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# The Javeriana Cali' Strategic Plan for the Sustainable Management: An Example of How to Implement, Disseminate and Evaluate Sustainability Policies

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**Abstract.** In order to organize the multiple actions the Universidad Javeriana had been developing for the sustainable management of its campus, a strategic plan was structured. The plan is structured in five major programs: water resources, energy, biodiversity, recycling and reduction of CO2 emissions. For the definition of these five programs we were inspired by the contributions of the thematic structure of Green Metrics, the recommendations of the Encyclical Laudato Si and the SDGs. In turn, each program is broken down into sub-programs, projects and sub-projects. Each program also includes cross-cutting strategies articulated in sub-programs which are broken down into research projects, semester projects, graduate work and theses. Also, sub-programs for disseminating initiatives and entrepreneurship are considered. The planning instrument is taken to the detail of operational planning, using the Gantt Chart. A team coordinates the coordination of the different programs and meets weekly to review its progress. The plan was presented and approved to the University's Steering Committee, and the document has been incorporated into the University's Strategic Plan. It is also being used to link professors from civil engineering, electronics and architecture careers who invite students to carry out semester or degree work on topics that strengthen campus execution.

**Keyword:**
Disciplines, Interdisciplinary Future, Methods, Sustainable development.

## 1. Introduction

The Universidad Javeriana developed and have been implementing a strategic plan for the sustainable management of its campus. The plan is structured in five major programs: water resources, energy, biodiversity, recycling and reduction of CO2 emissions. Each program is broken down into sub-programs, projects and sub-projects; also includes cross-

cutting strategies articulated in sub-programs which are broken down into research projects, semester projects, graduate work and theses. This paper shows how each of these projects and or sub-projects have been developed. As part of the benefits of this plan there are:

Systematization and dissemination: The tool facilitates the collection of data to convert them into information, a process that streamlines monitoring, evaluation, adjustments, systematization, publication and dissemination of results, actions of vital importance, given the permanent changes in the components subject to management.

Cost reduction: Efficient control of resources, leading to savings in the consumption of water, energy and raw materials, thus improving the efficiency of processes and reducing the amount of waste generated.

Regulations: Adequacy of actions in accordance with environmental regulations, controls and internal audits.

Risk analysis and prevention: prevent, mitigate, control, correct and compensate potential negative environmental impacts.

Contributions to the substantive functions of the University: with environmental research, training and education programs.

The Pontificia Universidad Javeriana is committed to building a better world through the creation and implementation of innovative solutions to the environmental and social challenges we face today.

Our sustainability goals are broad and ambitious, which is why achieving them requires the contribution of each and every person in the Javeriana community. We rely on our community, our experts, our creative students and our diverse and innovative staff to chart a new path in the search for sustainable solutions.

## 2. Methodology

The planning instrument for the implementation of this plan is taken to the detail of operational planning, using the Gantt Chart.

A team coordinates the coordination of the different programs and meets weekly to review its progress.

The plan was presented and approved to the University's Steering Committee, and the document has been incorporated into the University's Strategic Plan. It is also being used to link professors from different careers who invite students to carry out semester or degree work on topics that strengthen campus execution. All this is shown in the following flowchart:


## 3. Results and Discussions

After the plan passed by the previously methodology process to be approved and implemented, as shown in the section before, the following section presents a description of the results of implementing the projects and sub-projects for each of the programs and sub-programs that compose the plan, along with their academic achievements and/or

progress, result of the engaging with professors and students in 2022 and 2023.

A total of 12 sub-programs will be presented, between 2 and 3 for each of the 5 programs of the plan. The academic interaction with each of these programs will be presented after shown each sub-program and at the end of the results an academic interaction from several courses that interact with all the programs at the same time will be shown.

### 3.1. Subprograms and Academic interaction from the Water Resource Management Program

This program is oriented to the care of water resources, whose main objective is the preservation of water through actions aimed at its efficient use, the correct treatment of water for various uses, among others [1].

