Country / City	Spain / Seville
University / School	University of Seville (US) / Escuela Técnica Superior de Arquitectura (ETSA)
Academic year	Enabling Master, 2019-2020 / Máster Habilitante, 2019-2020
Title of the project	Raspa sin Apellido
Authors	Ramón Villarreal Salas

TECHNICAL DOSSIER

Title of the project	Raspa sin Apellido
Authors	Ramón Villarreal Salas
Title of the course	Advance Architecture Projects-Enabling Master / Proyectos Avanzados-Máster Habilitante
Academic year	2019/2020
Teaching Staff	Fdez-Valderrama/Ampliato/Larive/Casado/Luque/Segura/Llatas/Ordóñez/Compán/Mascort/Vigil/Hildebrand/Galindo/Falcón
Department/Section/Program of belonging	Enabling Master/Máster Habilitante
University/School	Universidad de Sevilla (US)/ Escuela Técnica Superior de Arquitectura (ETSAS)

CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

Barcelona September 2020

SCHOOL PRIZE

Written statement, short description of the project in English, no more than 250 words

In Poniente Almeriense region in 1963, began the first experiments with "plastic coats" on crops using old structures of vineyards. This led to optimized vegetable production and water consumption. It is currently the area with the highest density of cultivation under plastic worldwide.

However, this causes different conflicts with the environment and landscape. Are mainly highlighted the massive generation of plastic waste and the overexploitation of aquifers to obtain irrigation water. The intervention proposed tries to reinvent the model that best adapts to the climatic conditions known as "raspa y amagado" with the aim of creating a unique space in the landscape where the plastic generated in the area will be recycled and studied through non-polluting processes for use in new experiments with crops.

Finally the new plastic would be used again in greenhouses, but colored being photoselective, to filter certain solar radiation depending on the need of each crop. The strategies that reinvent the current greenhouse model are: a greenhouse skin, the continuous water purification and the energy production.

Thanks the "greenhouse skin" formed by a double façade with dynamic air flows in summer to cool down the envelope and static in winter to store heat, this infrastructure become habitable. The water (from drainage, baths and rain) is moved in a closed circuit through a biological filter to be reused in the building. And finally, thanks to the wide solar collection area the building produces more energy than consumed. The remaining energy is given to the power grid.

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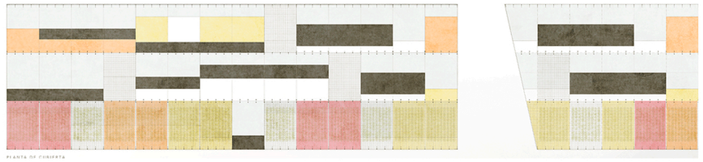
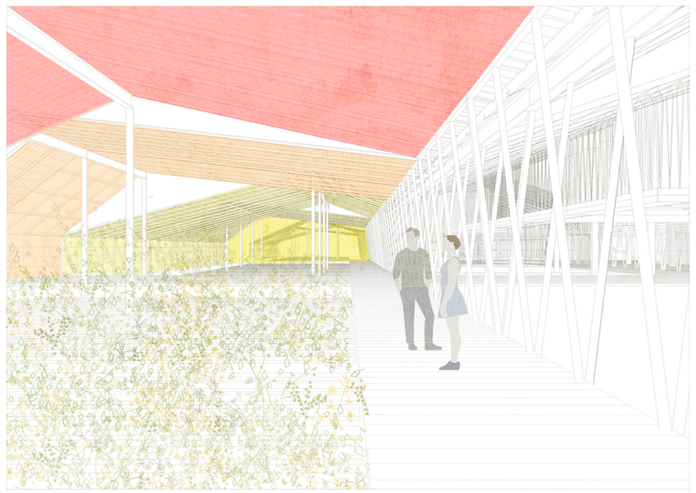
We observe the capture of solar energy, the use of photoselective plastics to filter out certain radiation, and the double skin with water circulation to control the interior temperature. The environmental impact to the landscape is practically non-existent, helping to minimize the greenhouse effect.



Active Envelope. Roof flor.



Three main uses are highlighted in this infrastructure that provide social and economic sustainability. These are the inside of recycled plastic and teaching classrooms. On the other hand we find the cultivation area with colored plastics.

As we can see in the section inside the building we find local several kind of local vegetation. Specifically arundo donax, juncus maritimus, phragmites australis and tamarix.

Between the different species they create an interesting interior landscape and making the building atmosphere more confortable. Also they dont need too much care and they adapt very well to the hight salinity of the ground.