



Faculty of Design

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Mountain Water Management through Systemic Design: The Monviso Institute real-world laboratory

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Mountain water management through systemic design: the Monviso Institute real-world laboratory

Francesca Carraro

Silvia Barbero

Tobias Luthe



**POLITECNICO
DI TORINO**

Dipartimento di
Architettura e Design



MonViso
INSTITUTE
SERRE LAMBOI

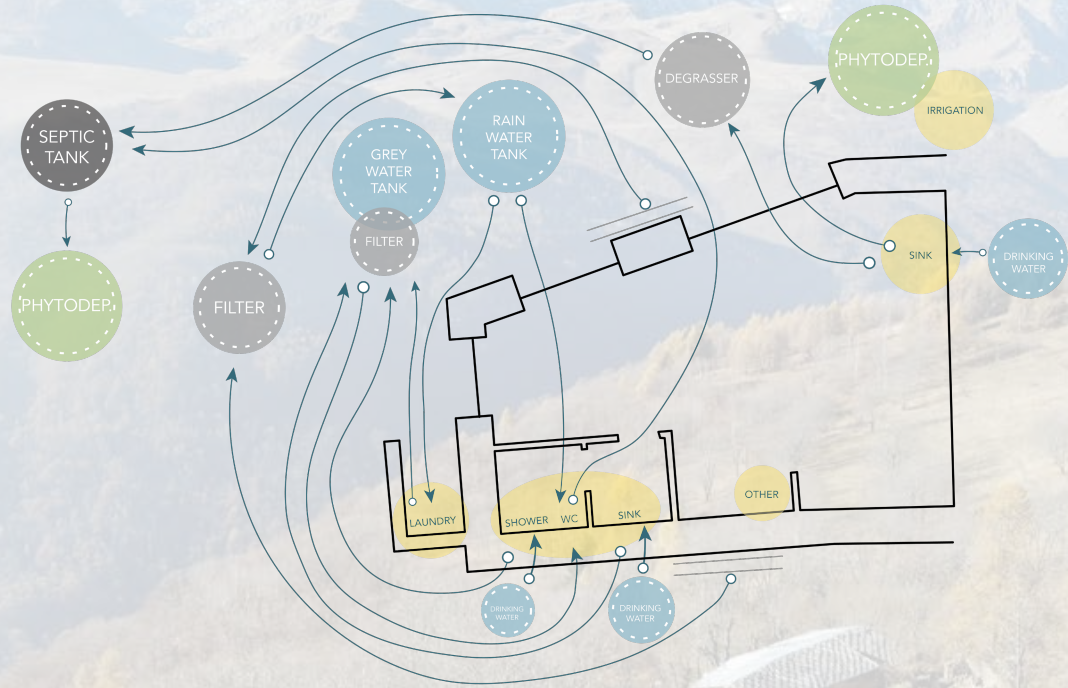
The need for integrated resource management



The need to control water quality parameters



Balance and integration in the conservation and use of biological diversity.