#### 3.1.1. Sub-program of Water Concession Management

The sub-program includes a series of projects such as the management of the irrigation ditches into which the main concession is internally divided. This project includes the sub-project of flow monitoring for flood prevention. All of these have been in conversation with companies who specialize in measuring different characteristics of the treated water such as water level, water turbidity, among others [2].

Also, another project included into this sub-program is the management of the wetlands fed by the internal ditch. This project includes the sub-projects of Sediment and vegetation management on its banks, fish farming, pedagogical and recreational uses. As part of sediment removal, a Fauna Rescue and Relocation Management Plan associated with the reservoirs to be drained must be prepared, with a description of the appropriate techniques to avoid any damage to any of the species susceptible to rescue within the reservoir area.

For this management plan, it must be verified that the reservoirs as a whole present equivalent environmental condition to be able to carry out the rescues. Similarly, species susceptible to rescue (slow-moving species) such as amphibians, reptiles, and small mammals must be captured in the project area for relocation to a site with similar environmental conditions to the site where they were located.

It is important to keep in mind that the scope of this management plan ranges from capture, rescue and transfer of macroinvertebrate, ichthyological, ichthyological and small mammal fauna.

Furthermore, a final project related to this sub-program is the aqueduct project. This aqueduct if provided by the water treatment system at the Pontificia Universidad Javeriana. It was designed by the Cinara Institute approximately 26 years ago. The treatment plant treats water without the use of chemical reagents in its process, this technology is known as Multi-Stage Filtration (MSF), as its name indicates, it is the combination of several filters with gravel and sand of different sizes, with the objective of obtaining potable water for human consumption. This process guarantees 100% removal of contaminants present in the water and complies with the parameters required by Colombian regulations for drinking water consumption. After being treated, the water is distributed to the different areas of the University according to the demands of the resource.

The water is used not only for human consumption but also for laboratory practices,

cleaning and maintenance activities.

This is why this project includes the Sub-projects related to the optimisation of the water treatment processes such as the Desander, filters, drying beds, chlorination, as well as flow measurement for the supply of tanks and at the entrance of each building, automation of flows and entrance to each building, level sensors for the respective storage tanks, solar panels on the roof of the aqueduct.

### 3.1.2. Sub-program of Rainwater Use

Anticipating the impacts of the intensive urbanization process of commune 22 and its future impact on water availability, the plan proposes the gradual construction of a rainwater harvesting system, which can be used to irrigate fields and gardens and in the event of water scarcity, feed the water to be treated in the aqueduct.

There is currently a project to use rainwater and infiltration water by extracting, pressurizing and filtering the attenuation water that is channeled in the Cedro Rosado building for connection to the water treatment plant and for the upcoming installation of an irrigation system for the university's campus soccer field (see Figure 1).

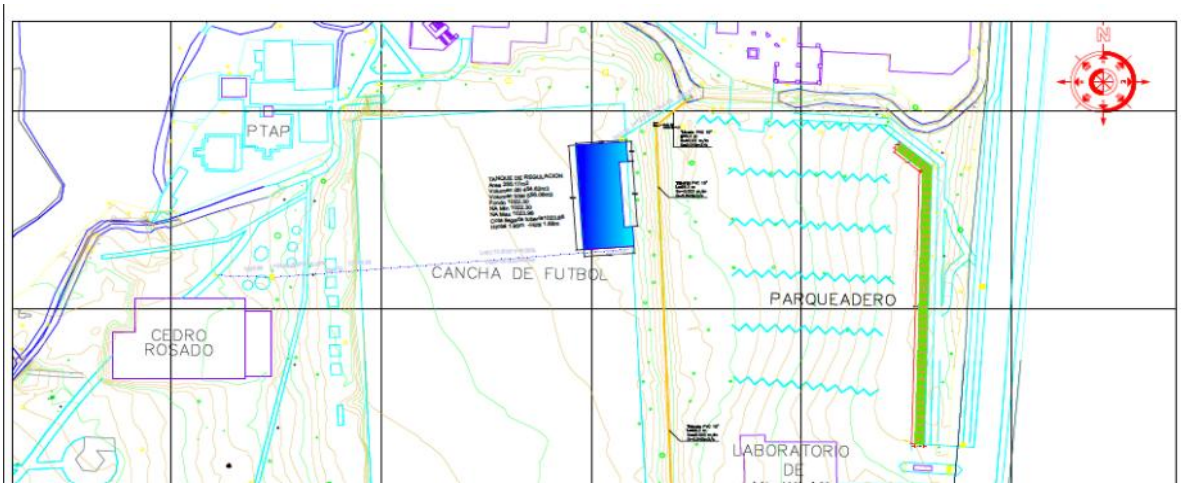


Figure 1. Location of rainwater and infiltration water storage near the Cedro Rosado building. Source: Authors

