighborhood. I live and work in the neighborhood. I visit occasionally. Other
------	1. Public space usage profile	2. How often do you visit public spaces in your neighborhood? More than twice a week. Once a week. Two or three times a month. Once a month or less. Never
------	1. Respondent profile	3. What activities do you usually do in the following public spaces in your neighborhood? (Check all that apply). Types of public space: Parks, Squares, Sports fields, Sidewalks/pedestrian areas, Other (please specify): _____. For each of these public spaces, please specify whether you use them for: Sports, Contemplation/rest, Cultural activities, or if you do not use them.
------	1. Respondent profile	4. Which of the following age groups do you fall into? Under 18, 18-24, 25-34, 35-44, 45-54, 55-64, 65 or older.
------	1. Respondent profile	5. Gender: Male, Female. I prefer not to say, Other.
------	1. Respondent profile	6. How long have you been connected to this neighborhood in the following ways? Living, Working Visiting regularly. For each one, select: Not applicable Less than one year 1-3 years 4-6 years 7-10 years More than 10 years.
------	1. Respondent profile	7. What is your main occupation? Student, Employee, Freelancer. Business owner. Home caregiver, Retired, Unemployed, prefer not to say.

RS1	2. Improvement of Aesthetics through Water Management	8. Do you believe that implementing sustainable rainwater management measures could enhance the aesthetics of public spaces, making them more attractive and functional in your neighborhood? (Likert scale)
RS2	2. Availability of Shaded and Comfortable Areas	9. Do you feel that public spaces in your neighborhood offer sufficient shaded and comfortable areas for year-round use? (Likert scale)
RS3	2. Design and Aesthetics of Public Spaces	10. Do you find the public spaces in your neighborhood well-designed and visually appealing?
RS4	2. Safety in Public Spaces	11. Do you feel safe when using public spaces in your neighborhood?
RS5	2. Visibility and Understanding of Water Management Systems	12. Do you think that the stormwater management systems in your neighborhood are visible and understandable, allowing the community to comprehend their functioning and detect any issues easily?
PC1	3. Participation in Planning and Maintenance	13. Do you believe that resident participation is essential for the planning and maintenance of green spaces in your neighborhood?
PC2	3. Shared Responsibility in Sustainable Solutions	14. Do you think that the community shares a responsibility in adopting sustainable solutions for rainwater management?
PC3	3. Willingness to Participate in Community Activities	15. Are you willing to participate in community activities that promote the conservation of the natural environment in your neighborhood?
PC4	3. Impact of Community Participation on Decision-Making	16. Do you think that community participation enhances decision-making regarding the use of public spaces?
RACC1	4. Climate Awareness Campaigns	17. Do you think that awareness campaigns on climate change risks and adaptation measures are conducted in your neighborhood?
RACC 2	4. Community Preparedness for Climate-Related Disasters	18. Do you feel that residents in your neighborhood are informed and prepared to face natural disasters related to climate change?
RACC3	4. Adaptation of Stormwater Management Systems	19. Do you think that the stormwater management systems in your neighborhood are equipped with components that enable them to adapt to future climate change effects and urban development?
RACC4	4. Concrete Measures to Address Climate Impacts	20, Do you believe that concrete measures have been implemented in your neighborhood to cope with climate change impacts, such as risk management for floods, heat waves, or droughts?

Table S2. Original constructs, criteria, and sub criterion.

Construct	Description	Criterion	Description	Sub-criterion	Sub-criterion	Description
RS1	Improved aesthetics through water management	MULTIF	Maximizing the multifunctionality, number, variety, and quality of additional uses of SUDS	DUA	Diversity of additional uses	Incorporation of complementary functions such as recreation, leisure, environmental education, productive and ecological activities
				CDCA	Quality of design and environmental comfort	Well-distributed elements of environmental comfort with guaranteed accessibility, comfortable climatic conditions (shade, furniture, vegetation)
				IC	Integration with the community	Functioning as a space for social gatherings, collective activities, strengthening the sense of belonging, and productive opportunities
RS2	Availability of shaded areas and comfort			CBPU	Contribution to biodiversity and urban landscape	Improvement of environmental quality through native vegetation, wildlife habitats, and attractive landscaping
				ADUCC	Adaptability to different uses and climatic conditions	Versatility for use in different climatic conditions and for various purposes according to community needs
				ERA	Relaxing and pleasant spaces	Promotion of social interaction, connection with water resources, and aesthetic enjoyment of water
RS3	Design and aesthetics of public spaces	ASPVIS	Improvement of the visual appearance of the urban or natural landscape	IPEU	Integration with the landscape and urban environment	Harmonious integration respecting the landscape and reinforcing local identity
				VEDA	Aesthetic value and attractive design	Attractive and functional design with an aesthetic combination of materials, vegetation, and structures

