

NASCIENTE

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With the support of the
Erasmus+ Programme
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Digital Creativity
for developing
Digital Maturity
Future Skills



UNIVERSIDADE da MADEIRA

FEEDING MADEIRA.

REGENERATIVE AND DISTRIBUTIVE FOOD SYSTEM FOR SUSTAINABLE FUTURE

Learning Lab 1 - Funchal

5-15 JULY 2022



Water&Forest island life-blood

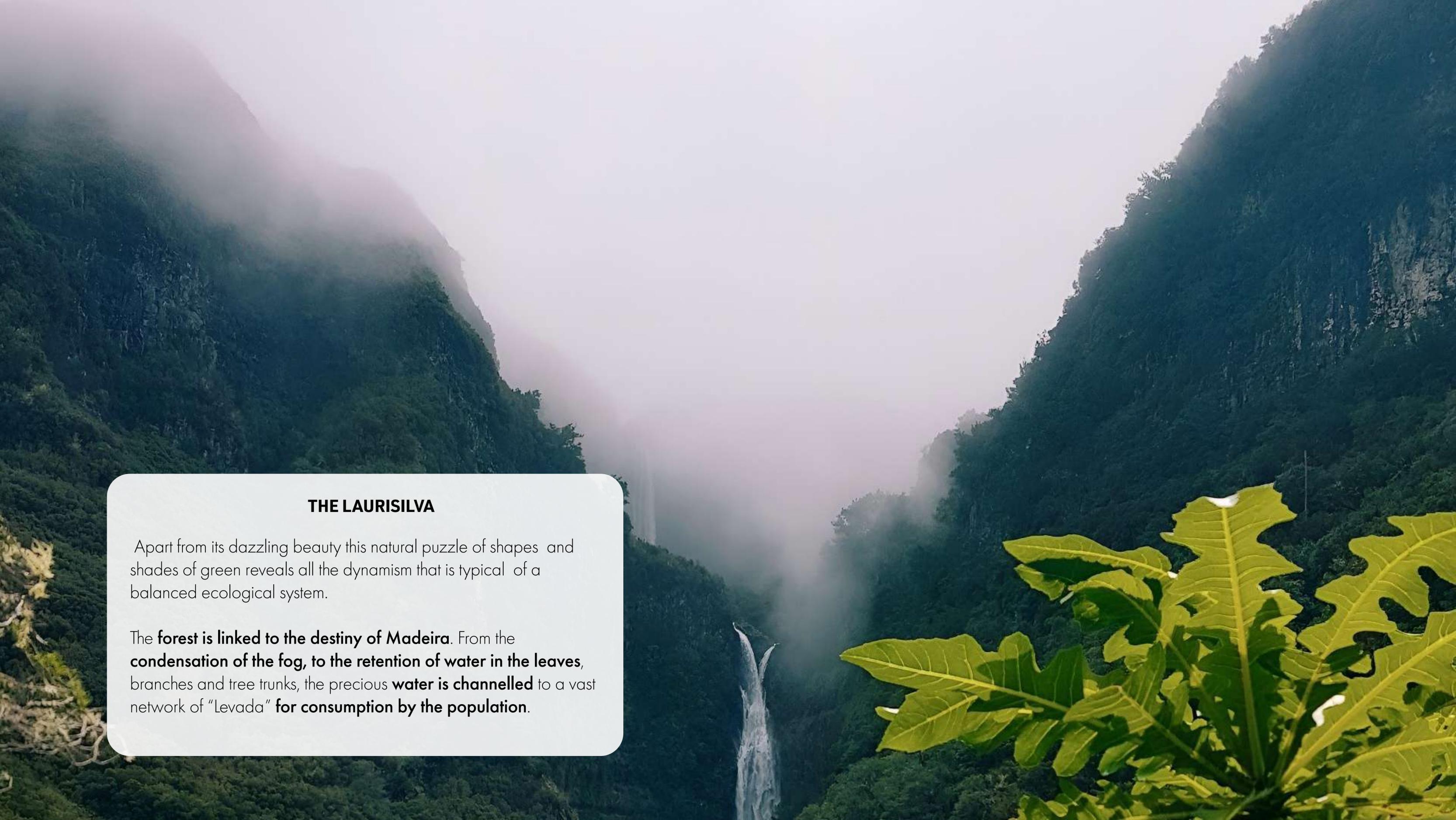
The Laurisilva of Madeira, within the Madeira Natural Park, conserves the largest surviving area of primary laurel forest, a vegetation type that is now confined to the Azores, Madeira and the Canary Islands. These forests display a wealth of ecological niches, intact ecosystem processes, and play a predominant role in maintaining the hydrological balance on the island. The forest, which is a place of importance for its biological diversity, used to cover the whole island surface, today it is present only at 20%. Despite being a UNESCO world heritage site, the Laurisilva is under constant threats and pressure by human activities. Without this type of forest, there wouldn't be water; without fresh water running through the island, it wouldn't be possible neither farming nor living.

