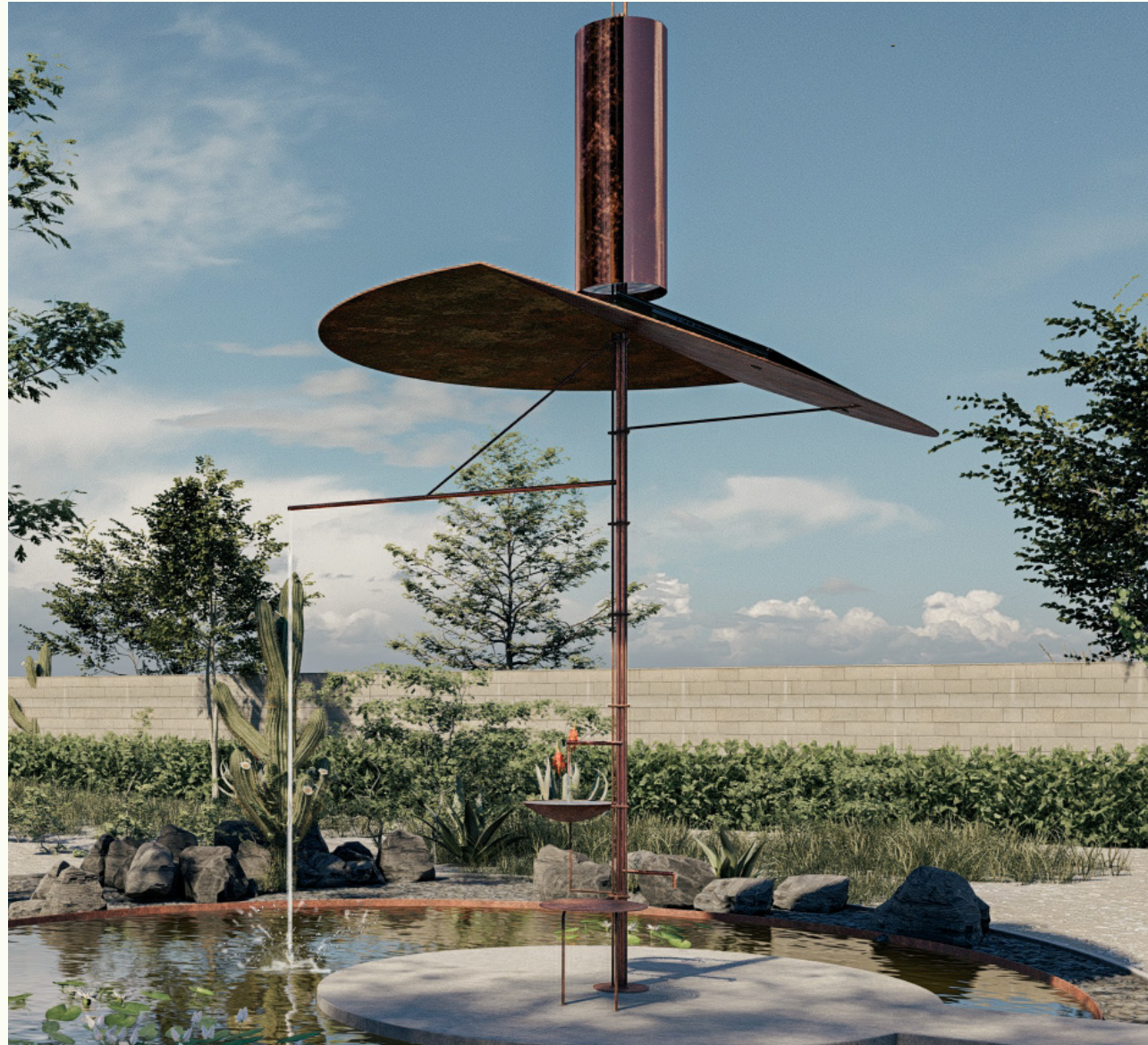


waterspaces

rizoma del agua



Chimalhuacán, México City

2025-2026

the right to drink water

key facts and issues on purified water in Mexico

98%
of Mexican households buy
bottled water equaling to
1,385 liters per year

Mexico is a leading country
in the consumption of sugary
drinks

165 liters
per person per year on
average, equivalent to

459 cans

it is estimated that
21 million
plastic bottles are thrown
away daily in Mexico



image source: Cuartoscuro

on average a low-income
family can spend around

10% of income

purchasing bottled water
and other sugary drinks

despite water shortages,
production of soft drinks & bottled
water is prioritized

