

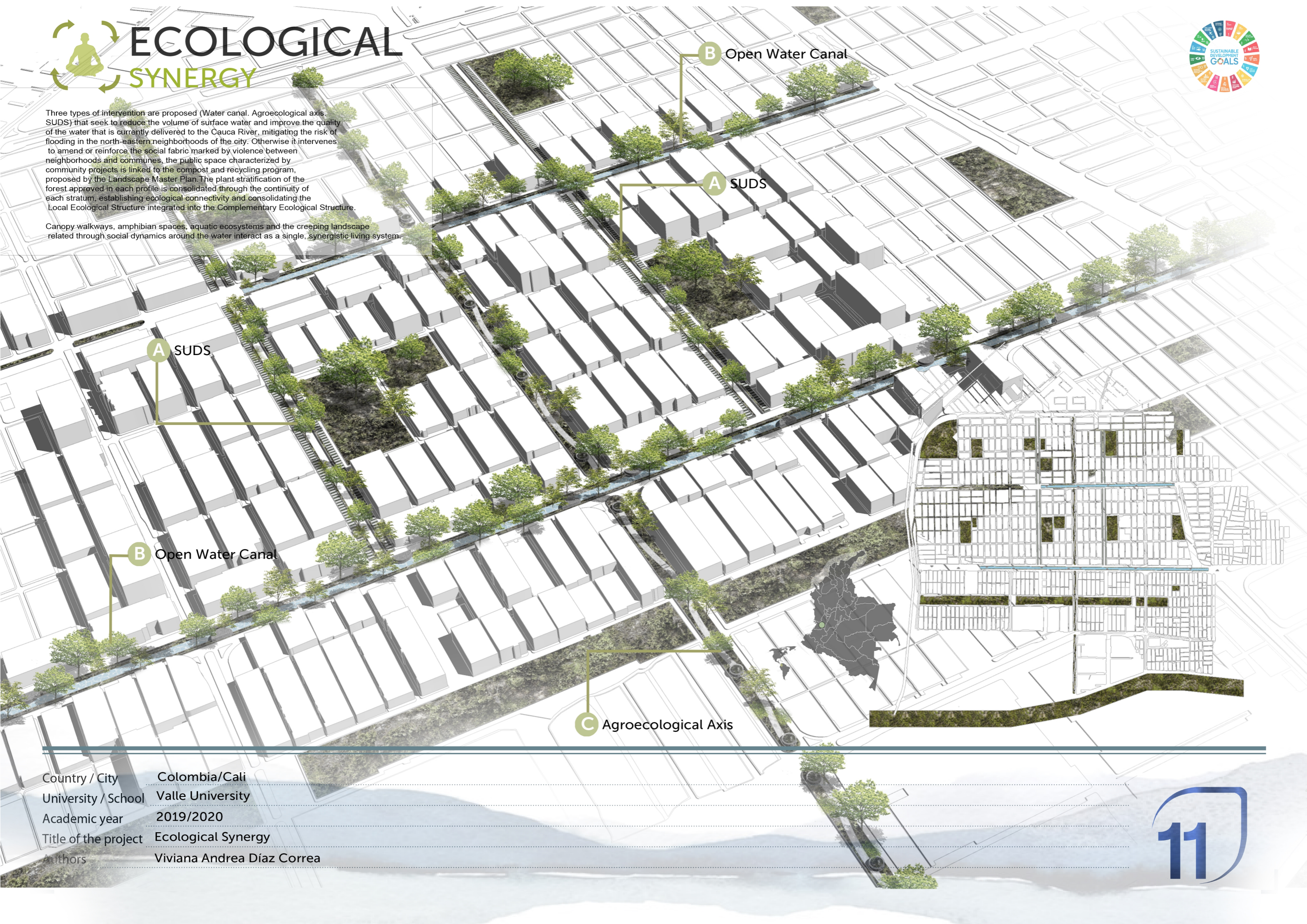


ECOLOGICAL SYNERGY



Three types of intervention are proposed (Water canal, Agroecological axis, SUDS) that seek to reduce the volume of surface water and improve the quality of the water that is currently delivered to the Cauca River, mitigating the risk of flooding in the north-eastern neighborhoods of the city. Otherwise it intervenes to amend or reinforce the social fabric marked by violence between neighborhoods and communes, the public space characterized by community projects is linked to the compost and recycling program, proposed by the Landscape Master Plan. The plant stratification of the forest approved in each profile is consolidated through the continuity of each stratum, establishing ecological connectivity and consolidating the Local Ecological Structure integrated into the Complementary Ecological Structure.

Canopy walkways, amphibian spaces, aquatic ecosystems and the creeping landscape related through social dynamics around the water interact as a single, synergistic living system.