How can we make the local human communities acknowledge the importance of protecting the forest and its ecosystems to make them thrive?

How can water be recognised as a precious product of the forest and its cycles? How should it be managed?

Would it be possible for the local non-human communities to have a say on what is to be decided on the future of the forest?



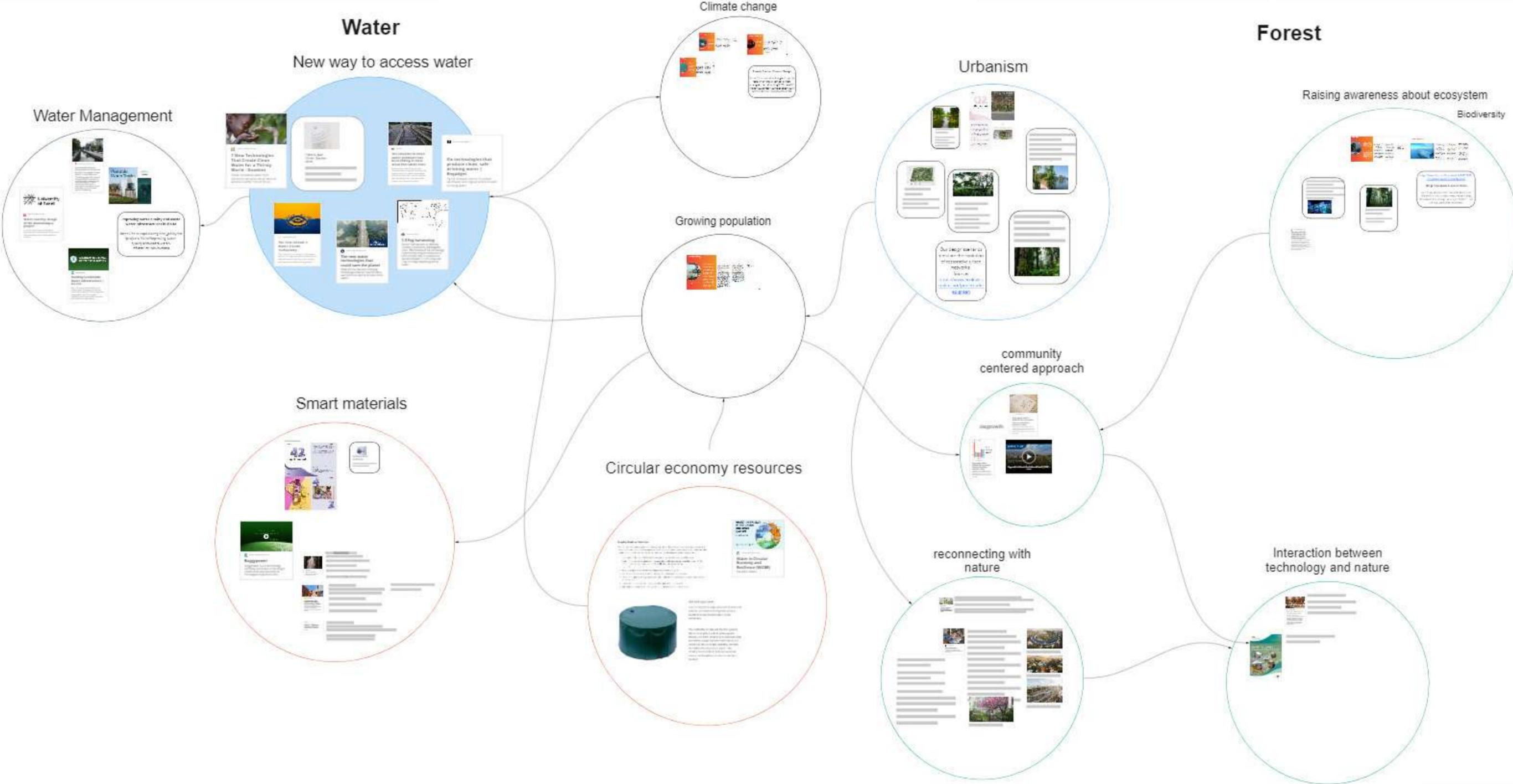


THE LAURISILVA

Apart from its dazzling beauty this natural puzzle of shapes and shades of green reveals all the dynamism that is typical of a balanced ecological system.

The **forest is linked to the destiny of Madeira**. From the **condensation of the fog, to the retention of water in the leaves, branches and tree trunks**, the precious **water is channelled** to a vast network of "Levada" **for consumption by the population**.

Trend research



Our topic:
**Allow all the people to
access fresh water**

#KEYWORDS



SOCIAL EQUITY

It is important for the emerging generations to **learn** not only **about the inequities** faced by many communities related to water scarcity but also **how to combat them**.



COMMUNITY CENTERED APPROACH