### 3.1.3. Sub-program of Wastewater Management

The sub-program covers grey and black water monitoring projects. Sub-projects related to this on the substitution of liquid and solid soaps with environmentally friendly cleaning products); updating of pipes (separation of grey and black water); separation of rainwater and wastewater; laboratory water management; campus wastewater treatment plants (WWTPs).

During the different inspections at the facilities of the Pontificia Universidad Javeriana Cali for the validation of the domestic wastewater discharge points and the management of non-domestic wastewater as hazardous waste, it was observed that in spite of guaranteeing adequate collection, transport, treatment and final disposal of the chemical hazardous waste generated in the different laboratories of the university, it was necessary to consider additional measures for the management of the water resulting from the washing of glassware and other utensils of the laboratories, in order to minimize the probability that traces of chemical waste with hazardous characteristics could be detected.

This is why it was necessary to consider additional measures for the management of water resulting from the washing of glassware and other laboratory utensils, in order to minimize the probability that traces of chemical waste with hazardous characteristics or small volumes of non-domestic wastewater would be discharged into the sanitary sewage system. Taking into account the observations generated after some visits, the university made adjustments to the facilities to remedy the identified areas for improvement. These adjustments consisted of placing one of the washing points exclusively for washing laboratory material and suspending its delivery to the sewage system; instead, the drain will be delivered to a plastic container of approximately 20 L capacity that will store the liquid waste generated during the pre-washing (figure below) for subsequent management as hazardous or bio-sanitary waste by PROMOCALI S.A. E.S.P. (see Figure 2).


Figure 2. Measures for the management of water resulting from the washing of glassware and other laboratory utensils. Source: Authors

### 3.1.4. Program Academic interaction

In order to complement different projects and sub-projects mentioned before, students from the civil engineering program started in 2023 with the project carried out by the students of aqueducts and sewers class, which was the collection of wastewater samples from various points of the university's rainwater and wastewater sewer system. These samples were processed by the students in the university's laboratory. Tests were performed for pH, total suspended solids, and dissolved oxygen. The sampling points were the exit boxes of the buildings Saman, Acacias, Guayacanes, Lagos, Wellness centre and the Loyola Sports Centre.

In the second semester, students of aqueducts and sewers class developed the Pre-dimensioning of an artificial wetland for the treatment of wastewater in a pilot area of the university. The students carried out the analysis of the amount of wastewater and the implications of the pre-design of artificial wetlands of various types.

Also, there has been a preparation of proposals to participate in two calls, (i) joint Call to Fund Engineering Research Projects 2023 Javeriana Cali + Uniandes, with the project "Quantification and valuation of ecosystem services of nature-based solutions on the campus of the Javeriana University (Cali) and (ii) support for multi-campus research projects of the Pontificia Universidad Javeriana Colombia, with the project "Adaptation of Sustainable Urban Drainage Systems - SUDS of the PUJ Bogotá/Cali campuses to the effects of climate change"

In the first project a verification and calibration phase of equipment to be installed is under motion, and the second project begins in March 2024

Furthermore, another thesis project from the electronic engineering was developed called Aquality. The Aquality system consists of three parts: the server, the mobile application and the Aquality sampling node. The main features to highlight are the use of a local Wi-Fi network for communication and the ease of integration of the server on any Linux platform. Installation of the Aquality system requires a 110 VAC power point (preferably regulated); Wi-Fi network reach at the connection point; network credentials; and sensors deployed at the location. In case of installation, the customer shall ensure the following requirements for a proper installation of the sampling nodes.

