PASAPAS_Projects of Social Action through Participation, Architecture and Sustainability

by simona cerri / 2018-06-13 12:14:55 / España / 11964 / ES

Address 1 - street : 08196 PLAçA DEL COLL DE LA CREU D'EN BLAU, 7 LES PLANES, BARCELONA, España

Population : 1 300 hab
Starting year of the project : 2014
Delivery year of the project : 2018
Key words : sustainability, energy efficiency, participation, community action, empowerment, bioclimatism

1 ha

Proposed by :

arqbag coop

ID CARD

PASaPAS is a platform that promotes in a critical and proactive way the development of projects through an approach from teaching and research, with the aim of providing answers to real needs, generating tools and link people, administration, universities and companies. This project was born in the academic context of the ETSAV (Escola Tècnica Superior d'Arquitectura del Vallès - UPC), promoted by the ARQBAG SCCL architecture cooperative, to create collaboration links between the university and its real territorial environment.

A model is proposed that invests its efforts in learning and education, in order to support and accompany the training of neighborhood residents, complementing their detection and solution processes to collective needs. To develop this proposal, the relations between the different agents involved are reformulated: neighbors, university, public administration and company.

The process of rapprochement and participation with the community of neighbors allows to establish bonds of trust and daily interactions with the different families, with the purpose of making them participants in the detection of project opportunities. Since the university have emerged some of the first proposals that are being developed, becoming a springboard for academic projects that end up materializing in the neighborhood.

These projects aim to encourage the application of new products and market techniques, promoting that the business world becomes another of the fundamental pillars of the project. The role of the administration is to facilitate and ensure that the conditions of the legal and regulatory context are optimal, and even promote the employment of some neighborhood residents who are unemployed.

In this sense, the platform is the support that allows managing the different agents that are incorporated in a transversal way to the transformation process of the neighborhood. Its fundamental function is to identify which projects are being developed, as well as its network of participants, in order to establish what potential synergies could be. Currently, the arqbag architecture cooperative manages this process.

This model of action research projects grows and evolves through the progressive involvement of the different participating agents, which increases as the project progresses.

Programme

- Housing
- Public facilities and infrastructure
- Public spaces
- Others

Project progress

- Delivery phase
- Operational phase

Key points

- Governance
- Quality of life
- Economic development
- Resources
- Energy /Climate

Approaches used

- Agenda 21
- Others

Data reliability

Self-declared

TERRITORY

Type of territory

The project is carried out in the municipality of Sant Cugat del Vallès, in the Les Planes neighborhood. This neighborhood is located right in the geographical center of the Collserola Park, 15 minutes from the center of Barcelona by public transport.

The land where Les Planes neighborhood is currently located was owned by Can Fló. One of the children of the family parceled up the forest land that had inherited. Many of the workers in Barcelona who could not afford housing in the city bought a forest plot in Les Planes, where they informally self-built their own homes.

Individual needs were addressed collectively at that time, through the mutual help of neighbors. Over time, the standard of living and the value of heritage gradually increased, diluting the neighborhood's cooperative identity.

Currently the neighborhood presents a social situation characterized by low economic activity and a high unemployment rate. The construction crisis has had a significant impact on the lives of residents, many of whom worked in this sector. This situation has generated a very unbalanced socio-economic situation in relation to the rest of the municipality, exposing basic needs of the community.

However, through the "Pla de Barris" of the city council of Sant Cugat del Vallès, in recent years there have been strong public investments in the neighborhood, not only in order to legalize the original urban situation, but also to improve infrastructure of the public space.

Climate zone

[Csb] Coastal Mediterranean - Mild with cool, dry summer.