“Do what you can, with what you have where you are”
All people should **believe that the global effort is worthy**.



SUSTAINABLE BEHAVIOURS

Changing people’s behaviour will be empowered by the alternative solutions of water access. So that everyone can get closer to nature.

Alternative future

We have created our visions of the future and then we have identified our **shared values to create a common future.**

COMMUNITY CENTERED APPROACH



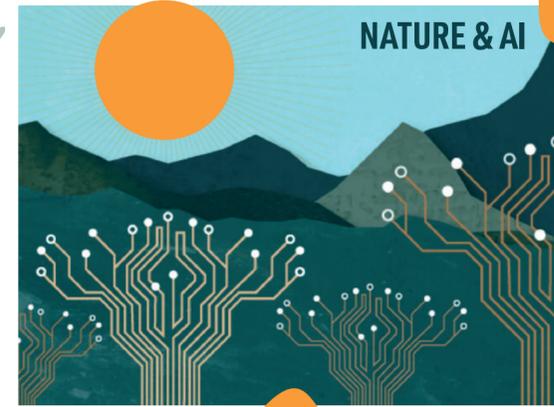
ALGAE AS RESOURCE



EDUCATION FOR SUSTAINABLE BEHAVIOUR



NATURE & AI



PUBLIC SERVICES AND SYSTEMS



WATER ALLOWS NATURE TO RETURN TO THE CITIES

AI FOR MANAGING FUTURE'S COMPLEXITY



News from the future

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FORESTS ARE TAKING THEIR PLACES AGAIN!



The introduction of algae in the everyday diet is allowing to reduce the expansion of agricultural field. For the first time in a long time the global growth rate of the forest is rising.



Turning wastewater into drinking water:

Ten years ago the application of algae to treat wastewater seemed like a fantasy. Today more 10.000.000L of wastewater all around the world are turned into fresh water everyday.



