



The points at which *Caminos del Agua* meet the *Vía Medular* and the bypass are where the “*Nodos-Plaza*” (multi-functional squares which act as public transport hubs) are located. These are shaded public areas with vegetation, which act as open air transport hubs with cafes and other facilities. The resulting seven *Nodos-Plaza* can be used by different modes of transport, be it public or private, light or heavy, motorized, or pedestrian.

Along with the *Vía Medular* and the bypass, the *Caminos del Agua* free up the neighbourhoods of urban traffic, and boost the town's eco-social rehabilitation. The concept of “*Eco-social Neighbourhoods*” involves a participatory planning process, with urban commuter infrastructure, community facilities, streets with speed limits and improved public spaces. In addition, it requires the development of green infrastructure to allow for the distributed generation of clean energy, urban gardens, the natural purification of sewage and grey water, and the recycling of organic waste.

The project includes smaller-scale parts, including the creation of around forty “*Bio-corners*”, which are platforms that allow the residents of each street to use one of every five parking spaces, for such alternative uses as neighbourhood parks, play areas for children and benches in the shade. New public squares and safe school paths connecting the *Nodos-Plaza* with schools, and a “*Bio-retention Park*” in the upper part of the town, complete the proposed plans.



Arrecife. Capital of the Biosphere Reserve project aims to affect the future of Arrecife by working with three aspects of its ecology, rainwater (water), the sustainable mobility of people living in its neighbourhoods and visitors (human) and public participation (governance). This proposal is added to other ideas and initiatives put forward above. The aim of this first step is to resolve the problem of flooding, by using green structures which can filter and store rainwater at source, thus replicating its natural cycle. This would result in four *Caminos del Agua*, which would additionally act as linear parks. This is the first step to turning Arrecife into an eco-system which is in dynamic equilibrium with the Island and its biosphere. The second step proposes an equal access, overall mobility model, which prioritizes light and public transport. It would consist of two stages, one at an urban level, which involves the bypass and the *Vía Medular*, in order to channel rapid motorized transfers, and another at a neighbourhood level, which would be gentler, more domestic and inclusive. Finally, the third step is the setting up of an urban governance model which puts into practice all the commitments that were taken on board under the declaration of the Biosphere Reserve. In addition, it intends to mobilize community participation in Lanzarote and in its capital, Arrecife.

Juan Palop-Casado. Architect and urbanist.

In charge of the *Arrecife. Capital of the Biosphere Reserve* project (2018-2020).
January 2021, at the start of a critical decade for the Canary Islands and the planet.



LPASstudio

Photo. Fotos Aéreas Canarias.

ARRECIFE

CAPITAL OF THE BIOSPHERE RESERVE

LANZAROTE · CANARY ISLANDS · SPAIN



Arrecife. Capital of the Biosphere Reserve is a project coordinated by the Biosphere Reserve department of the Lanzarote Island Authority. It covers the town of Arrecife and its objective is to align the planning and design of the capital of the Island with the principles to which the island signed up in the designation of Lanzarote as a Biosphere Reserve (Unesco, 1993).

The history of Lanzarote owes a great deal to the effort and ecological ingenuity of its inhabitants in their search for fresh water. The resulting hydrological structures in the form of water tanks (aljibes), rainwater collectors located at the bottom of ravines (maretas), ditches (gavias) and pits dug in the soil (gerias) are magnificent examples of how an arid territory has been adapted for human life and agriculture.

Arrecife is located in the centre of the south-easterly facing coast of the island, in the basin formed by the mountainous spine which runs between the north-eastern and south-western points of the island, where the land runs down to the sea. Historically, the inhabitants have taken advantage of rainwater and water channels, which rainwater run down. However, this ancient infrastructure has been progressively lost and this is shown in Arrecife's de-naturalized city planning. It currently suffers from flooding several times a year.

The plan begins with a series of walks through the town. Assessment carried out on foot has allowed us to discover social and territorial patterns or characteristics which ordinary maps do not show, such as old pathways, water channels, areas which habitually flood and abandoned water-tanks, which make up the fragmented and discontinuous structure of its natural drainage systems.

The aim of the project, inspired by design culture together with the idiosyncrasies of Lanzarote, is to recover old runoffs and reconstruct lost sections, using alternative routes. This has resulted in four pathways which cross the town from north to south and which we have named “*Caminos del Agua*”, meaning water ways.

Caminos del Agua are ecological structures which filter and store rain water at its source. They act like sponges, preventing flooding and the costly processes of water channeling, purification and the discharge into the sea of conventional structures. These sustainable drainage solutions come in the form of four linear parks, equipped with gardens, recreational and pedestrian areas, which connect different neighbourhoods, until they reach the sea.

