

LEARNING ENVIRONMENT

A school as an exponent of biodiversity conservation in Bogotá

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COMMITMENTS

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Through participatory processes of restoration and conservation of urban ecosystems, the community of the Gimnasio Femenino school in Bogotá has found new ways to perceive and connect with the natural reserve adjacent to its facilities and build a pedagogical project to achieve sustainable communities.

Since 1967, the Gimnasio Femenino school has been located on a 74-hectare lot (a little more than one-fifth of New York's Central Park), currently called *Mano de Oso* (Bear Hand) Nature Reserve. Now, the school communi-

ty and its network of allies have participated in restoring the reserve with native species, which has turned this natural space into an educational, research, cultural, sports, and recreational scenario.

The ecological restoration of the forest and learning about the native biodiversity of the eastern hills (plants, birds, mammals, and insects) was the starting point for a cultural transformation of the educational community (students, parents, administrative staff) that was manifested on two levels. First, the planting of trees as a tangible experience of positive transformation of the environment contributed to the empowerment of

students as leaders of sustainability in their immediate environment (family, classmates, teachers), the development of competencies for sustainable development (e.g., systemic, critical, interpersonal thinking) and the adoption of sustainable living habits in their homes (Figueroa et al., 2017).

Secondly, the interaction with the forest contributed to the school's leadership at the management and administrative level to strengthen the transversality of sustainability in the curriculum and the

campus operation processes (e.g., procedures for sustainable events and purchases, carbon footprint). The latter was also reflected in the Landscape Master Plan proposal, part of the school's infrastructure master plan (2016). The physical barriers (walls) that separate the classrooms from the forest were blurred thanks to the design of native plant corridors that prevail in the school's halls and promote the permanent interaction of students with butterflies, birds foxes and squirrels in their school life.



BOGOTÁ,
COLOMBIA

Pop. 7,181,000

1,775 KM²

2,640 m.a.s.l.

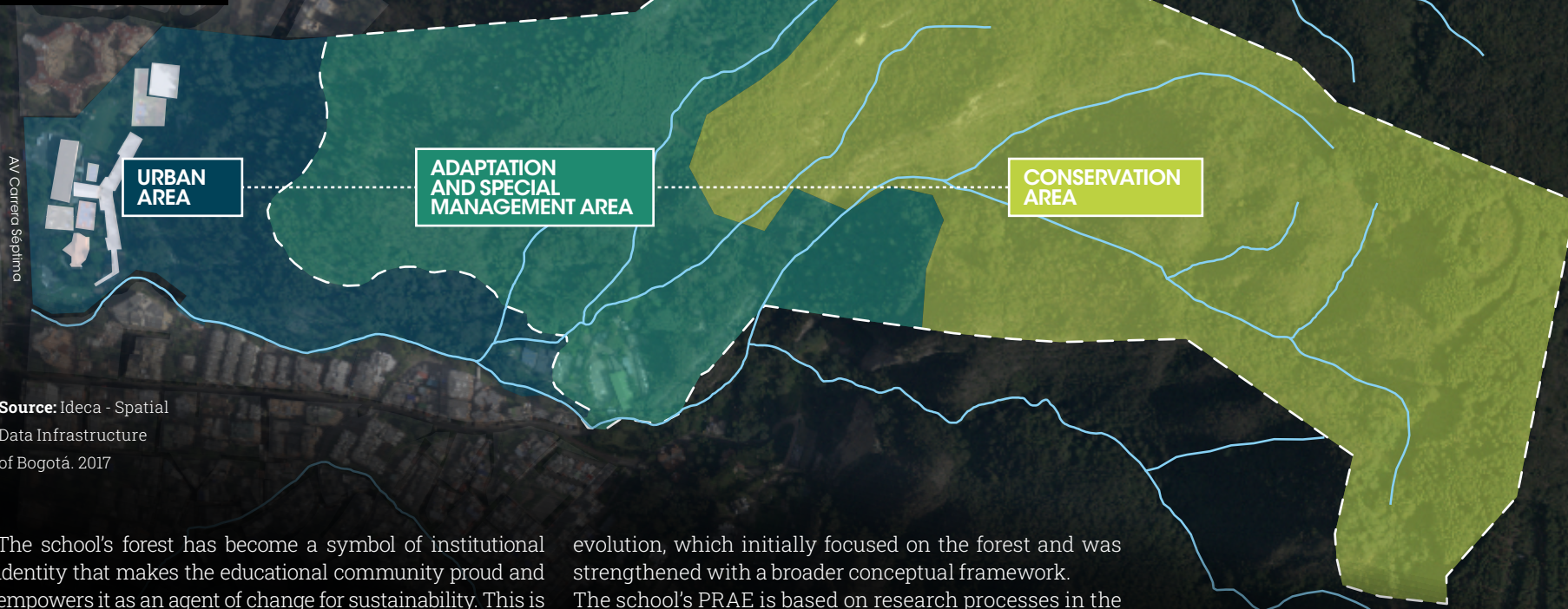
CONCEPTOS CLAVE

SCHOOL ENVIRONMENTAL PROJECT (PRAE, FOR ITS SPANISH ACRONYM)

SUSTAINABILITY EDUCATION SCHOOL NETWORK

HILLS OF BOGOTÁ SCHOOL NETWORK

MANO DE OSO RESERVE MAP
AREA: 74 HECTARES



Source: Ideca - Spatial Data Infrastructure of Bogotá. 2017

The school's forest has become a symbol of institutional identity that makes the educational community proud and empowers it as an agent of change for sustainability. This is reflected, for example, in the "Guardians of the forest" project (2019), where a student, upon entering preschool, symbolically receives the title deed to a school and city forest area to investigate, care for and protect throughout her schooling. At her graduation, she must eventually hand it over to another student who enters the school. This practice is an innovative way to strengthen the appropriation of urban nature at the individual and collective levels.