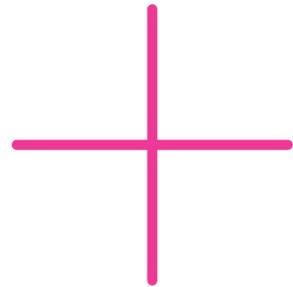
The shared spaces revolution

Sociological studies show that new interactive shared public spaces are creating stronger bonds between communities than was thought when they were introduced years ago.

VISION OF THE FUTURE:

In 10 years and beyond, we will have new shared habits between communities to allow the access to water for creating social justice and fair distribution of water because there will be high risk of shortage of hydrological resources.

Scenario matrix



New interaction inside schools
 New shared habits through education
 #persuasive design



#Stress free routine
 #Healty building
 #Nourishing environment
 #Fluid spaces



Education

Ecological credit system
 New share habits through regulations
 #design for imposing behaviours



#Social (dis)equity
 #Hypertech supervision
 #Algorithmic justice
 #Omnicontrol

Control

Learning by places
 New shared habits through places
 #design for behavioural change



#Adaptive shared environments
 #Sharing habits in shared spaces
 #Buildings are the new teachers
 #Learning behaviours by places



Unconscious

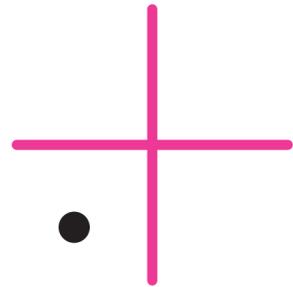
Altered reality
 New shared habits through unreal living
 #design for illusion of freedom



#Unconscious living
 #Metaverse
 #Sustainability dogma
 #Technological habit



Scenario selection



Learning by places

New shared habits through places
#design for behavioural change

Shift from object for behavioural change to **spatial design for behavioural change**



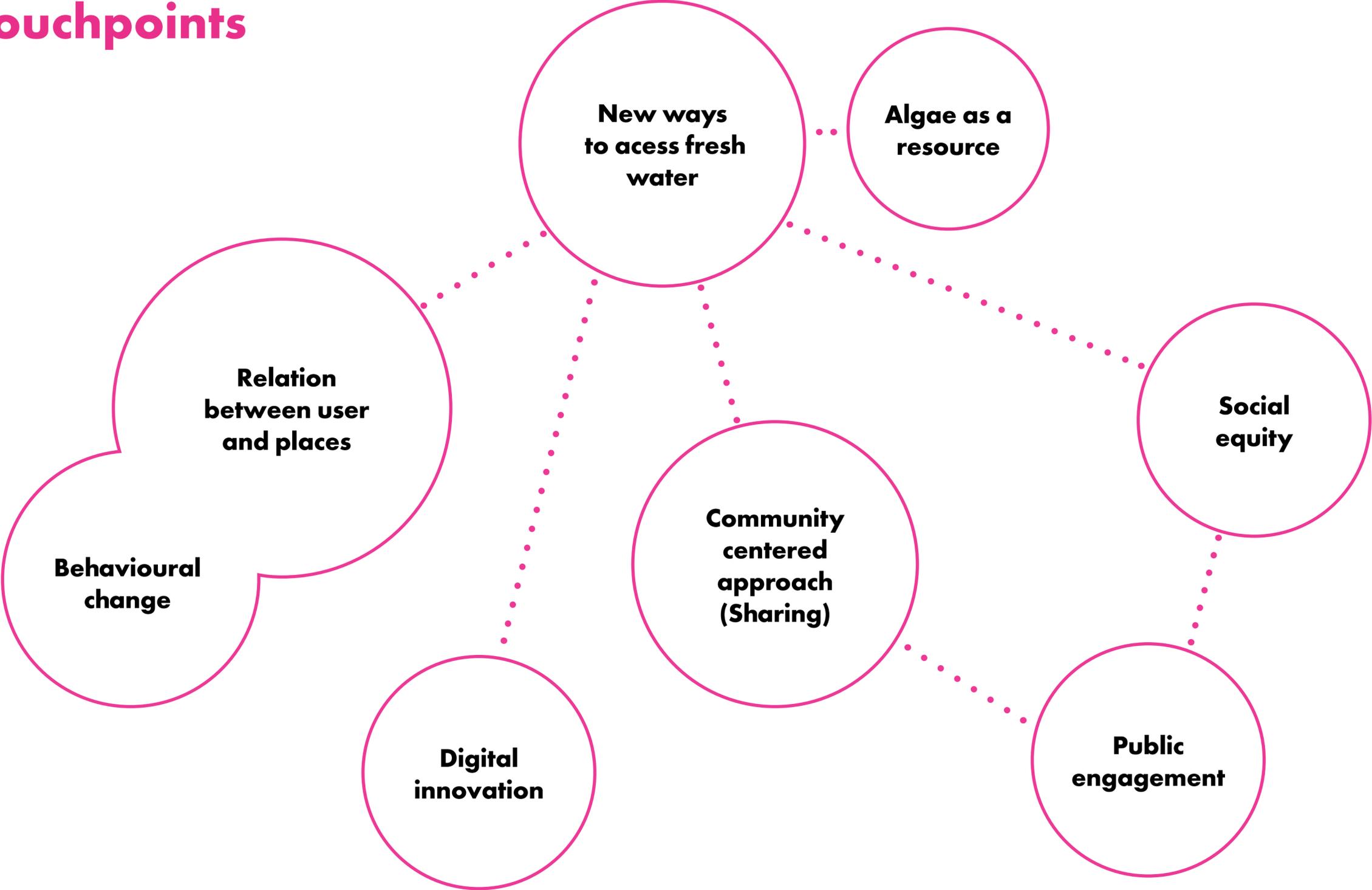
#Adaptive shared environments
#Sharing habits in shared spaces
#Buildings are the new teachers
#Learning behaviours by places