production of a
liter of bottled
water **5- 6 liters**

production of a
liter of soft drinks **10+ liters**

the peri-urban area of Chimalhuacán, Mexico City

the context

Population of approximately

700,000

with strong community
organization

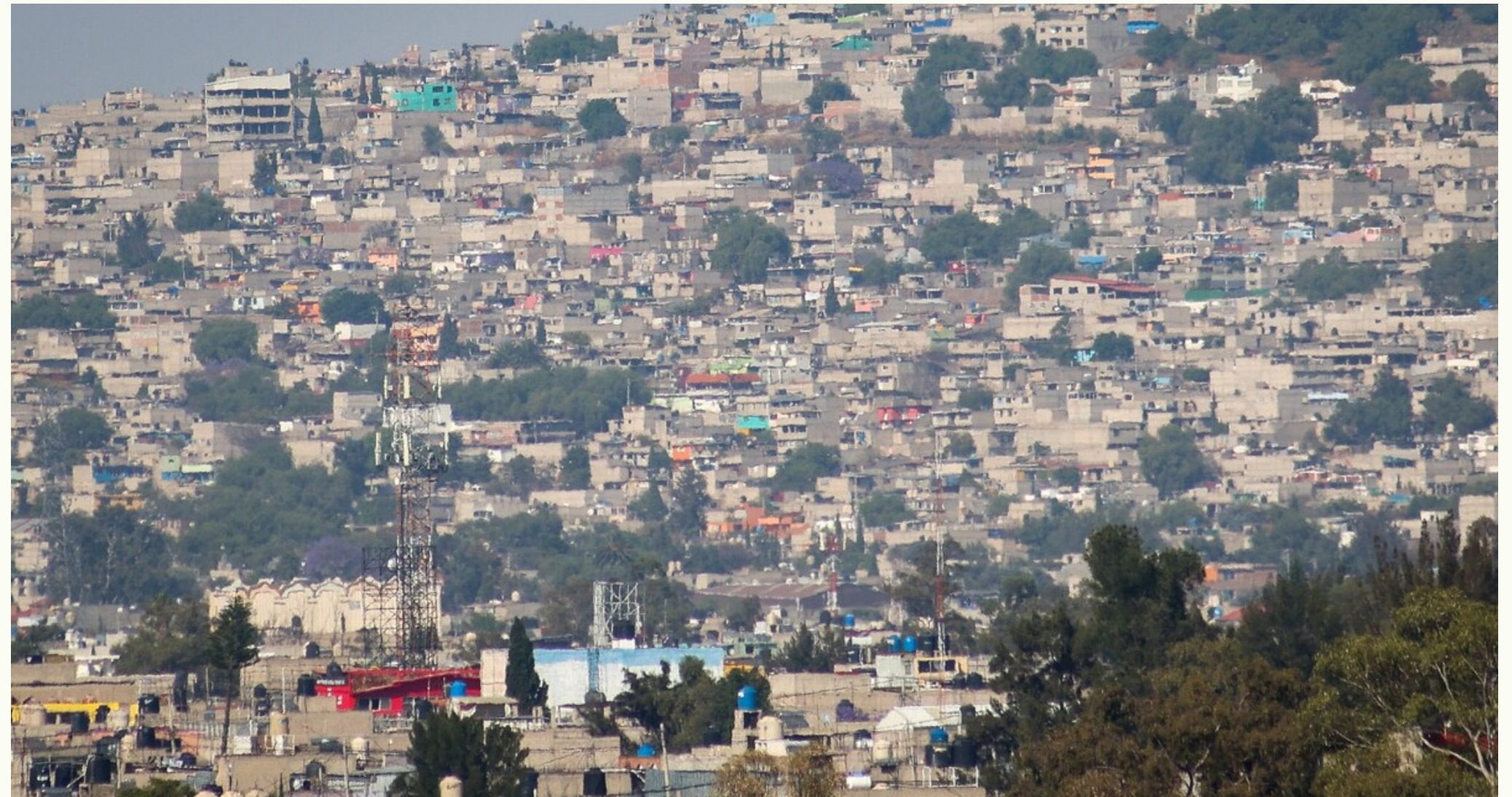


the issue

during 2023

40%

of Chimalhuacán's population
did not receive potable water.
(approximately. 300,000 people)



the opportunity

they have around

**20 Sports
Centers**

neither privately or government
owned, (community administered)

opportunities and potential alliances