Construct	Description	Criterion	Description	Sub-criterion	Sub-criterion	Description
RS4	Safety in public spaces	SEGUR	Provision of safe surface water management systems	CAUSI	Contribution to urban art and sense of identity	Integration of artistic or cultural elements that reinforce the identity of the place
				ESEU	Sensory enrichment and user experience	Visual, auditory, and tactile stimuli that enhance the sensory experience and connection with the space
				UVMS	Use of sustainable vegetation and materials	Use of vegetation and natural or recycled materials that reinforce aesthetics and sustainability
				MCAV	Maintenance and conservation of visual appeal	Efficient maintenance to preserve long-term visual appeal and aesthetics
				SSIAT	Structural safety in water-land interaction	Structural elements that minimize the risk of falls, accidents, or uncontrolled access
				PCAC	Prevention of contact with contaminated water	Physical barriers, filters, or other containment systems to prevent contact with contaminated water
				TAC	Treatment of collected water	Appropriate mechanisms to treat water before possible contact with users
				AUS	Universal and safe accessibility	Safe access for people of all ages and abilities, ensuring inclusion and comfort
				SOUS	Signage and guidance for safe use	Clear signage and adequate lighting to promote safe use of the system
				MCR	Maintenance and waste control	Prevention of accumulation of waste, sediment, or vegetation that compromises safety

Construct	Description	Criterion	Description	Sub-criterion	Sub-criterion	Description
RS5	Visibility and understanding of water management systems	LEGIB	Maximizing readability and/or clarity	VPGA	Visibility of water management processes	Visible and understandable functional processes (collection, transport, storage, infiltration, treatment, reuse)
				IIFA	Intuitive interpretation of water flow	Interpretation of flow through visual aids, promoting environmental education and water connection
				AOFM	Operational accessibility and ease of maintenance	Technical accessibility for inspection, maintenance, and repair without invasive interventions
				PAM	Participation of stakeholders in monitoring	Participation of local or institutional actors in monitoring and preventive maintenance
				RIS	Reduction of underground infrastructure	Prioritization of visible and surface elements, minimizing buried infrastructure
				ISMI	Integration of signage and informational materials	Clear signage, educational panels, and explanatory teaching materials
PC1	Participation in planning and maintenance	MANTCOM	Community maintenance and preservation of multifunctional SuDS	PCAG	Active community participation in management	Direct community involvement through committees, boards, care networks, or collaborative workshops
PC2	Shared responsibility for sustainable solutions			PMSC	Sustainable and contextualized maintenance practices	Maintenance plan executable with local resources, adapted to the environment and technical capabilities

Construct	Description	Criterion	Description	Sub-criterion	Sub-criterion	Description
PC3	Willingness to participate in community activities			ACMC	Community monitoring and conservation activities	Participation in visual inspections, fault reporting, waste control, and invasive species control
				PEM	Education programs for maintenance	Educational actions to understand how things work and promote sustainable practices
				PECD	Educational and communicative potential of design	Elements that facilitate visual and functional understanding through signage, pedagogical design, and teaching materials
PC4	Impact of community participation in decisions	EDAMB	Promoting environmental learning among citizens	CENEL	Connection with the natural environment and local ecosystems	Highlight local ecological values by promoting ecological awareness and reconnection with natural processes
				IPEP	Integration of education and participation programs	Structured educational programs: workshops, tours, school days, citizen science
RACC1	Climate awareness campaigns			SFIA	Awareness of environmental impacts	Educational tool on environmental impacts and promotion of sustainable habits
RACC2	Community preparedness for climate disasters	RESIL	Supporting the development of resilience and adaptability to future change	RACUS	Resilience to changes in land use	Functionality in the face of increases in urban density through modular and flexible designs
				GECE	Management of extreme weather events	Elements to respond to torrential rains or droughts through retention and reuse solutions

Construct	Description	Criterion	Description	Sub-criterion	Sub-criterion	Description
RACC3	Adaptation of stormwater management systems	RESCLIM	Contribution of SuDS to climate resilience and energy efficiency	C_VII.3 - ADCC	Adaptability to changing community demands	Adaptation to new social dynamics through multifunctional spaces and reconfigurable components
				SCA	Selection of adaptive components	Sustainable, durable, and easily replaceable materials, plant species, and technologies
				PDUF	Preparation for future urban development	Consideration of urban expansion scenarios facilitating integration with other systems
RACC4	Concrete measures in response to climate impacts			REIC	Reduction of the heat island effect	Reduction of surface temperature through vegetation, trees, light-colored surfaces, and shade elements
				IER	Integration of renewable energy	Incorporation of solar panels, hydraulic turbines, or other clean energy devices
				DEE	Energy-efficient design	Materials and techniques that improve thermal performance, reducing air conditioning needs
				MML	Improvement of the local microclimate	Regulation of temperature, humidity, and air circulation through vegetation and water surfaces
				CSH	Contribution to water security	Availability and proper management of water resources through collection and reuse systems