IN THIS SCENARIO:

Which will be the role of the algae in the evolution of spaces as a way to educate people's behaviour?

Concept touchpoints



Possibilities of algae

Algae as a biomass



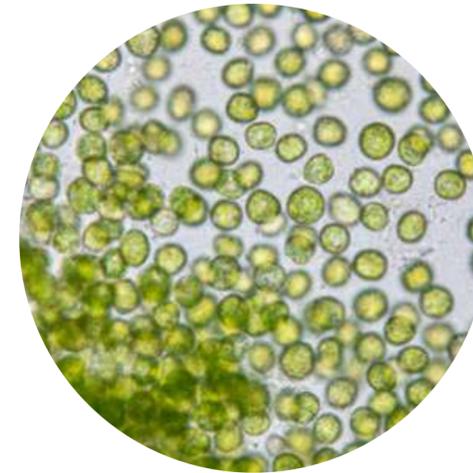
Algae as a food&chemistry



Algae as air purifier



Algae as water purifier



Algae as products



Possibilities of algae

Algae as a biomass



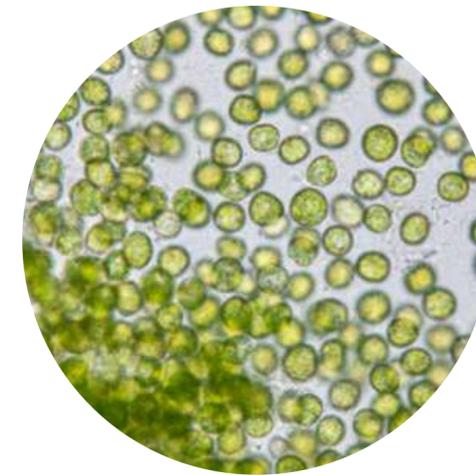
Algae as a food&chemistry



Algae as air purifier



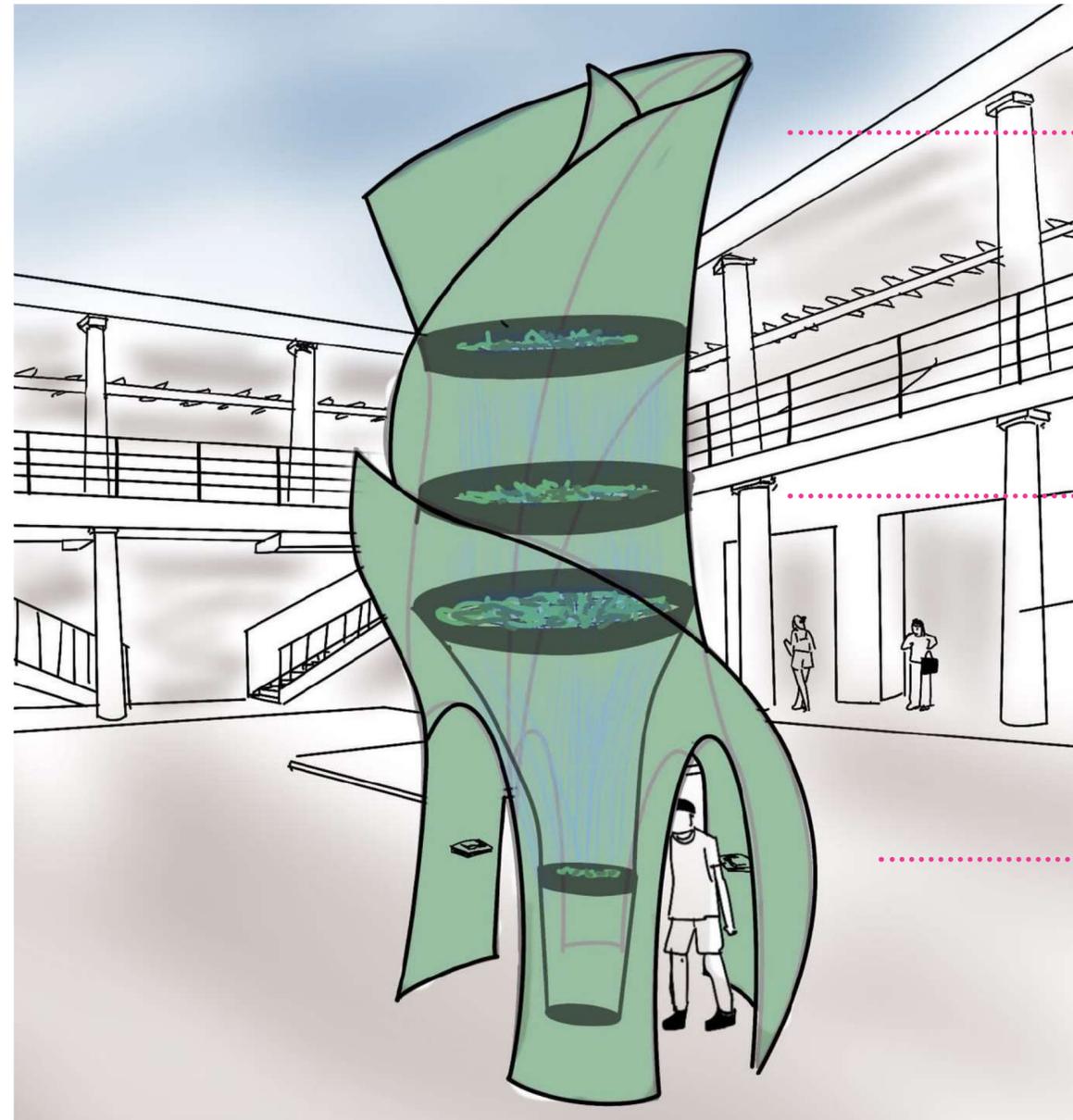
Algae as water purifier



Algae as products



Concept: Lauri-leaf



Water harvester

Algae based structure

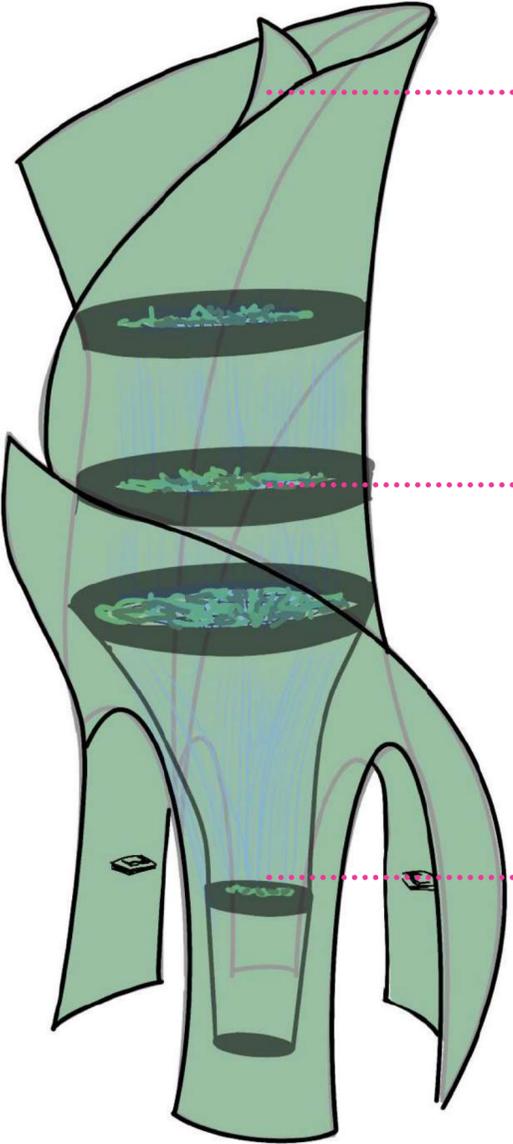
Water collector & dispenser

It is an innovative system that reproduces the Laurisilva's natural phenomenon.

The water is collected by a rain collector placed on top of the structure and by an external wastewater collector which sends water to the top of the Leaf, then it will fall down and will be filtered by the water-purifying algae.

Also, people can enter inside the building and collect water from a new designed public fountains.

Concept: The metaphor of Madeira



**Water harvester/
Tree**

**Algae based
structure/
Forest**

**Water collector &
dispenser/
South of the island**



Concept: Mercado dos Trabalhadores



Why the porch of **Mercado**?

**People from
the island
meet tourism**

**Different
cultures come
together**

**Strong bond
with local
food**

**The heart of
madeira's
community**

**Traditions
merge with
innovations**

Bond with the Scenario

LEARNING BY PLACES

Shift from object for behavioural change to **spatial design for behavioural change**

Raise Awareness about the water's life cycle of Madeira

People start to discover algae as a resource

People can pick up algae at the mercado and recreate the same purification process at home

PEOPLE LEARN FROM PUBLIC SPACE AND INTRODUCE A NEW BEHAVIOUR IN EVERYDAY LIFE

Living architecture

Putting nature's lessons into practise is the main message to share.

From combining **Symbiosis between nature and cities**, to creating a **new living architecture** using **smart materials** and **organic design**, the new structure is the **connection between humans and Madeira**.