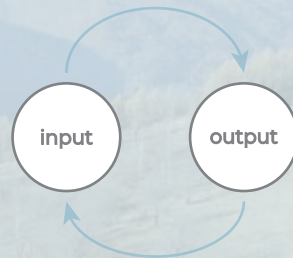
link
with the
territory



natural
rhythms



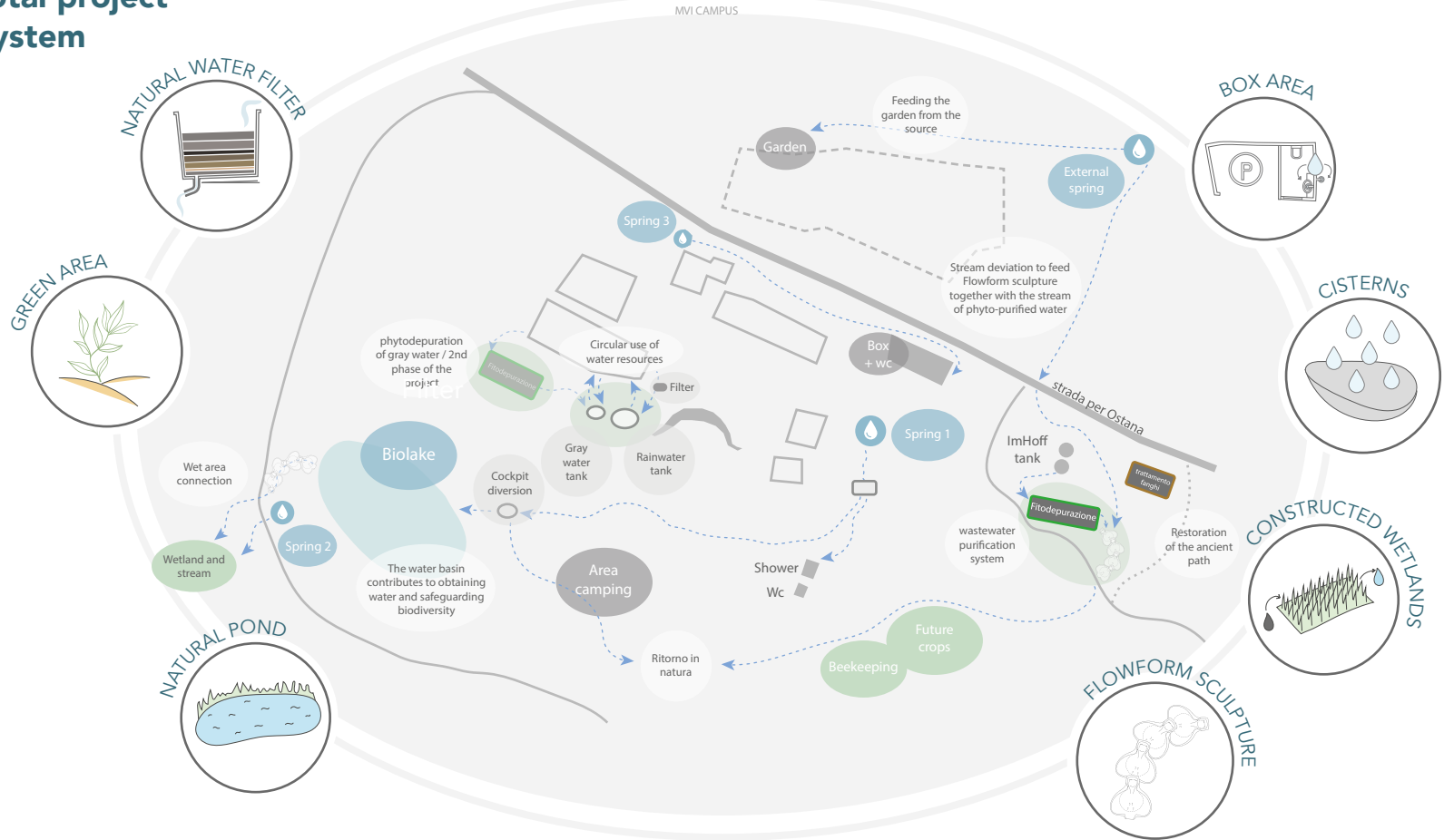
new
relations



input

output

Total project System



MVI CAMPUS

NATURAL WATER FILTER

BOX AREA

GREEN AREA

CISTERNS

phytodepuration of gray water / 2nd phase of the project

Circular use of water resources

Box + Wc

Stream deviation to feed Flowform sculpture together with the stream of phyto-purified water

strada per Ostana

Biolake

Gray water tank

Rainwater tank

Spring 1

ImHoff tank

Fitodepurazione

Restoration of the ancient path

Wet area connection

Spring 2

The water basin contributes to obtaining water and safeguarding biodiversity

Cockpit diversion

Area camping

Shower Wc

wastewater purification system

Restoration of the ancient path

NATURAL POND

CONSTRUCTED WETLANDS

Ritorno in natura

Beekkeeping

Future crops

FLOWFORM SCULPTURE

Gigamap

WATER SUPPLY

- Water supply
- Water supply
- Water supply
- Water supply
- Water supply
- Water supply