Chimalhuacán has a complex history stemming from land policy where “ejidos” (local agricultural land) are owned and run locally.

The *deportivos* (sports / community centers) are an example of community driven public space.

They provide fertile ground for self-managed public infrastructures, such as waterspaces.



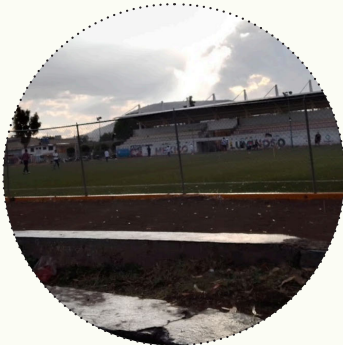
Deportivo el Tepalcate



Deportivo Herreros



Deportivo el Pipila



Deportivo la Lagunilla



map of active *deportivos* Chimalhuacán and surroundings

Active Alliance

Deportivo las Flores



Community and Neighbors

The sports complex is self-managed by the local community and financially sustained through soccer league fees and neighborhood support.

waterspaces

conceptual prototype section

elevated tank

to lower / dispense water
through gravity

solar bombing system

submersible pump powered by
solar panels

dispenser

adapted to serve water directly
or fill bottles

filtration system

5-step filters for purifying water
in accordance to mexican norms

plaza and multifunctional space

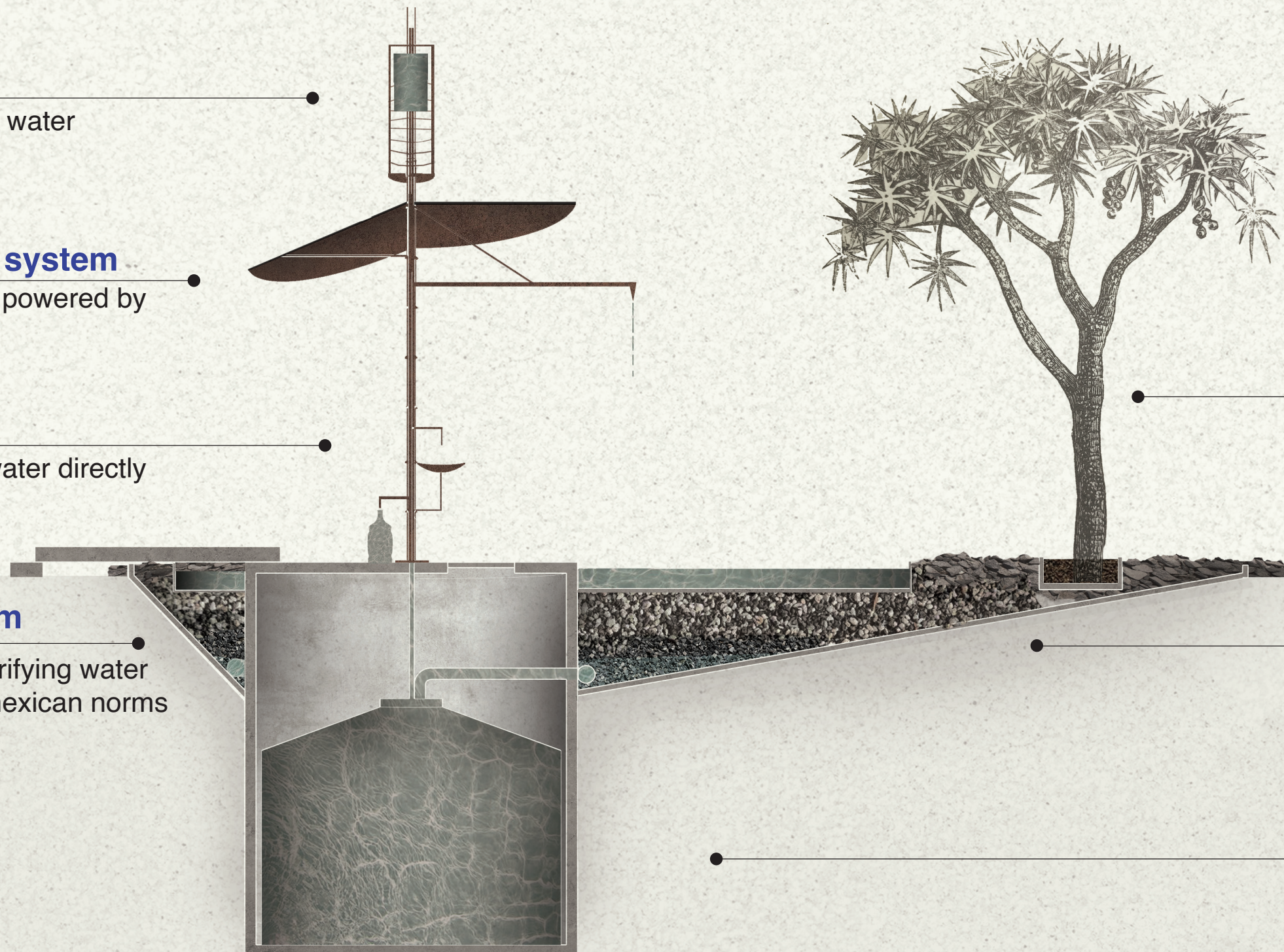
recreation/contemplation
space functioning as rainwater
collector