More info

http://projectepasapas.wixsite.com/pasapaslesplanes ; https://www.arqbag.coop/pasapas
https://www.arqbag.coop/prototip-eco; https://www.arqbag.coop/espai-eco
https://www.arqbag.coop/rec ; https://www.arqbag.coop/ambit-pere-grau

KEY FIGURES

Neighbourhood paved surfaces

Neighbourhood paved surfaces : 160 m²

Public spaces area

Public spaces area : 2 400 m²

Public facilities floor area

Public facilities floor area : 1 400 m²

Housing floor area

Housing floor area : 200 m²

Number of residential units

Number of residential units : 6

Public spaces/inhabitant

1.85

Total investment costs (before tax)

Total investment costs (before tax) : 550 000 € HT

Amount of the investment taken in charge by the local authorities

Amount of the investment taken in charge by the local authorities : 425 000 € HT

GOVERNANCE

Project holder

Name : Sant Cugat City Council

Type : Para-public owner)

General description :

The project offers the possibility of bringing its users new ways of managing energy and resources, through a real case study in constant transformation. The objective of the project is to promote a more self-sufficient and sustainable urban model, through the empowerment, involvement, and commitment of the agents that participate in this process of change.

Project management

Description :

Since the beginning of 2016, a dynamisation phase has been initiated through a shared management between the municipality, involved entities, neighbors, and the dynamizing team (arqbag). This shared management is organized mainly through the following bodies: management commission, technical commission and work commissions.

The management committee is the highest management body, meets monthly and has the function of managing the equipment, defining its schedule and calendar, as well as the operating regime. Each agent involved has two or three representatives who are part of the management commission:

- The town hall and the plan house
- Neighborhood, entities and institutions
- The dynamizing team

The technical commission is the transversal body of the municipality that oversees the development of the project. It is made up of members from all the areas involved and is represented in the management committee by the deputy director of citizen participation.

Finally, a work commission is constituted that meets weekly and develops tasks related to activities, infrastructure and communication.

Project stakeholders

Asociación espacio eco Les Planes

Function : Other

The association "espai eco les planes" is constituted mostly by neighborhood residents. Its main objective is to promote the activity of this experimental space, in coordination with the town hall and dynamic team. This body is fundamental for the approach of this project, since a proactive user is necessary.

espaieco@gmail.com

Construction21 company page :

http://espaiecosantcugat.cat/

SOLUTIONS

Espai (e) co

Description :

The "Espai eco" project is defined as a space for exchange and meeting for the Les Planes neighborhood. Its operation is based on the co-responsibility of all the agents involved in the project. It is a point of participation from where the cultural, formative, social, and productive activity is promoted. The aim is to create a space for experimentation and shared learning. A project for the revitalization of the new experimental equipment is developed through the accompaniment and mediation in the process of shared management between the administration and the community. During the first pilot and support year of the dynamizing team, work is being done to define the conditions and bases of this new management model and activity programming. The objectives of this accompaniment are:

- Promote social innovation
- Stimulate new relationships between the community
- Promote new dynamics of exchange of goods and services among the citizens, the entities, the local administration, the universities and the companies
- Bringing research and the academic world to the needs of the neighborhood
- Spread a new life model and programming of spaces based on energy self-sufficiency
- Moderate and promote the Management and Labor Commission
- Activate a transformation process of an underutilized area, but with a very large sociability potential within the neighborhood

The prototype (e) co, located temporarily in the area of the sports tracks "Espai Pere Grau", represents the support infrastructure for the development of this experimental urban equipment.

- Urban project governance
- Citizen participation

https://www.arqbag.coop/espai-eco

Company :

QUALITY OF LIFE

Quality of life / density

An "X-ray" of the current state of the neighborhood (399 dwellings) is made through an architectural prospecting, a social study, and a sanitary analysis. After a first selection through public tender, the first 6 houses to be selected are selected.

The objective is to locate those dwellings that present deficiency symptoms at an energetic level, and that therefore require an urgent intervention for their rehabilitation. In this sense a methodology is proposed that allows a gradual urban regeneration, according to the available resources.

Net density

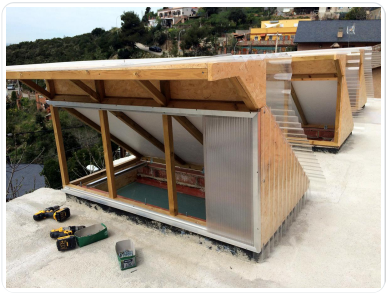
-0

Ambient air quality and health

In June 2014, the REC project (energy rehabilitation of communities) was activated, which affects the problem of **energy poverty in the neighborhood**. The work and management team is made up of agents from different fields and disciplines. The university promotes the project through an Action Research team formed mainly by the members of the collective arqbag. The methodology used is the result of an integral process of research, diagnosis, detection of needs, action, monitoring and periodic evaluation of the results.