MW'S ELEMENTS

- Water supply
- Water supply
- Water supply
- Water supply
- Water supply
- Water supply

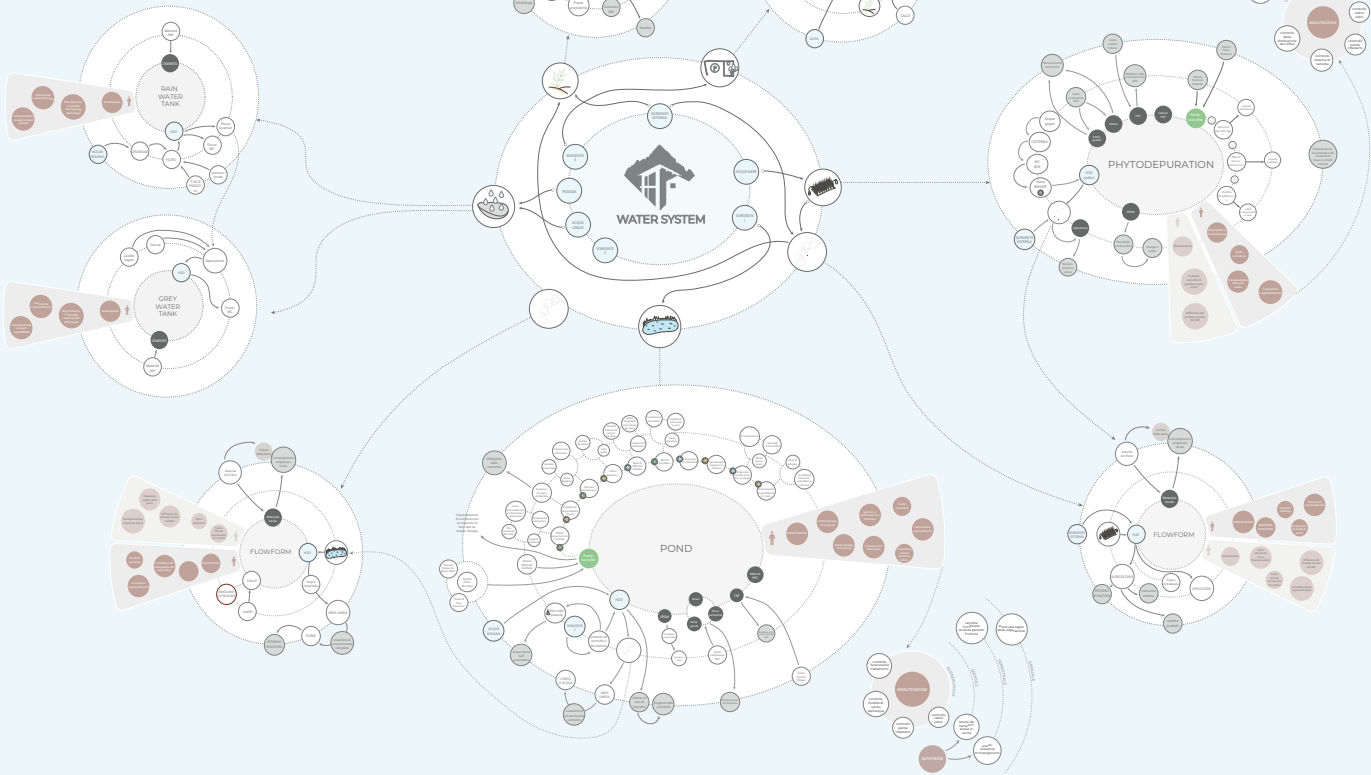
EXPERIMENTAL TREATMENT

PHYSICAL ASPECTS

- Water supply
- Water supply
- Water supply
- Water supply
- Water supply
- Water supply