### 3.2. Subprograms and Academic interaction from the Biodiversity Management Program

This program is focused on the preservation of the flora and fauna existing on campus, thanks to its great variety of species of plants, animals, microorganisms among other living beings that transit and live within the university campus, how they interact and the ecosystem benefits that they provide us.

#### 3.2.1. Sub-program of Flora

The Harmonization Plan project contains the sub-projects for updating the inventory of the around 1700 wood, ornamental, fruit and palm trees. This inventory began in 2018 through the identification of 160 species of trees, shrubs and palms. There are some native trees such as Saman, Cedar, Tambor, Ceiba and others.

Additionally, the University has a phytosanitary management plan, and an implementation of pruning and fertilization requirements (see figure 3), as well as the adjustments that need to be made to their location in relation to their impact on environmental elements, such as pipes, platforms and foundations. All this complemented with a nursery and an optimization plan (considered as a sub-project) to increase the planting of native species and the expansion of tree cover, adapted to the possible future requirements of expanding the infrastructure of the campus.

As part of this sub-program there is the University Garden Project. It includes the subprojects of research, design and implementation of different modalities of Garden, components and automation, adapted to the presence of fauna on campus. An example of its implementation is the Vertical Urban Garden located in the Gastronomy Laboratory (Figure 4).

Figure 3. Structural pruning of two individuals of the mango specie. Source: Authors

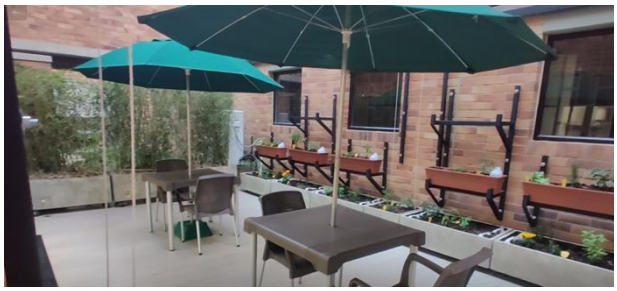

Figure 4. Vertical Urban Garden located in the Gastronomy Laboratory. Source: Authors

### 3.2.2. Sub-program of Fauna

It includes the project to update the inventory of birds, butterflies and other insects, squirrels, birds, peacocks and iguanas, as well as the project management and care of the campus fauna and migratory species, with special attention to the subprojects of management of Melipona bees and ants.

In 2017, the implementation of this project began through the sampling of animals and wildlife. This project has led to the identification of, (i) 1,381 fish, from the families Trichpmycteridae, Cichlidae, Poeciliidae and Characidae, as well as macroinvertebrate groups found in the four reservoirs of the University, which are considered long-term conservation facilities. The analysis was carried out through taxonomic identification studies and (ii) 78 different species of birds. To support this project, the University has been developing since 2018 an interdisciplinary work of bird visibilization, coordinated by the environmental management area of the campus, with the support of Biology and Visual Communication Design.

This work has allowed the development of the Campus´ wildlife care and management Project.

This project implements care measures such as the application of biological products to control army ants and the care of wild species, either with in-house specialized care or by transferring the species to a specialized care center.

### 3.2.3. Program Academic interaction

Project to measure the effectiveness of trap nests in solitary bee sampling (Figure 5) on the campus of the Pontificia Universidad Javeriana Cali:

The objective of this project is to have concrete and accessible physical spaces on campus where the Javeriana community can come into direct contact with the biodiversity

of our headquarters. At the same time, this space would serve to join forces, promote the appreciation and protection of nature, allow better interaction between various components of the Xaverian community and promote conservation. In these areas, research and responsible management of the biodiversity of the campus will be carried out, aimed above all at knowing, monitoring and valuing solitary bees. Once built, the spaces will be used for multiple teaching, research, and service activities, as well as for the on-site promotion of multiple careers related to the environment, agriculture, and the protection of the Cultural and Natural Heritage of the Nation, such as Biology, Tourism, Gastronomy, and Architecture. Finally, these points of interest within the campus could be enhanced for therapeutic activities by the Wellness Centre, among other activities.