SYMBIOSIS BETWEEN NATURE AND CITIES



LIVING ARCHITECTURE

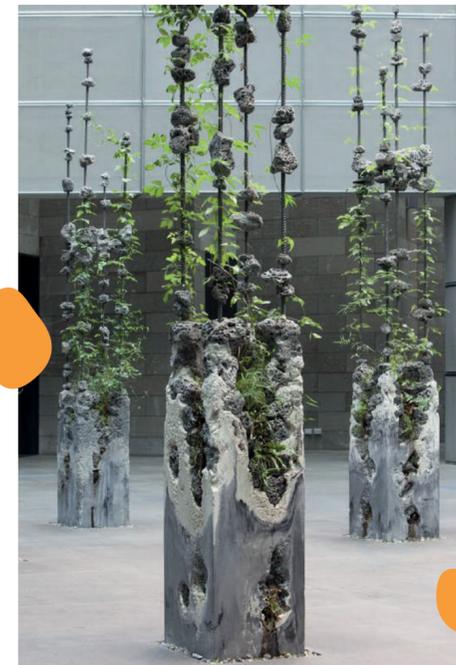


SMART MATERIALS

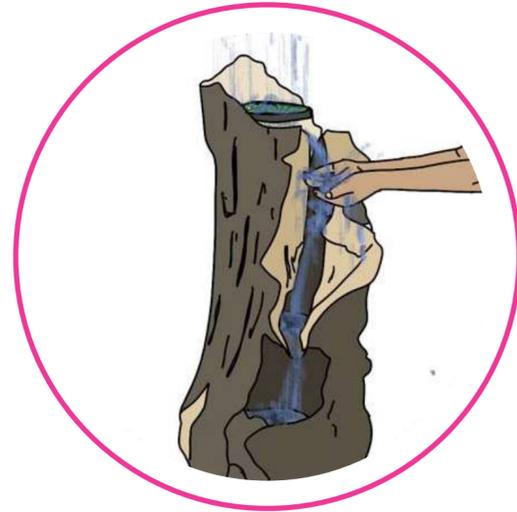
ORGANIC DESIGN



BIOMIMICRY

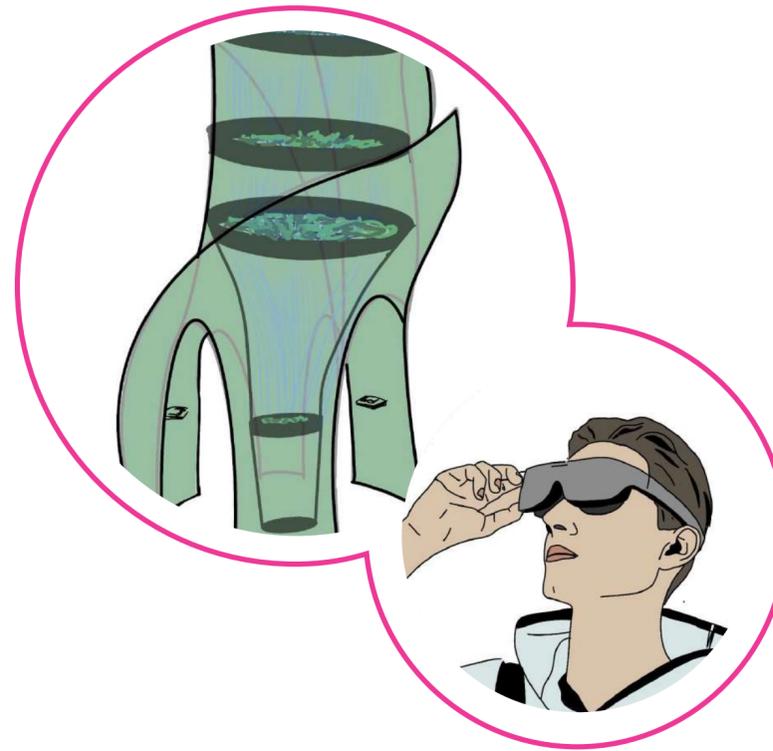


UX&UI



INTERACTION WITH THE BUILDING

Inside the building, **fresh water** will be available to everyone.



DIGITAL INTERACTION

Immersive glasses will be placed inside Lauri-Leaf, **people will be able to learn** about:

- the **natural phenomenon** of the Laurisilva forest and the **water harvesting**
- the **Lauri-Leaf system** (how it works ? what it represents for the community?)
- how it can be **implemented in the domestic environment** step by step?



INTERACTION WITH THE SPACE

Inside the mercado there will be a booth where **people can take algae to recreate the process at home** and booths where **farmers will sell edible algae**.

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