A SUDS

B Open Water Canal

A SUDS

B Open Water Canal

C Agroecological Axis

Country / City Colombia/Cali
 University / School Valle University
 Academic year 2019/2020
 Title of the project Ecological Synergy
 Authors Viviana Andrea Díaz Correa

TECHNICAL DOSSIER

Title of the project	Ecological Synergy
Authors	Viviana Andrea Díaz Correa
Title of the course	Especialización en paisajismo
Academic year	2019/2020
Teaching Staff	Kimmel Chamat Garces
Department/Section/Program of belonging	Architectural department / subject of Ecology
University/School	Valle University



Written statement, short description of the project in English, no more than 250 words

The project correlates the socio-ecosystems of the south-east of Cali, the flood-plain of the Cauca River, Colombia. It re-naturalizes the public space, and the aesthetics of the landscape reculturizes it, exalting spontaneous species and taking advantage of its ecosystem function.



CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

For further information
Máster d'Arquitectura del Paisatge -DUOT - UPC

T: + 34 93 401 64 11 / +34 93 552 0842
Contact via email at: biennal.paisatge@upc.edu

Máster d'Arquitectura del Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain

Barcelona September 2020
SCHOOL PRIZE

OPEN WATER CANAL landscape canal

It seeks to condition the spaces as amphibious infrastructures, which allow the use of the staggered berms as a public space in dry weather and as a bio-retention and conduction system in the rainy season. Also as a public air space for leisure activities, observation, or passive activities through elevated platforms that connect the local public space network.



Red Headed Barbet
Eubucco bourcierii



House Wren
Troglodytes aedon (12cm)



Sickle Guan
Chamaepetes goudotii (56cm)



Gray Wood
Henicorhina leucophrys (11cm)



Bay Tanager
Tangara gyrola (12cm)



Whiskered Wren
Pheugopedius mystacalis (16cm)



Blue Parrot
Pionus menstruus (26cm)



Winged Mountain
Anisognathus somptuosus (16cm)



Barn Swallow
Hirundo rustica (18cm)



Cauca Guan
Penelope perspicax (80cm)



Metallic Tanager
Tangara labradorides (12cm)



Saffron Tanager
Tangara xanthocephala (13cm)



S **Cyperus Papyrus**
Helophytic vegetation



S **Mauritia Macrolada**
Helophytic vegetation



Eh **Costus Spiralis**
Hygrophilous vegetation



Eh **Heliconia Imbricata**
Hygrophilous vegetation

A Runway

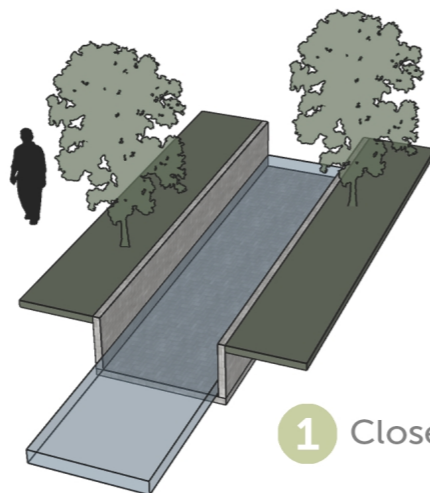
The consolidation of the ecological structure of the water bodies through the tops of the trees allows sharing with the birds that inhabit the canopy invited through the strategic species for reforestation. The conservation and multiplication of endemic, almost endemic, or at risk of vulnerability birds is promoted. Through the implementation of walkways or platforms for sighting and contemplation in an environment of freedom, transparent but safe for the user, in addition to attracting them to interact on the open water canal.



Eh **Costus Productus**
Hygrophilous vegetation

B Staged Berm

Existing internal concrete berms are replaced by wet berms that filter some of the water received into tree roots, also combining public space depending on the rainy season. The phytodepurator edge of the rainwater collected through the hygrophilous vegetation is adapted to temporary flooding and submerged helophytic vegetation in the lower part of the berm, which houses insects and insectivorous birds consequently

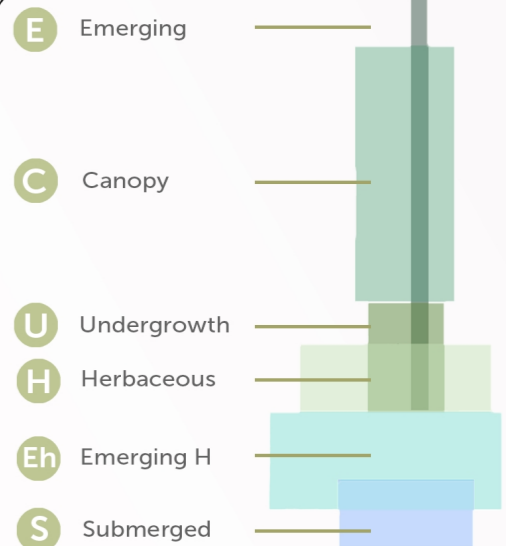


1 **Close Canal**



2 **Open Canal**

Plant Stratification



SUDS

Sustainable drainage

The intervention in the typical neighborhood profile aims to consolidate and mend the strips of urban trees with fruit trees that invite birds to feed. Separate sewage from rainfall, filtering surface water and rain through the combined implementation of sustainable drainage systems, initially retained, filtered, decanted through aquatic ecosystems, and driven to underground tanks under road segments, which store rain water irrigation systems of public space. In addition, it seeks to exalt spontaneous grasses, coverings and shrubs, potentiating the lower stratum as an ecologically functional corridor that reconsiders everyday aesthetics.