SOLUTIONS

REC (energy rehabilitation of communities)



Description :

The health conditions are measured by monitoring each dwelling to extract **temperature, humidity and air quality data**. This study is completed with structural and constructive analysis, identifying possible sources of pathology, and with a series of user surveys (RELS methodology), additional information is collected on the use of their own homes. This information is contrasted with the experience of the studies carried out by the city council.

In the health field, the local nursing service provides information on the most serious cases identified in the neighborhood, warning of the most urgent needs of some families.

The interventions are developed through several micro actions and focus on **energy rehabilitation and the improvement of housing habitability**: thermal insulation on the roof, increased passive solar uptake, watertightness in carpentry, or extraction systems and control of the foul air.

The constructive solutions are designed taking into account two fundamental parameters: the economic resources for the construction materials, and the available human resources (6 months of Occupancy Plans: neighbors in situation of unemployment in the same neighborhood). In this sense they are solutions that are executed with materials and simple geometries, but with a high load of hours of execution.

- Air quality
- Other

Company :

ECONOMIC DEVELOPMENT

Local development

To contribute to the development and promotion of the local professional activity, the following is proposed:

- Use of occupation plans for neighbors

- Address the problem of unemployment in the neighborhood

- Professional recycling adapted to the current market

- Training in materials and construction solutions in energy efficiency and materials with low environmental impact

- Work and improvement on the neighborhood itself

% of public spaces

24

Circular economy

The Space (e) co works thanks to the involvement of all the users, a system similar to the "time bank" has been activated: the neighbors who want to develop activities or projects contribute their bit by involving themselves in a commission, offering timely support or contributing the material needed.

Everything that has been achieved up to now has been possible thanks to the sum of several efforts. The challenge is to unleash dynamics and initiatives that are

capable of generating new activities and involving more people.

SOLUTIONS

Occupancy plans PO

Description :

For the development of some of the projects proposed in the neighborhood, it has opted for the **labor reinsertion** of the neighbors in unemployment situation. For this the City of Sant Cugat has provided Occupational Plans (PO) to develop work tasks within the framework of the "Pla de Barris". On the other hand, the Generalitat de Catalunya has contributed a PO that coordinates the execution of the interventions in the case of the REC project.

The POs are awarded to **people in the same neighborhood who are unemployed**. In previous phases of the project, theoretical and practical training for POs is included. In this space, the POs begin to work with the techniques and constructive solutions that will be applied in the different projects on which they work.

The will of this initiative is on the one hand to generate employment, and on the other to offer a recycling in terms of new constructive solutions within the field of energy efficiency, use of materials with low environmental impact, as well as new ways of working according to the current market needs.

- Circular economy
- Other

http://espaiecosantcugat.cat/?page_id=280

Company :

SMART CITY

Smart City strategy

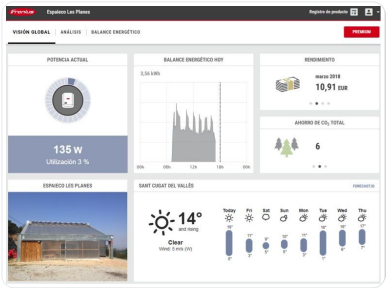
The "espai (e) co" is a tool to experience processes of knowledge transfer.

To be able to control the balance between production and consumption of the photovoltaic installation, and to have the necessary information to make decisions regarding the use of the building according to the circumstances of each moment, it is of great importance the visibility and access to information of the system in real time by the users, and thus be able to achieve a better management of the energy.

This knowledge will allow to evaluate how the installation responds, depending on the activities carried out, the production that has, the regime or periodicity of use, the electrical devices used, etc.

SOLUTIONS

https://www.solarweb.com/



Description :

It is of great importance that users become aware of all this knowledge to harmonize the correlation between consumption and production, make forecasts and self-organize.

In order to know the consumptions that are in the prototype and also the photovoltaic production that are generating the plates in each moment, the installation of the batteries has two applications (web + mobile) to be able to visualize in real time the different data on the operation.

At the same time, this recording and collection of data allows for a periodic monitoring and balance to have readings with a broader temporality, and to analyze different indicators, size and quantify the savings and potentials in self-management of energy.