PUBLIC ASPECTS

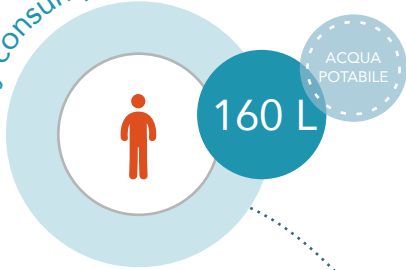
- Water supply
- Water supply
- Water supply
- Water supply
- Water supply
- Water supply



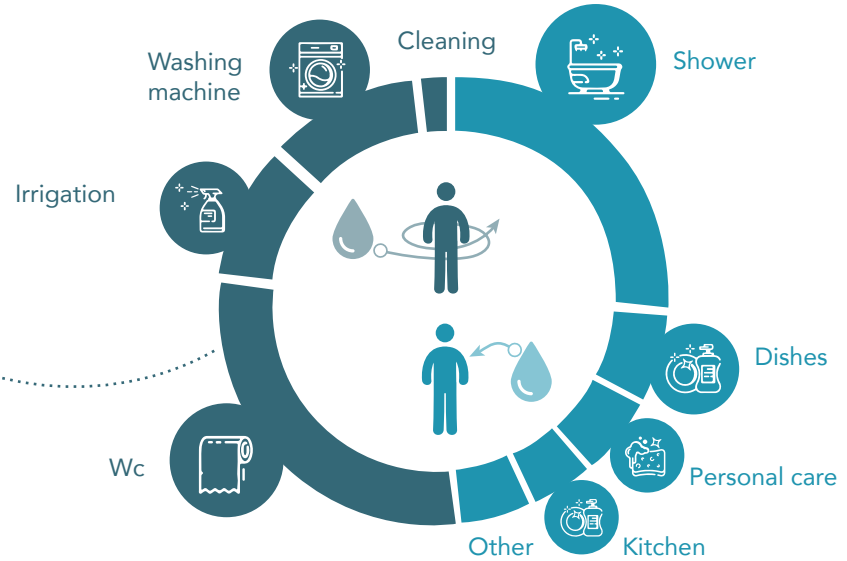
House water system

Water consumption analysis