Figure 5. Management of Melipona bees in the campus. Source: Authors

### 3.3. Subprograms and Academic interaction from the Solid Waste Management Program

#### 3.3.1. Sub-program of Composting of vegetable waste and raw waste

As of April 2021, 100% of the organic waste the university produced (dry material such as leaves and grass and wet material such as food leftovers produces at the different cafeterias) is treated through a method called composting (such as the one shown in Figure 6).

The university implemented a composting system made out of bamboo trenches resulting from the pruning activities on the university. In these composting areas the organic waste from the cafeterias and green areas is composted to produce fertilizer. The process requires a weekly collection, by the university's gardeners.

During the whole 2022 approximately 31.2 Ton of organic waste from the green areas and 5.2 Ton of organic waste from the cafeterias was produced ant treated through this composting. The waste is placed into each composting area and efficient microorganisms from the forest canopy are added to help compost maturation. The number of composting areas in operation throughout the campus is 7, covering a total area of 380 m2 and are located in areas close to the generation of the organic waste they store. During 2022, approximately 1 ton of compost were produced monthly and added into the garden areas the university has as well of around the young trees to help them grow [3].

The subprogram also includes the biofertilizer laboratory project, with subprojects on the preparation and use of biofertilizers, cultivation and application of microorganisms and

vermiculture. The laboratory also includes the area for germination, planting, reception and handling of new materials that will later enter the nursery.

This biofertilizer laboratory is used for the conservation and as a complement of these composting sites. Efficient forest canopy microorganisms are grown in the laboratory to aid compost maturation and six sulphates and phosphate rocks were biologically activated for foliar fertilization of green areas and shrubs and for insect and disease management along with the compost, replacing urea fertilization and the use of insecticides and pesticides.

Figure 6. Compost bin located on the road in front of Casa Pastoral. Source: Authors

Figure 7. Biofertilizer Laboratory. Source: Authors

### 3.3.2. Sub-program of Recycling

The university takes advantage of its recyclable waste through the company Procesos ecológicos, which recycles it so that it can be reincorporated into the production of new products. Campaigns are constantly being carried out to encourage members of the University Community to separate waste in the specified Ecological collection containers [4].

The University has a team of 5 people who collect and separate recyclable waste. Thanks to their work, In 2022, 16 tons of recyclable material were collected.

In order to reduce the university`s waste, the university has a no-foam policy which is implemented along with the security staff who verify people do not enter foam within the university.

Also, the university has asked all the restaurants inside the campus the no use of single – use plastic elements which has led to the implementation of biodegradable plates and cups to serve the food and drinks on them. Around 90% of the waste produced in total

belongs to this kind of waste, this is delivered to the company Promoambiental to be taken to the Colomba - El Guabal landfill (in Yotoco in order to perform a proper treatment.

Besides, in order to promote the reuse of elements, the university delivers, as part of a merchandising campaign products that can be reused such as the institutional mugs, thermoses, reusables cluttery, all this in order for the university community to not produce any waste by reusing these elements to drink and eat with them.

#### 3.3.3. Program Academic interaction

The projects that are being carried out at the moment are: Environmental volunteering has become a strategic ally to carry out information and awareness campaigns regarding the separation and management of solid waste. In the same way, semester work has been developed with electronic engineering students and undergraduate works and theses focused on designing strategies and devices that facilitate the separation of solid waste.

### 3.4. Subprograms and Academic interaction from the Energy Resources Management Program

This program includes the generation of new type of energy and also the adequate management of the energy consumption.

#### 3.4.1. Sub-program of Renewable energy sources

Covers the multipurpose photovoltaic energy project thought to be implemented in the long term in parking lot roofs, restaurant plaza roofs, and also including green areas through agrovoltaic projects. This last project contemplates the use of the same land for agricultural production and the installation of photovoltaic panels. As part of producing different types of energy a planning for evaluating a hydroelectric power project has been put into place since the feasibility of generating hydroelectric energy from the irrigation ditches of the university's water concession is being studied.