- Infrastructure
- Digital services

https://www.victronenergy.com.es/

RESOURCES

% Paved surfaces

2

Soil management

The project takes place in an underutilized urban space. This portion of soil was colonized by vegetation, in an area of difficult access. However, all the houses that face this old urban layout have a direct exit. In this sense, it is intended, on the one hand, to recover a pedestrian urban connection at neighborhood scale,

and on the other hand, to favor the appropriation (and awareness of care) of these spaces by neighbors.

Waste management

Large amounts of waste are generated within the construction sector. This proposal reflects on the limits that define a material as "waste".

- Recovery and potential of "residual" material

- Reflect and rethink the waste management centers

- Prolong the useful life of a material

SOLUTIONS

Ruta RINGO RANGO

Description :

In the neighborhood of Les Planes there are a series of roads, known as Ringo Rango, with a steep slope and difficult access. Formerly used as a shortcut to shorten the routes on foot. The Ruta Ringo Rango project, an initiative of a team of 25 students within the PUTS Workshop of the ETSAV, proposes to recover these roads, enable them for their use, and verify the viability of the project in reality by building a staircase in one of the Ringo sections. Range, with the aim of improving the neighborhood's pedestrian mobility and recovering some public spaces. Concrete specimens have been reused - an example of waste generated in the field of construction - to configure the rungs. Thanks to the containers and transport facilitated by the Sant Cugat del Vallès City Council and the Applus company, more than two thousand test tubes could be selected, transported and collected in the plot. The team is organized into five committees: management, financing and logistics, design, construction and communication. The students, together with the support of neighbors, the Sant Cugat del Vallès City Council and the collaboration of companies make it possible for the execution of the project tend to zero cost. Throughout the execution and development of Ruta Ringo Rango and with the aim of dissemination, meetings were held with neighbors, events were organized in both the Les Planes neighborhood and the university, the initiative was presented at the Consell de Barri, we spoke with media, the web was launched where you can see all the phases and evolution of the project, we participated in the exhibition "Pilot Floor. Barcelona - Medellin" of the CCCB and a summer workshop was held for students. One of the activities that has received the most response and interaction is "Paint a test tube". It was organized twice taking advantage of festive days of the neighborhood and synchronized with the Festival Commission of the same. Both children and adults approached to give color to a test piece that later would be placed on one of the steps of the stairs.

- Waste management
- Citizen-awareness

http://rutaringorango.weebly.com/

Company :

Company :

Company :

Applus

Description :

It was possible to recover a large number of concrete specimens for the realization of the project. The management of this "waste" involved the selection of each of the test pieces, and their manual loading to the containers that were then taken to the project plot.