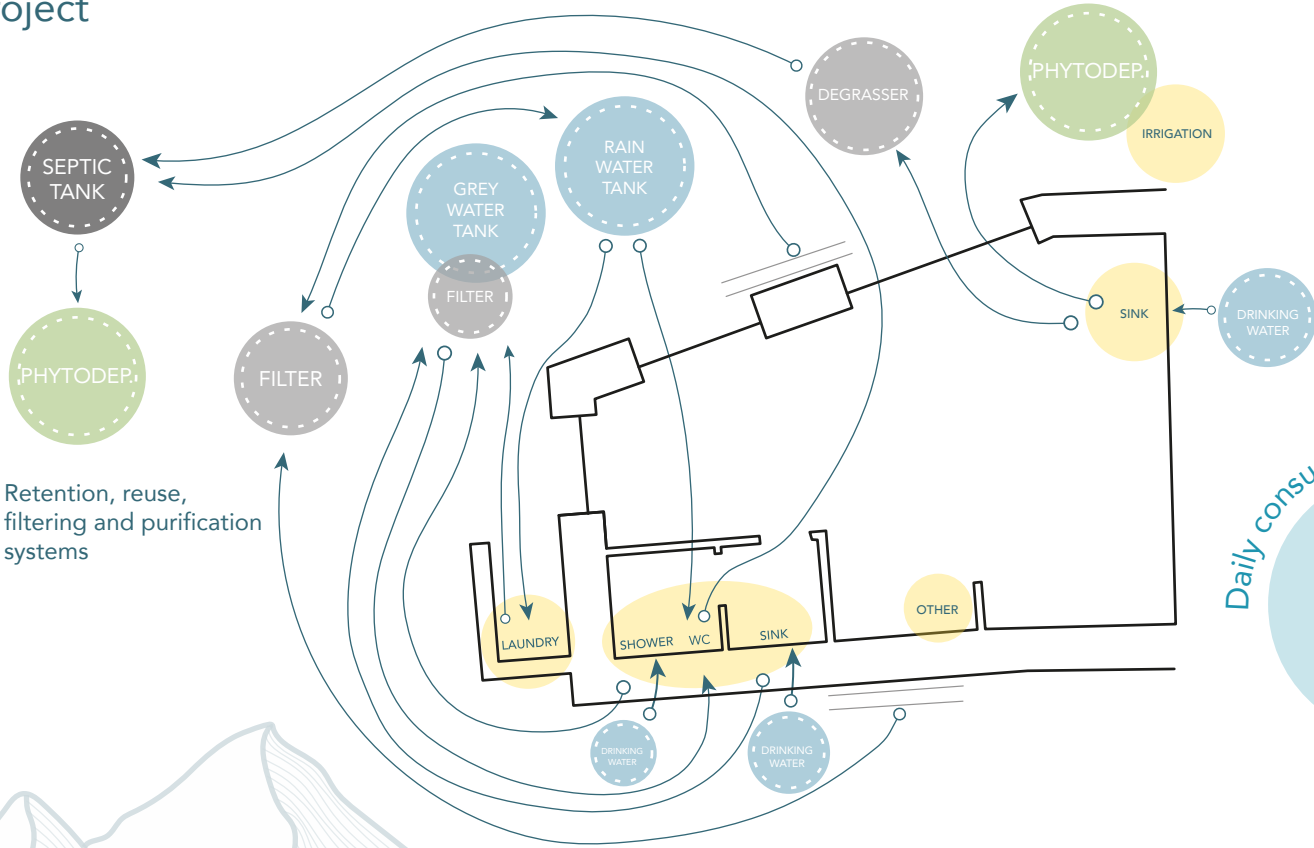
Daily consumption



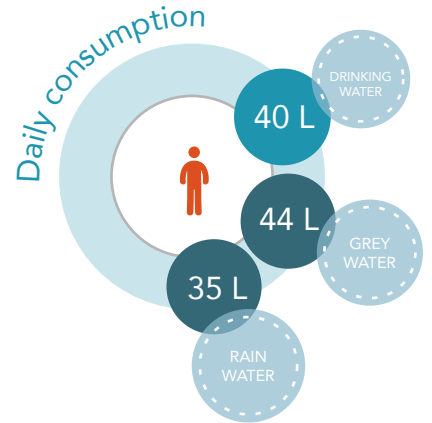
Different types of uses and needs of water



House water system Project

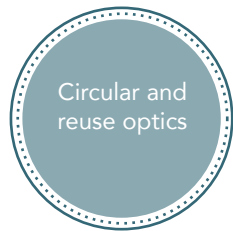
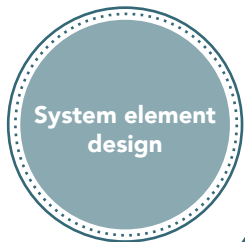