rain filter

gravel and sand of different
granulometries to pre-treat
water

storage tank

tank with 10,000 L capacity to
ensure annual autonomy





waterspaces

conceptual prototype

ground-level collection

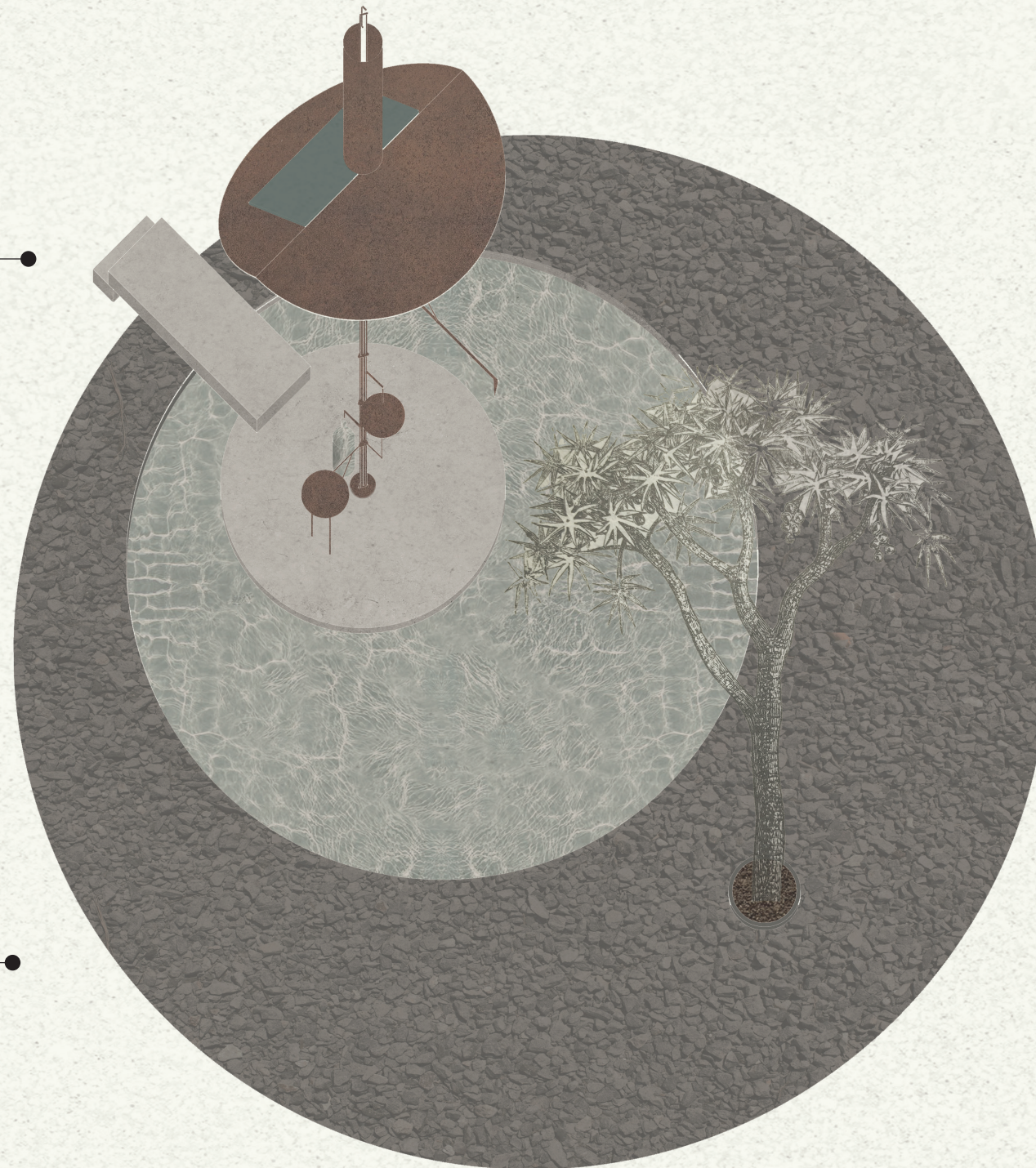
the system is designed to harvest rainwater directly from the ground surface, avoiding the need for large roof structures, while incorporating pre-treatment for water quality

50 square meters

the prototype is designed to collect rainwater from a 50 m² surface, which also serves as a public park.

23,000 annual liters

in the context of Chimalhuacán, this area can harvest up to 23,000 liters of rainwater per year, factoring in a 30% loss.



250 daily cups of water

the collected water will be gradually dispensed, supplying the equivalent of 250 glasses of potable water per day

92,500 annual cups of water

this meets 100% of the annual drinking water needs of 32 people

Cultural Impact

Social Impact

Urban Impact

culture

community workshops on
rainwater management

community

participatory design
process for a site-
specific project

autonomy

annual water security for
local users

scalability

replicable prototype to create
a network of water-collecting
public parks

space

a public place for
contemplation, gathering,
or recreation

sustainability

supports local
hydrological systems and
circular material practices



more than a filter, a public space

Key Facts on Rainwater Harvesting in Chimalhuacán

Water per Person	Daily (L)	Annual (L)
1	2	730

This study is done considering an average daily requirement of 2 liters per person

Demand	Description
Daily	62.00
Weekly	434.00
Monthly	1891.00

All calculations are made considering a 50 sqm harvest area, and the potential to supply 31 people with drinking water year-round.

Since the current initiave proposes water fountains in sports facilities, calculations are made with 500 ml water bottles (~16 fl oz),

