**PINKVISIBLE**

pinkly invisible land art for a changing climate

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**CHAPTER 01**

VISION VIA STORYTELLING

As we walk through the village we gaze into the distance. We see nothing but nature unfolding before us. We turn once, then again, our eyes catch on a pink patch. It begins to spark our curiosity. We start heading towards it. It calls to us. We begin to run. Away from the village. A gentle breeze begins to blow, it caresses our faces.

In the middle of a forest, we stop. We look around and see trees. Real ones—but also strange ones. Pink, not quite real. We’ve reached our destination: this is the spot we saw from the village!

We climb into the hammocks and gaze at the string lights, then close our eyes. All we hear is the breeze whistling, birds flapping, insects buzzing and leaves rustling.

CONCEPT

Trees are essential natural systems composed of three main parts—canopy, trunk, and roots—each with a distinct function. The canopy performs photosynthesis, the trunk provides structural support and connects the upper and lower parts, while the roots anchor the tree in the ground. Together, they form an integrated and efficient ecological unit.

The design of the structure is inspired by the three-part organization of a tree. The upper elements (funnels and solar panels) mimic the canopy by collecting rainwater and solar energy. The central column acts like the trunk, providing support and water transport, while the lower ground-level components function like roots, anchoring the structure securely.

The intervention is minimal yet visually striking. The structures are painted pink to stand out and contrast with the natural environment, while their round, organic forms abstractly reference natural shapes.

The structures form a freely usable system. We added attachment points to the columns at 50 cm intervals allowing for the connection of various elements: light fixtures, hammocks, swings, artificial birdhouses or seating surfaces.

The main goal of the design was to create a space where people can retreat into nature, rest, reflect, observe their surroundings and turn inward.

INSTALLATION

The designed objects were installed at a location that is connected to an existing path leading from the village. The designated area is a clearing that is not significantly shaded by trees: an essential condition for the operation of the rainwater collection funnels and solar panels. The clearing is visible from the village, establishing a visual connection between the community and the site.

The compositional principle is based on a dual grid system: the arrangement was guided by the slope lines of the terrain and directions perpendicular to them. The resulting arrangement appears both designed and natural.

The cross-section and height design were based on the principle of counter-selection, a process well known in the plant world: those individuals survive that gain access to sufficient light, either by growing taller or by positioning themselves to avoid being shaded. We applied this logic to the positioning of the solar panels: the column heights were calculated so that the surfaces do not cast shadows on each other.

**CHAPTER 02**

MODULAR ELEMENT

The system has a dual design objective: the efficient collection of solar energy through panels oriented northward, and the harvesting of rainwater via collection funnels facing the village.

The columns are anchored deep using ground screws under each column. The columns are made of aluminum, a circular profile with 30 cm diameter and 1 cm wall thickness. Their heights vary between 2.6 and 6.7 meters, gradually decreasing against the slope of the terrain. Water collected inside them is directed through an underground pipe system to a central collection point.

The rainwater collection system is composed of funnels made from recycled plastic, bent into a form with a 2.3-meter radius and a 20° incline. These are oriented to follow the slope and face the village, allowing water to flow into the columns by gravity. Each funnel is fitted with debris-catching filter at the top to ensure water purification. The funnels are secured using connectors that support the structure along and perpendicular to the direction of the slope.

The solar panels each measure 1.8 × 1.1 meters with a power output of 450 W. Four panels are mounted atop each column, distributed over 50 columns in total. This gives the system a total nominal capacity of 90,000 W. The solar panels are supported by a lightweight, yet strong aluminum lattice frame fixed to the top of the columns.

ELECTRICITY

The energy system was designed to ensure minimal visual impact and seamless integration with the natural environment. All electrical cabling is routed underground, reducing visual clutter and enhancing durability. The 200 solar panels, with a total capacity of 90 kW, are divided into five groups, each connected to an inverter discreetly placed at ground level next to the column bases. Energy storage is provided by 35 solar batteries—seven per inverter—also located at ground level to maintain a low visual profile. A single transformer regulates and transmits the collected energy to the grid or local users.

Annual energy generation: 90 kW x 0.45 kW (energy generation of used panel) x 1500 kWh (estimated annual energy generation per panel) = 60 750 kWh

WATER SUPPLY

Rainwater collected by the funnels travels through the hollow core of the columns and is directed into an underground pipe network. These pipes were laid in accordance with the natural slope of the terrain, ensuring unobstructed water movement.