On the other hand, "The Dream of the Acorn" leadership program illustrates how symbolic links are established between the forest and the curriculum. Symbolizing the growth of an oak tree from the seed to a mature tree, the school proposes a preschool to eleventh-grade curriculum focused on developing self-leadership and co-leadership skills.

URBAN NATURE FOR THE FORMATION OF GLOBAL CITIZENS

The cultural transformation of the educational community took place through ecological walks and planting, campaigns to learn about the species of the ecosystem, and several different projects. The latter included the bird or plant of the month and the installation of camera traps to record animals within the reserve. These activities, along with the subsequent research on their educational impact, contributed to the **School Environmental Project (PRAE)**

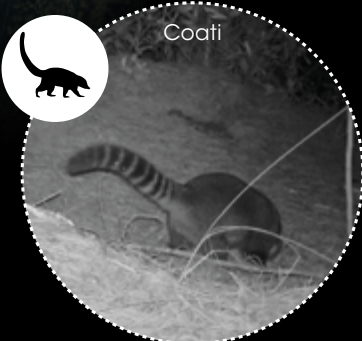
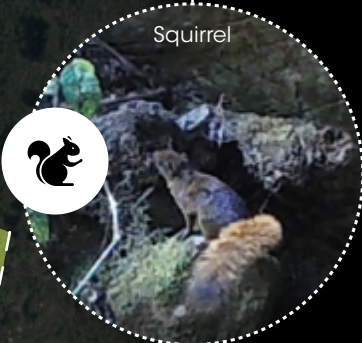
evolution, which initially focused on the forest and was strengthened with a broader conceptual framework. The school's PRAE is based on research processes in the classroom and is based on critical reflection, analysis of the environment, the construction of explanations for understanding environmental problems, and an integrative vision of projection to problem-solving (Ministry of National Education, n.d.). In addition, it adopts the concept of **education on sustainability**.

HOW TO BUILD SUSTAINABLE COMMUNITIES AND CITIES FROM SCHOOL EDUCATION?

For the spontaneous development of an environmental ethic that transcends the school environment in the lives of the students, impacting their relational environments, Gimnasio Femenino has fostered synergy between different components:

- 1 The development of critical competencies for sustainable development.
- 2 The thematic relationship of the classes to the global issues addressed by the Sustainable Development Goals (SDGs).
- 3 The creation of learning environments that involve experiences of direct contact with nature and the environment (forest, nursery, vegetable garden, vermicomposting, composting, and local territory).
- 4 Sustainability of campus operations as a process to which students are linked from classes and individ-

SPECIES IDENTIFIED WITH CAMERA TRAPS



2015-2016 PLANTINGS

Approximately 4,000 plants of 30 species in an area of 3 hectares.

- Pioneer
- Mature Forest
- Intermediate between Pioneer and Mature Forest

- Cuasa (*Escallonia paniculata*)
- Ciro (*Baccharis macrantha*)
- Small-leaved Bayberry (*Morella parvifolia*)
- Raque (*Vallea stipularis*)
- Flowering Branch (*Myrcianthes leucoxylla*)
- Angelito (*Monochaetum myrtoideum*)
- Andean Cedar (*Cedrela montana*)
- Chilco (*Baccharis latifolia*)
- Chuchua (*Viburnum triphyllum*)
- Corono (*Xylosma spiculifera*)
- Cucharo espadero (*Myrsine coriacea*)
- Cucharo (*Myrsine guianensis*)
- Duraznillo (*Abatia parviflora*)
- Cruceto (*Duranta mutisi*)
- Encenillo (*Weinmania tomentosa*)
- Gaque (*Clusia multiflora*)
- Bear Paw (*Oreopanax incisus*)
- Mortiño (*Hesperomeles goudotiana*)
- Squamulose Maya (*Miconia squamulosa*)
- Ruache, uche (*Prunus buxifolia*)
- Cordoncillo (*Piper bogotense*)

TOTAL: APPROX. 3800 PLANTS

ual research projects (e.g., carbon footprint, water footprint, solid waste management).

KEY LESSONS

- ➔ Giving students a leadership role in the design of pedagogical practices is crucial for their ownership of the process and its impact on other educational community members.
- ➔ Cooperation with other institutions can broaden the scope of these educational initiatives. For example, a

great ally in several of the school's projects is the **Hills of Bogotá School Network**, thanks to which other schools in different areas of the city were able to approach the *Mano de Oso* Nature Reserve, along with several others in the hills of Bogotá (Andreoni and Vargas, 2020; Figueroa and Camargo, 2022).