The four *Caminos del Agua* across the town's main road (*Vía Medular*) and the bypass, the two thoroughfares that run in an east-west direction, resulting in a combination of two types of infrastructure, one green and the other grey. These make up the urban fabric, with four linear parks and two roads running through Arrecife. The promenade, transformed into a pedestrian area, completes the network of walks in the town.





BIO-CORNERS

Meeting places

The *Bio-corners* stake inspiration from some parts of Arrecife, which stand out amongst the arid and homogeneous landscape of the neighbourhoods. One tree and a shaded place to sit provide comfort in urban areas and biodiversity, in addition to being a visual reference point. The *Bio-corners* are an updated version of this, which include additional bio-functions, such as a sustainable drainage system, communal gardens, free internet connection and a compost area. The open design allows people living in the neighbourhood to decide on the final arrangement of facilities.



CAMINOS DEL AGUA

Argana-Cuatro Esquinas

One of the four *Caminos del Agua* starts in the Argana neighbourhood and ends at the Charco de San Ginés. The *Caminos del Agua* are linear parks that act as water channels which capture rainwater at source. They include landscaped areas, pedestrian walkways, cycle paths and recreational facilities. They are connected to the *Nodos-Plaza*, which are located at the former water treatment plant and the bus station on the Via Medular. People living in the neighbourhood can walk there easily in an hour and a half.



NODOS-PLAZA

Naos Port Nodo-Plaza

Of the seven *Nodos-Plaza*, one is located on the sea front, by the port. The proposal includes extending the tree cover along the main road, using artificial trees which include natural vegetation and shaded areas. Each tree can act as a complementary facility, such as a toilet, cafe, tourist information office, bicycle hire, etc. as well as places for people to seat and wait. There will also be a public square with bus stops, taxis and light vehicles.



PLAZA ZONZAMAS

Open air lessons

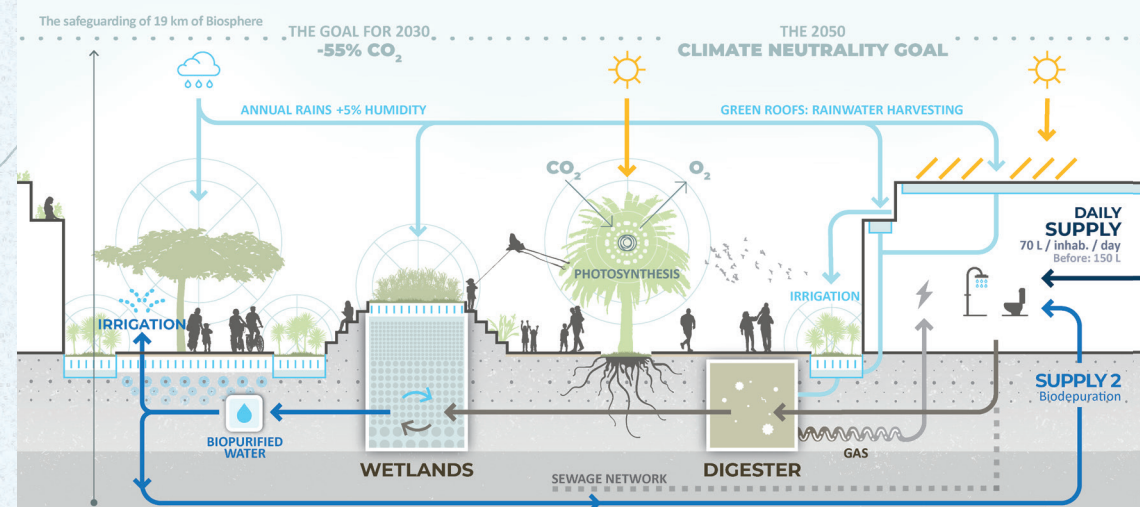
The square is seen as a public area that acts as a meeting point between the neighbourhood and the Zonzamas vocational training centre. Its topography is inspired by volcanoes, and it incorporates lush vegetation and seating. The spaces in between are filled with squares and stages. In the mornings the square can also be used for open air lessons, and in the afternoons it becomes a recreational and relaxation area.



BIO-RETENTION PARK

Argana Bio-retention Park

The *Bio-retention Park*, located in the upper part of the Argana neighbourhood, acts as a catchment area at source of rainwater, thus avoiding runoffs in the lower parts of the town. This green infrastructure, which mimics the principles of nature, is at the same time a park equipped with gardens, recreational facilities, walkways and public areas. The *Bio-retention Park* of Argana also serves as a border, façade and protection for the northern side of the town.



ECO-SOCIAL NEIGHBOURHOODS Sustainable and resilient communities