The piping forms a grid-like network aligned with the column layout. The pipes are positioned close to the columns, reducing material requirements and system losses. This system channels the water collected at individual points toward a central water tank with a capacity of 12,500 liters, which collects rainwater from all 50 columns. From the tank, the water continues to flow by gravity toward the village, where it is distributed to individual households.

Annual water collection estimate: 0.8 m (estimated rainfall volume) x 825 m² = 660 m³

**CHAPTER 03**

PROTOTYPING AND IMPLEMENTATION

For the prototyping process, we’ll start by designing and testing a small-scale model to make sure all the parts, like the solar panels, water collection funnels, and supporting structures, work properly. This will help us spot any potential issues before moving on to the full-scale setup.

When it comes to the implementation, we want to involve the local community from the beginning. We’ll gather their feedback to ensure the system meets their desires. We plan to host informational sessions to explain the project and its benefits, encourage people to get involved in the installation, and offer training on how to use and maintain the system. Working closely with locals is key to making sure the project is successful and sustainable in the long run.

COST

|  |  |  |  |
| --- | --- | --- | --- |
| ITEM | QUANTITY | UNIT PRICE (USD) | TOTAL COST (USD) |
| Solar Panels (450 W) | 200 units | 78.30 USD | 15,650.00 USD |
| Aluminum Poles | 50 units | 555.56 USD | 27,777.78 USD |
| Trough (HDPE) | 50 units | 33.33 USD | 1,666.67 USD |
| Ground Screws | 50 units | 83.33 USD | 4,166.67 USD |
| Wiring and Connectors | 50 units | 27.78 USD | 1,388.89 USD |
| Water Tank (12,500 liters) | 1 unit | 2,777.78 USD | 2,777.78 USD |
| Transformer | 1 unit | 277.78 USD | 277.78 USD |
| Inverters | 7 units | 777.78 USD | 5,444.44 USD |
| Batteries | 35 units | 250.00 USD | 8,750.00 USD |
| Total |  |  | 67,222.22 USD |

**CHAPTER 04**

OPERATION AND MAINTENANCE

The project was designed as a mainly self-operating system, eliminating the need for frequent supervision. Thanks to the use of durable and weather-resistant materials such as aluminum, the structures are highly resilient and demand minimal maintenance over time, ensuring longevity even in varied environmental conditions.

Basic maintenance involves periodic checks of the integrated electrical components such as solar panels and the associated electrical accessories to ensure proper functioning. The rainwater collection funnels may require occasional clearing of leaves or other debris after big storms to maintain efficient water flow and prevent clogging. These tasks are straightforward and can be easily managed without specialized equipment.

A key aspect of the project’s long-term sustainability lies in its relationship with its users. The system is designed to create a sense of shared ownership and engagement, encouraging residents and possible tourists to participate in its care. By being both low-maintenance and community-oriented, the installation supports sustainable coexistence: functioning reliably while reinforcing connections not only between people and nature, but also among individuals within the community.

**CHAPTER 05**

ENVIRONMENTAL IMPACT

WATER MANAGEMENT AND RAINWATER HARVESTING

One of the key environmental advantages of the system is the collection and storage of rainwater. Rainwater gathered through the funnels is directed via underground pipes into a central water tank. This solution reduces water loss, helps maintain local water reserves, and contributes to preserving the natural cycle of water. Using rainwater in households decreases tap water consumption and reduces the burden on public water supply systems.

ENERGY CONSUMPTION AND SOLAR POWER

The use of solar panels significantly supports sustainability, as the system utilizes available solar energy. The photovoltaic system reduces reliance on fossil fuels, thereby lowering local air pollution. The landscape-integrated installation promotes local energy production, minimizing energy use related to transportation and distribution.

LAND USE AND LANDSCAPE INTEGRATION

The structure is designed with minimal impact, adapting to the natural environment. The columns and rainwater harvesting systems are aligned with existing paths and clearings, thus reducing disruption to natural habitats. The use of organic forms and natural lines helps preserve the beauty and biodiversity of the area.

WASTE REDUCTION AND RECYCLING

The project places strong emphasis on the use of recycled materials, such as HDPE sheets for the water funnels. The aluminum columns and mounting elements have a long lifespan, reducing the need for maintenance and replacement. Such material choices minimize waste and promote a circular economy where resources are used efficiently and sparingly.

BIODIVERSITY AND ECOSYSTEM SUPPORT

Mounting points allow the installation of bird nesting boxes, helping to maintain biodiversity. The diverse potential uses, such as hammocks, seating areas and habitat features make the natural setting more attractive to the local community.

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