Retention, reuse, filtering and purification systems



Phytodepuration system

Integrated design



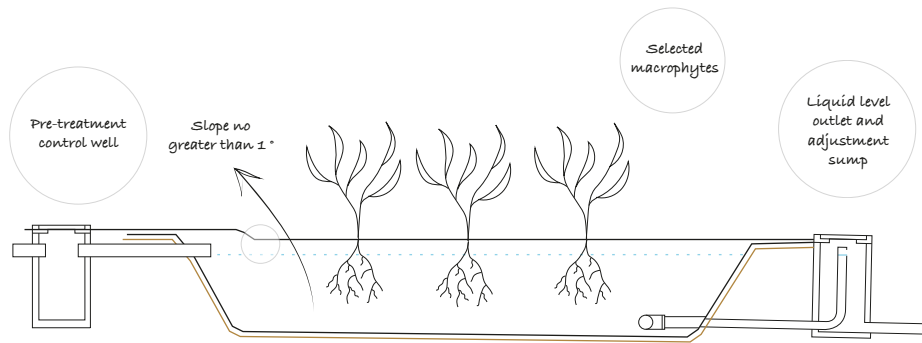
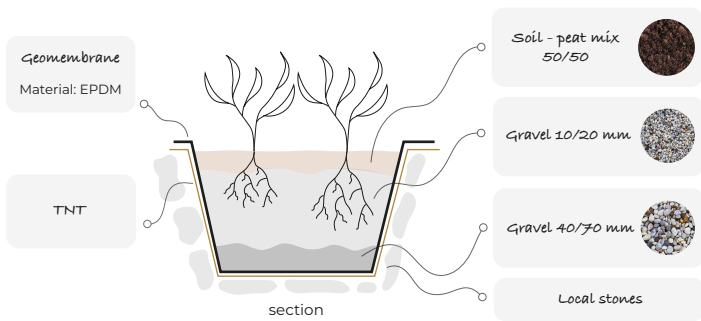
Veronica beccabunga L.



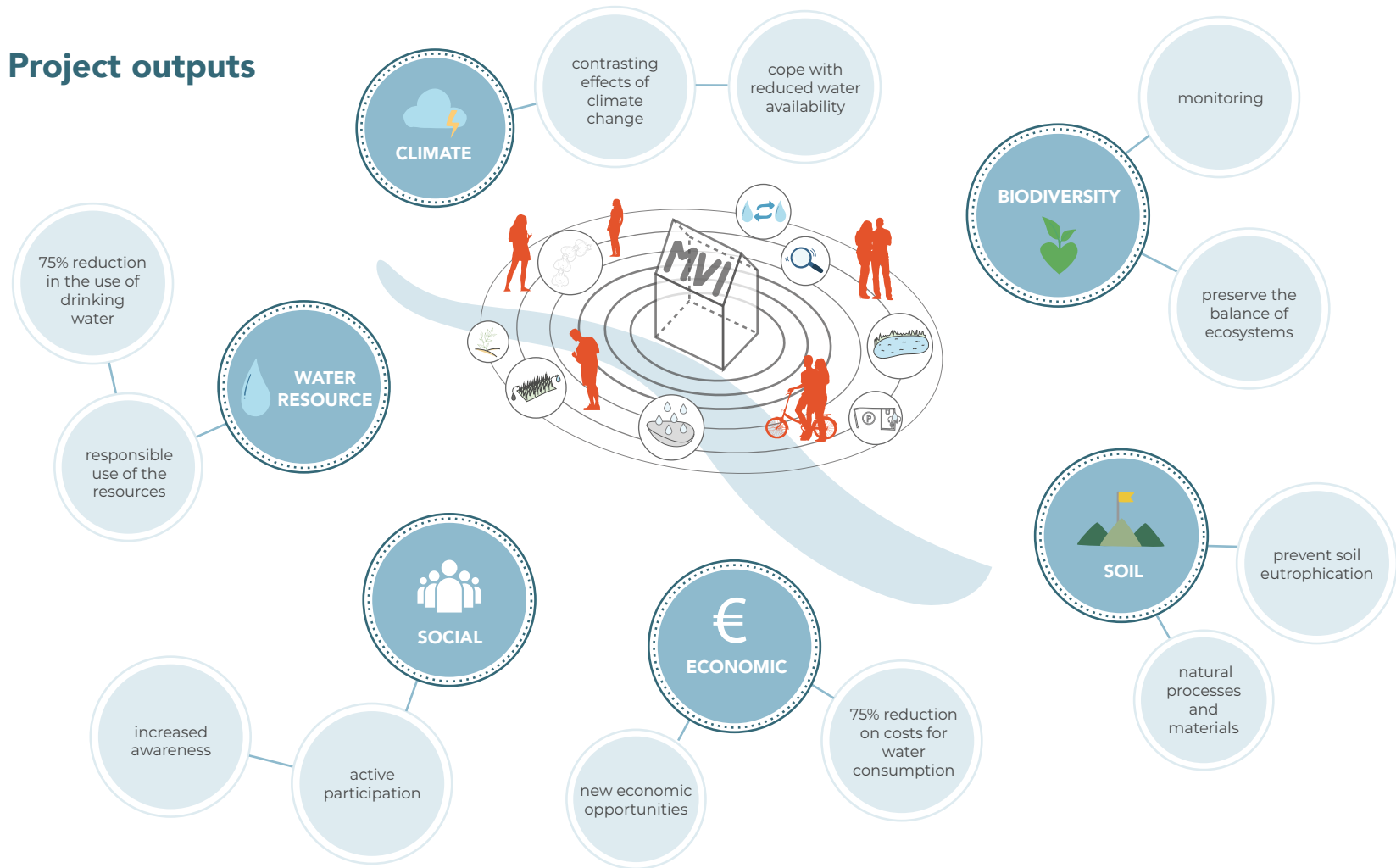
Blitum bonus henricus (L.)