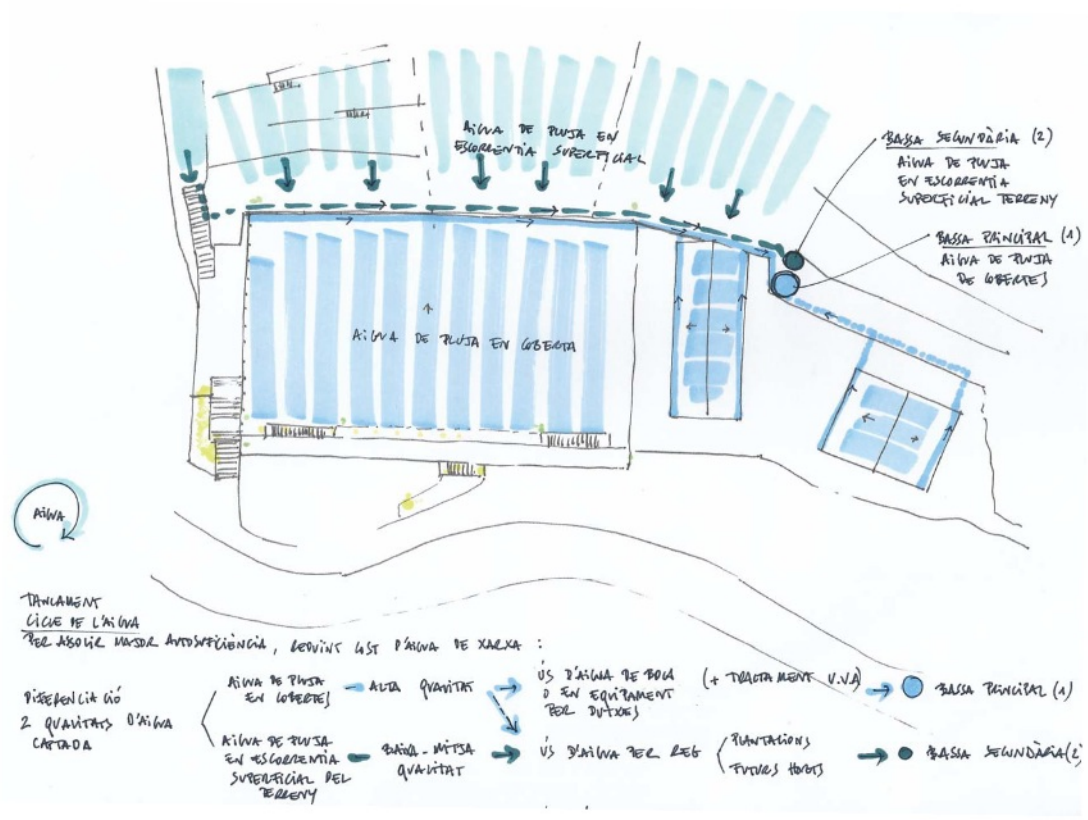
- Waste management
- Citizen-awareness

BIODIVERSITY

Biodiversity and natural areas

The project raises the coverage of 1200m2. The sports courts are located on the northern slope of the mountain, in front of the border with the Collserola natural park.

The roof is placed inclined to counterslope of the land to minimize the impact on the neighbors and facilitate the collection of rainwater from the highest point. The channeling of rainwater is carried out through the land itself through a drain line to the accumulation tanks. This drainage channel is located in the existing retaining wall with the objective of reducing the thrust caused by runoff water.



The vertical grid enclosures facilitate the support for the growth of the new vines. Vegetation points are also incorporated with few water requirements in the stone gabions that work as a counterweight, which in turn collect the humidity from the ambient air. The moisture that transports the air condenses when touching the cold stone, and is collected through a waterproof sheet (tray type) arranged in the lower part of this large "stone backpack". This represents a passive irrigation reinforcement for the plants located at this high point.

SOLUTIONS

Cover space Pere Grau

Description :

This project is located in the old sports courts of the neighborhood, currently "Espai Pere Grau". The bases of the carried out with the representatives of the different neighborhood associations and neighborhood groups. Based on this process, the bases and parameters that define the perimeter urban cover and conditioning project are defined.

- Light cover for sun protection and rain on the entire track

- Open structure, without vertical enclosures

- You have to foresee future actions in the field: possible stands, extension of the current building, dressing rooms, etc.

The structure tries to optimize the preexisting elements as much as possible. It is proposed to take advantage of the two existing retaining walls as foundations. In order to get the minimum bending moment the cover flies to the other side, where a large counterweight of gravel with vegetation hangs.

https://www.arqbag.coop/coberta-pistes

Company :

ENERGY/CLIMATE

Climate adaptation, resources conservation, GHG emissions

The prototype (e) co part of the premise of reducing to the maximum the energy requirements of the living spaces to achieve comfort. A strategy is proposed based on the use of intermediate spaces, of passive functioning.

The prototype is interpreted as a set of interrelated systems, and is constituted by two complementary constructive systems: interior wooden modules, and a large metal enclosure that comes from the world of the agricultural greenhouse.

The modules of laminated wood, thermally insulated and with good air-tightness features, are the spaces that guarantee greater comfort features. However, the greenhouse structure is equipped with a series of devices for solar collection, cross ventilation, shading systems, photovoltaic production, etc. that allow to optimize the conditions of the external climate. By managing the microclimatic conditions of this intermediate space, long comfort times are achieved throughout the year, at a virtually zero cost.

Energy sobriety

At the level of passive energy behavior, this equipped envelope modifies its behavior depending on the time of year. In cold seasons, it functions as a greenhouse space that heats its volume of indoor air through the greenhouse effect, and remains practically closed. This strategy makes it possible to use it for a large part of the day, but towards night time the temperature starts to drop. Even so, it incorporates thermal inertia in the ground, which allows it to prolong this comfort time.