U *Muntingia Calabura*
Fruit - Chitató



U *Eryobotrya Japonica*
Fruit - Nispero



U *Psidium Guajava*
Fruit - Guayaba



U *Inga Spectabilis*
Fruit - Guayaba



U *Inga Edulis*
Fruit - Guamo



A Urban Drainage Systems

Sustainable urban drainage systems propose reducing the volume of surface water and improving the quality of the water that is currently delivered to the Cauca River, mitigating the risk of flooding in the neighborhoods to the north-east of the city. Treatment at the source of the waters is promoted, so that local and community projects become protagonists in man's relationship with his environment.

B Repert Landscape

The undecided species of the existing public space regain protagonism grouping with new herbs and flowers that attract pollinating insects for fruit trees, and at the same time are food for insectivorous birds attracted to local ecological corridors full of food.

H Herbaceous



Cuphea
Micrantha



Arachis
Pinto



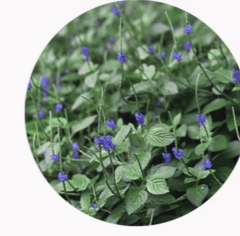
Phoradendron
Quadrangulare



Gramineas



Rivina
Humilis



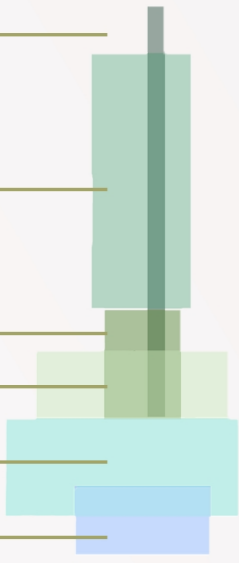
Stachytarpheta
Cayennensis



Mimosa
Pudica

Plant Stratification

- E** Emerging
- C** Canopy
- U** Undergrowth
- H** Herbaceous
- Eh** Emerging H
- S** Submerged



AGROECOLOGICAL AXIS

urban systems

The road separator is consolidated as a project of orchards, recycling and composting stations articulated as an ecological and productive corridor. The aim is to consolidate the social fabric, crossing invisible borders, and calling for participatory economies that improve the quality of life of the active community, taking advantage of the water collected, the fruits and potential spaces. It also seeks to exalt spontaneous grasses, coverings and shrubs, potentiating the lower stratum as a beautiful and functional landscape.



Rufous-tailed Hummingbird
Amazilia tzacatl



Golden-Winged Manakin
M- Purple woodstar (7cm)



Golden-Winged Manakin
F- Purple woodstar (7cm)



Masked Flowerpiercer
Diglossa cyanea



Rusty Flowerpiercer
Diglossa sittoides (11cm)



Western Emerald
Chlorostilbon melanorhynchus (7cm)



Bananaquit
Coereba flaveola



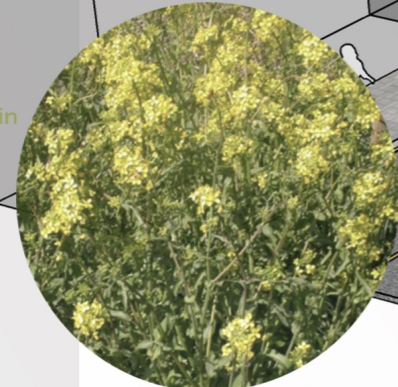
Metallic Tanager
Tangara labradorides (12cm)



Masked Flowerpiercer
Diglossa cyanea (15cm)



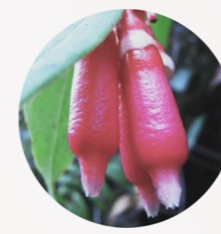
U Sapindus
Saponaria



U Muntingia Calabura
Fruit - Chitató

A Biodigester

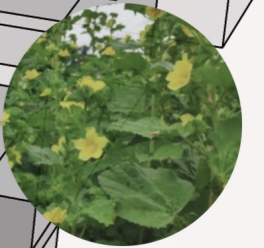
The mitigation of the risk of flooding begins in the separation of wastewater from the house, since sewage is a potential fuel, by means of a local biodigester, the water is captured and transformed into biogas that feeds the kitchen pipes reducing the value of products purchased, consolidating the local treatment of the issued.



H Satyria
Ssp



H Rivina
Humilis



H Malachra
Aiceifolia



U Isertia
Pittieri



B SAPSAP

The specie *Sapindus saponaria* L. in o'wns habitat offers an opportunity to build a community project for agriculture and the production of ecological soap, stopping the eutrophication of the water emitted from the houses, and forming an ecological understanding in the socio-ecosystem, reducing expenses n artificial products and improving the quality of life.

C Compost and Recycling Stations

It is a network of materials separation and use of these through reuse or transformation. Categorized organic waste is collected for composting, furniture or clothing for redistribution and reuse, and other separable materials for recycling and generating employment for the waste pickers from the Cauca river relocated to the apples that travel to the agro-ecological axis.

Plant Stratification