Mentha longifolia (L.) L.



Project outputs



Scalability of the project

Openness to trans-disciplinarity

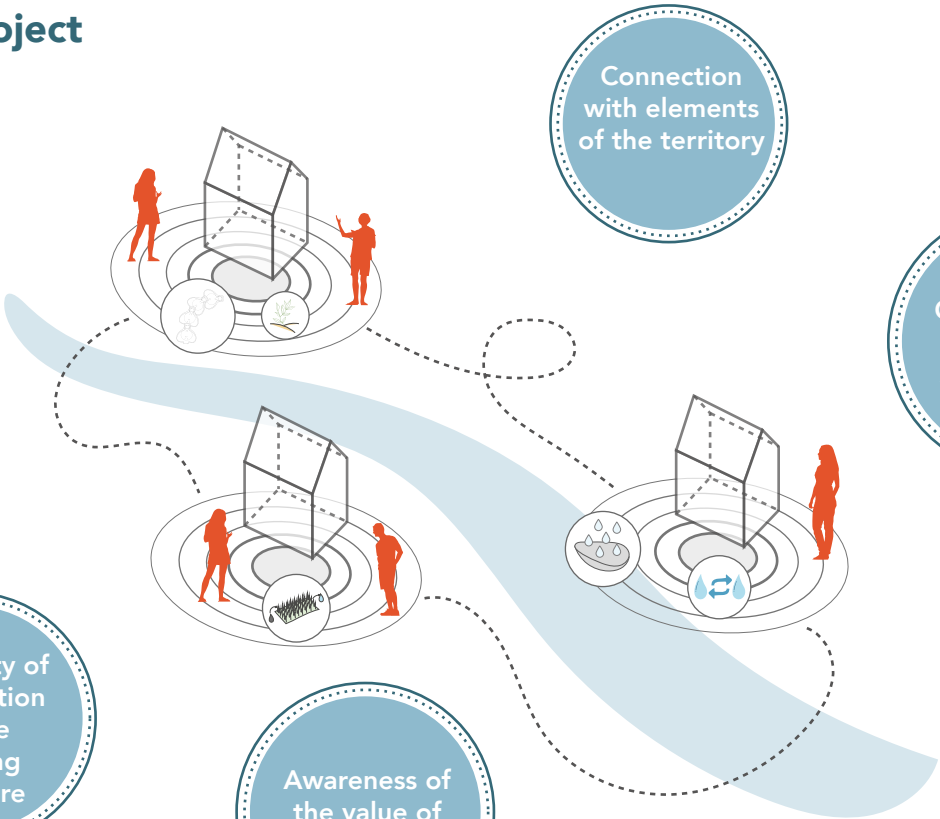
Possibility of intervention on the building structure