Since 2018, solar panels were first installed in the Acacias Building, Academic Registry Building and Administrative Building with a total energy production of 106,058.0 kWh. With the largest growth of the system in 2019, with the addition of solar panels in the Central Building (Engineering majors) and the library, the photovoltaic energy production increased to 151,774 kWh by 2020 and by 2022 the photovoltaic production increased to 507,809 kWh.

Additionally, as of 2022, 4,301,521 KWh of hydroelectric energy is consumed from the hydroelectric central Calima. This is certified by both companies EcoGox and Celsia Colombia S.A. E.S.P.

#### 3.4.2. Sub-program of Consumption of renewable and conventional energy on campus

This subprogram includes projects to replace incandescent light bulbs with alternative lighting and high-consumption equipment with more energy-efficient equipment, as well as introducing methodologies and procedures for managing the demand for electricity on campus.

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#### 3.4.2.1. Master Plan for the Urban and Architectural Development and Revitalization

In 2015, as a part of the Master Plan for the Urban and Architectural Development and Revitalization, the Project called "Los Cedros" was conceived, with the intention of executing it within a ten-year time frame. The project includes all the academic requirements, especially those of the labs with advanced technology.

The project, now being developed, is part of the existing educational infrastructure, incomplete as it is, located in the middle of a diverse and mature tree cover that brings a high environmental quality to the site, allowing for habitability and comfort of the study areas and the complex of labs.

The buildings proposed are similar in their typology and architecture to the rest of the campus, thus achieving spatial and functional agreement to facilitate a reading of unity in the university. It is hoped that these innovation spaces will be flexible and adaptable to accommodate both current teaching programs and new programs that may be implemented in the future.

For the design of these buildings, the following criterion was essential: "To achieve an intervention that makes evident a deep respect for preexisting structures. Understand the Architectural, Environmental and Landscape components as heritage of the university that must be valued in the intervention." The following elements were considered, (i) the integration with the tree cover, (ii) orientation with the sun, wind and visuals, (iii) interconnection with the other buildings on campus, and (iv) typological valuation of the pre-existing buildings.

This Project is being certified in the LEED modality for the campus, which allows for the optimization of the characteristics of the site where the different buildings are being developed, so that each unit can opt for the LEED certification individually. The first building of this complex was built in 2019, the Cedro Rosado building, in process of certification. All the buildings that are in the LEED campus, in this case 5, will have joint sustainability criteria, fully documented before the certification agency – Green Business Certification Inc (GBCI), through a Master Site.

Specifically, for the "Los Cedros" Project of the Pontificia Universidad Javeriana Cali, such a modality of certification has allowed for the development of a Master Site that includes various sustainability characteristics, such as, (i) existing parking places, (ii) parking spaces for bicycles and showers, (iii) charging places for electrical vehicles, (iv) vegetation and terraces, (v) rain water management, (vi) management of recyclable waste, and (vi) no smoking policy. These strategies will be put in place for the buildings to be developed in the Master Site.

### 3.5. Subprograms and Academic interaction from the Co2 emissions reduction Program

#### 3.5.1. Sub-program of Replacement of energy-intensive technologies.

This includes the project to replace combustion engines with electric motors, used mainly in vegetation management and gardening. Electric motors are more ergonomic and reduce noise during use. And the project to measure the reduction of CO2 emissions through the implementation of photovoltaic energy.

#### 3.5.2. Sub-program of Improvement of energy efficiency.

It includes the Audiovisual Campaigns for the Responsible Use of Energy and Technological Migration projects.

#### 3.5.3. Sub-program of Stimulus to the use of alternative means of transportation.

Includes the Car Sharing project, the Stimulus to the use of Electric Vehicles, the Stimulus to the Use of Bicycles project, and the Reduction of Parking Area project.

As part of this subprogram, the University has the following strategies to diminish its mobility emissions by reducing the number of private vehicles on campus.

Carpooling: incentives for collaborators and students who share their cars with others.

Odd and even number license plates: the city limits the use of vehicles each day using these numbers between 6 am and 8 pm. The University increased this limit on vehicle use to the whole day, such that, on any given day, those vehicles affected by the rule cannot enter the campus.