On the other hand, in hot weather the greenhouse has sliding openings in the facade, shading meshes, motorized windows in the facade and ridge windows. In this way, the volume of internal air is dissipated through cross-ventilation and zeniths per roof, converting the greenhouse into a shade house.

For all these scenarios, the devices of this microclimatic skin are governed by an automatic system (not yet implemented) that receives information from the meteorological station, and according to a defined use protocol, activates the different systems to optimize the overall behavior of the envelope.

Energy mix

The prototype combines the reduction of consumption to achieve habitability and comfort conditions through photovoltaic electricity production. The photovoltaic panels, in addition to producing electricity, boost the ventilation of the greenhouse air, since its location in a high point favors the aerial ventilation in summer through the ridge window.

All electrical production is stored in an adjoining battery installation, which allows self-sufficiency and complete "disconnection" of the experimental prototype. In this way, and through continuous monitoring of the production - storage, the users of this space must manage the energy by adjusting it to the planned activity schedule.

The main objective of this approach, beyond energy self-sufficiency, is to empower users to be aware and responsible in the management of energy. They must learn to optimize and govern the different passive and active strategies of the prototype.

Total electricity needs of the project area /year

Total electricity needs of the project area /year : 4 019,00 kWh

Total electricity production of the project area /year

Total electricity production of the project area /year : 5 536,00 kWh

SOLUTIONS

Prototype (e) co

Description :

The prototype (e) co, currently "espai eco" of the "Les Planes" district, represents the "third life" of the infrastructu architecture school (ETSAV-UPC) in the framework of the Solar Decathlon Europe international competition held in Madrid in 2012. It currently functions as an experimental public facility with shared management between the local administration, neighborhood entities, and the University of Sant Cugat del Vallès (Barcelona).

- Climate adaptation
- Renewable energies
- Low-carbon materials/ infrastructure

https://www.arqbag.coop/prototip-eco

Company :

BUILDINGS

Buildings

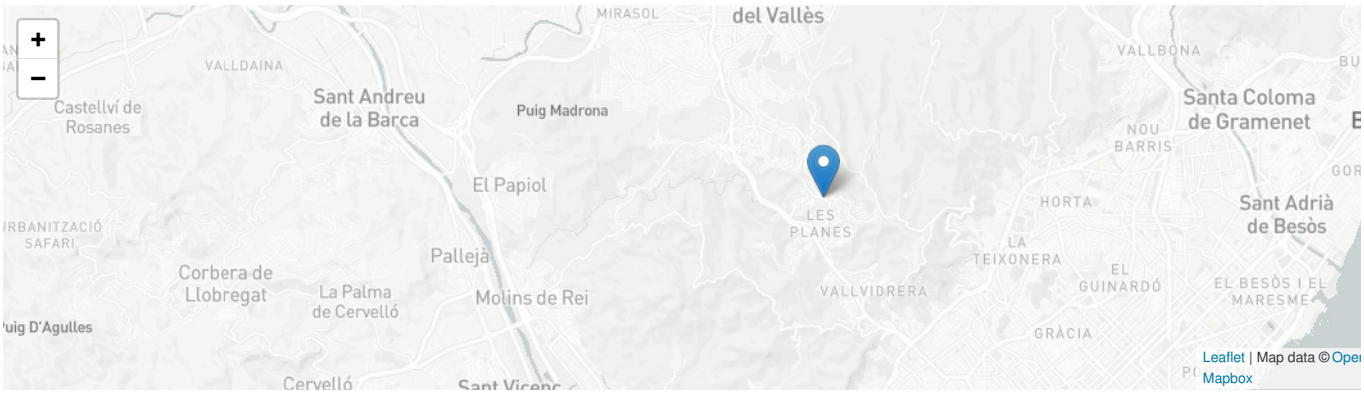
Within the framework of the REC project, and for each reformed house, a series of micro energy improvement actions are proposed. Solutions are suggested based on bioclimatic strategies such as passive solar uptake, cross ventilation, or thermal inertia (through thrombe walls).

Contest

Building candidate in the category

Gran Premio Ciudad Sostenible

Premio de los Usuarios



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