Awareness of the value of the resource

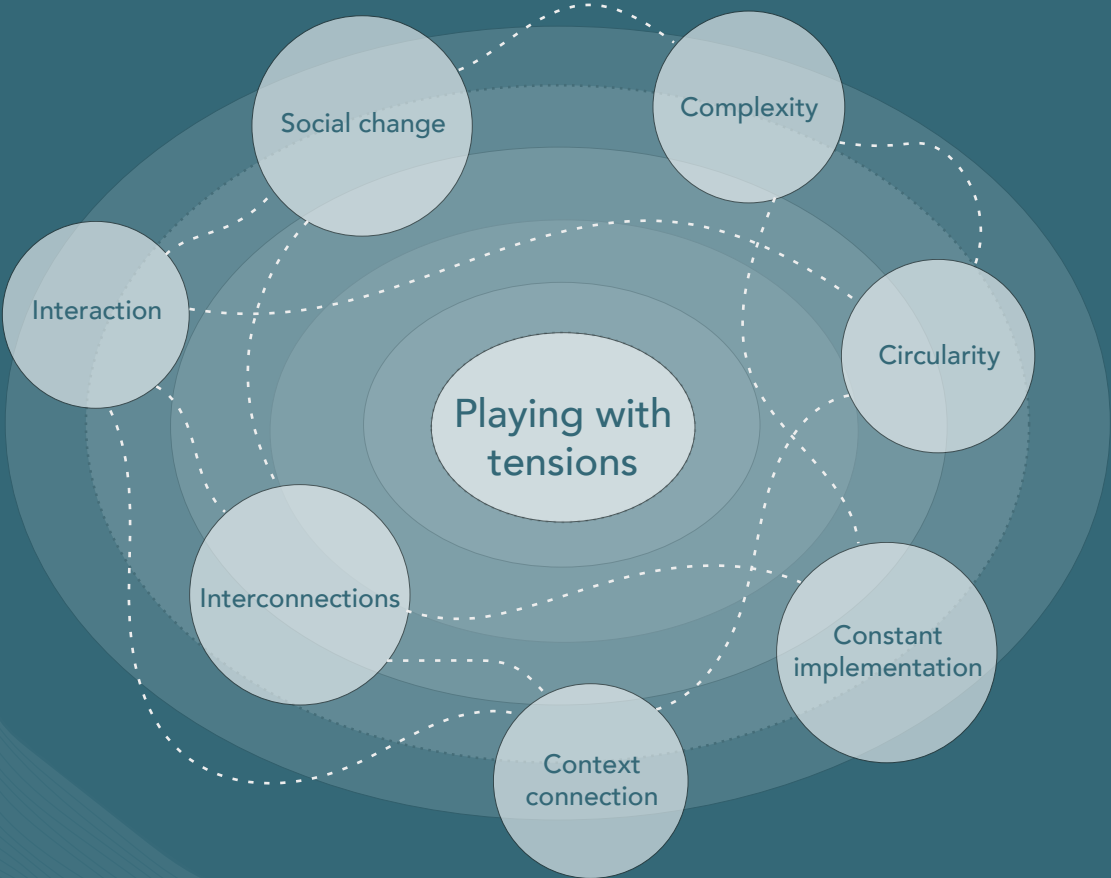
Connection with elements of the territory


Collaboration between stakeholders

Adequate knowledge



The Systemic Design Approach





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Thank you!

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