Vehicle registry and decals: each user can register only one vehicle to his/her name to use on campus, considering that some people have two or more vehicles (to avoid the limit on vehicle use by them). This registry also contributes to increased security on campus.

Parking fees: the implementation of parking fees seeks to discourage the use of private vehicles and encourage the use of shared vehicles.

Bicycle parking spaces: each year the number of parking spaces available to the community are increased, along with campaigns and incentives.

Mobility Committee: The University actively participates in the City Mobility Committee, along with other universities and the municipality. New strategies are agreed on to improve the mobility in the city.

Finance program to encourage buying a bicycle: Students and Collaborators are offered a zero-interest credit program, paid over 12 months.

### 3.6. Academic interaction with all the Programs

#### 3.6.1. Communication students

In the 2023-2 semester in the Digital Content Laboratory class, projects were developed aimed at providing interactive content of an informative, educational or dissemination nature on topics related to sustainability.

The projects were focused on the design of content for the dissemination and training of some of the programs of the Strategic Plan for the sustainable management of the campus of the Pontificia Universidad Javeriana Cali. The programs worked on were water and energy resources, solid waste and biodiversity.

10 products were developed, all part of the initiatives developed in conjunction with the Campus Sustainable Management Committee.

In this link you can see the products.

In this LCD Project Presentations 2023-2 you will find the presentations of the projects (see Figure 8).

### 3.6.2. Introduction to Electronic Engineering, Electronic Technology and Electronics for development

As part of the Introduction to Electronic Engineering class, first year students developed several projects related to the strategic plan, such as Implementation of water level sensors in the tank of the purification plant, Chlorine Measurement at University Water Plant, Hydroelectric Power Generation in Javeriana Cali, Monitoring soil moisture in one of the campuse's orchards; Bicycle Entry Count device; Detecting ant nests on campus. Besides, these projects were complemented by developing a sensor prototype for each of the topics mentioned, as part of the Electronic Technology class.


Figure 8. Digital Content Laboratory class projects website [5].

Also, taking into account different needs the regions of Valle del Cauca need regarding sustainability and according to the structure of the strategic plan, as part of the Electronics for development class, the following projects were developed, Sensors for detection and mapping to categorize and evaluate the availability of spaces for urban forests in the city of Cali, Implementation of solar panels in non-interconnected areas of Buenaventura and Hybrid systems in existing city buses.

Through the whole year around 40 projects were developed related to the plan only on these 3 classes, more projects can be developed.

### 3.6.3. Professional Integration Project (PIP)

A total of 19 students developed their projects within the framework of the Professional Integration Project (PIP), on topics related to the PEGSC. The projects developed during this year were, (i) bikeguard is bike safety system (4 students), (ii)

optimization of energy consumption in classrooms on the PUJC campus (4 students), (iii) measurement of agroclimatic variables in urban gardens (4 students), (iv) AgriTech is support system for Agricultural Technical Assistance in Urban Gardens (4 students), and (v) TREB is Automatic irrigation system for urban gardens (3 students)

## 4. Conclusions

This proposed methodology aligns with best practices across project management, strategic planning, and academic engagement, ensuring robust implementation and oversight. With these results, it can be proved the Gantt Chart is an effective tool for project planning and tracking since aligns with project management best practices. Also, weekly Meetings are a critical tool in agile frameworks for monitoring and resolving issues. And the existing of a steering Committee in charge of a strategic Plan Integration provide strategic oversight and ensures alignment with long-term objectives and organizational goals.

To effectively manage the sustainable operations of a campus where administrative, academic, volunteer, and student welfare activities intersect, a clear and well-structured approach is essential. This strategic plan serves as a strong example of how to successfully implement, communicate, and evaluate sustainability policies.

From an academic point of view, having all the projects under an organized structure such as the one presented in this strategic plan allows professors from different careers to not only understand how a campus can be sustainable but also how to interact with these different projects, thus allowing their students to internalize the concept of sustainability in a practical way. The engagement of Professors and Students leverages experiential learning and interdisciplinary collaboration for practical education and strategic contribution.

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