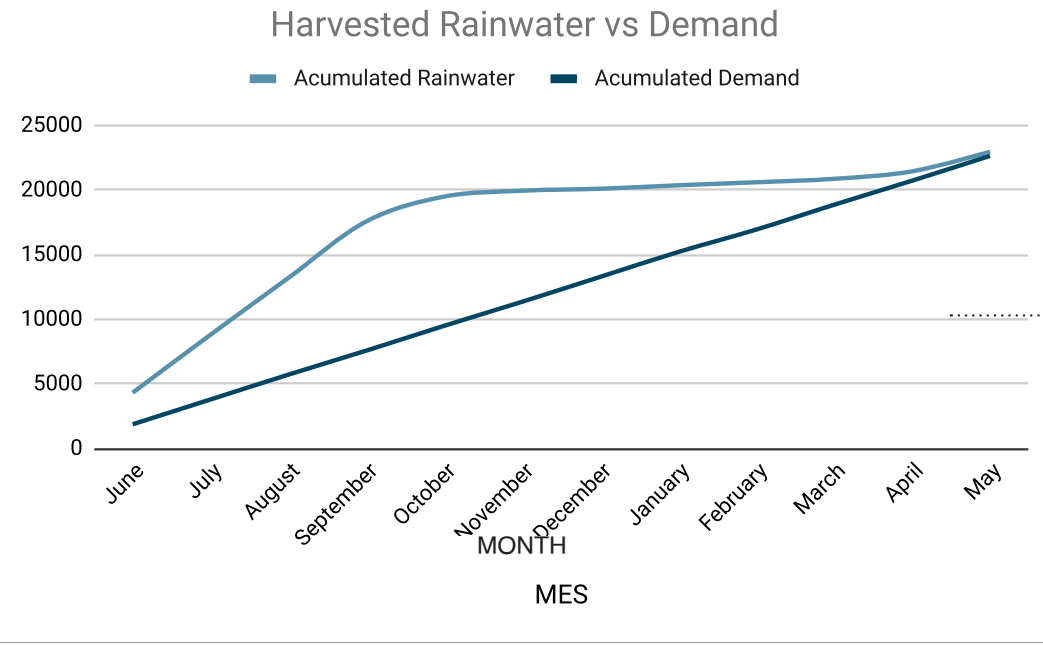
In this case, 50 m2 is enough to provide 125 people with water daily.

	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
CDMX precipitation (mm)	6.2	7.7	12.6	23.4	47.1	117.7	149.9	161.4	142.4	61.3	15	2.7	747.4
Potentially Harvested Liters	217.00	269.50	441.00	819.00	1,648.50	4,119.50	5,246.50	5,649.00	4,984.00	2,145.50	525.00	94.50	26,159.00

Amount of Rainwater that can be harvested annually in CDMX, considering a 30% loss factor

Rainwater Harvesting in Chimalhuacán

Precipitation	Harvested Liters	Demand (L)	% of satisfied demand	Difference	Acumulated Rainwater	Acumulated Demand	% of satisfied demand	Difference	Maximum Difference
122.9	4,301.50	1860.00	231.26%	2,441.50	4,301.50	1860.00	231.26%	2,441.50	10,002.50
128.4	4,494.00	1922.00	233.82%	2,572.00	8,795.50	3782.00	232.56%	5,013.50	
125.6	4,396.00	1922.00	228.72%	2,474.00	13,191.50	5704.00	231.27%	7,487.50	
125	4,375.00	1860.00	235.22%	2,515.00	17,566.50	7564.00	232.24%	10,002.50	
54.7	1,914.50	1922.00	99.61%	-7.50	19,481.00	9486.00	205.37%	9,995.00	
12.9	451.50	1860.00	24.27%	-1,408.50	19,932.50	11346.00	175.68%	8,586.50	
4.4	154.00	1922.00	8.01%	-1,768.00	20,086.50	13268.00	151.39%	6,818.50	
7.6	266.00	1922.00	13.84%	-1,656.00	20,352.50	15190.00	133.99%	5,162.50	
6.7	234.50	1736.00	13.51%	-1,501.50	20,587.00	16926.00	121.63%	3,661.00	
7.6	266.00	1922.00	13.84%	-1,656.00	20,853.00	18848.00	110.64%	2,005.00	
16.5	577.50	1860.00	31.05%	-1,282.50	21,430.50	20708.00	103.49%	722.50	
43.4	1,519.00	1922.00	79.03%	-403.00	22,949.50	22,630.00	101.41%	319.50	



A 10,000 L tank or cistern is capable of storing all the rainwater collected during the year.

The graph shows the annual autonomy of the system by comparing cumulative demand and consumption.



waterspaces

locally rooted, globally replicable