ENVIRONMENTAL IMPACT REPORT:
Towards a Greener Campus

PRODUCED BY:
UPEACE Green Office
On behalf of the Operations Department at the University for Peace, Costa Rica
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@UPEACE Green Office, Environmental Impact Report 2018-2019

This report has been prepared by Ms. Aleksandra Jovanovic, Ms. Yumiko Takano and Ms. Patricia Colón Rafolos from the UPEACE Green Office, on behalf of the Operations Department, University for Peace.

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Towards a Greener Campus
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ENVIRONMENTAL IMPACT REPORT:

Towards a Greener Campus
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This Environmental Impact Report 2018-2019 was prepared for the University for Peace (UPEACE) by Ms. Aleksandra Jovanovic, Ms. Yumiko Takano, and Ms. Patricia Colón Rafols, on behalf of UPEACE Green Office and the Operations Department. The aim of this report is to increase understanding of the current environmental sustainability actions taken on campus and establish a strategic action plan. We measure our environmental impacts mainly by analysing the primary data collected through the previous and ongoing sustainability projects conducted on campus.

The UPEACE Green Office would like to express its deepest gratitude and appreciation to Mr. Warner Masís and his Operations Department team, as well as Mr. Rafael Sandoval Arias and his cafeteria team for openly collaborating with numerous environmental sustainability projects initiated by the the UPEACE Green Office.

The UPEACE Green Office would also like to extend its sincere gratitude to all the local organic producers that shared their precious knowledge and skills, as well as passion about sustainable consumption through their products.

Lastly, but certainly not least, the UPEACE Green Office would also like to thank all the stakeholders, including but not limited to, the Earth Charter International, Mora Limpia y Sostenible, and every individual who have enabled our project to be as successful as it is today.

Evaluation team,
Aleksandra Jovanovic, Yumiko Takano, and Patricia Colón Rafols

UPEACE Green Office
MEET THE 2018-2019 GREEN TEAM:

**THE GREEN TEAM**

**ALEKSANDRA JOVANOVIC**  
Co-Founder  
Team Leader

**THE GREEN TEAM**

**YUMIKO TAKANO**  
Co-Founder  
Outreach & Engagement Coordinator

**THE GREEN TEAM**

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Operations Coordinator

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**PATRICIA COLON**  
Social Media & Design Coordinator

**THE GREEN TEAM**

**CAROLYN HIRSHON**  
Evaluation and Strategies Coordinator

“
A safe & healthy planet to live on is a right for all.

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**UPEACE**  
Green Office
Sustainability Initiatives: Current and On-going Projects

During the Academic Year of 2018-2019, the UPEACE Green Office, together with UPEACE, worked on various initiatives and campaigns to jointly improve the level of environmental sustainability at the university. The on-going projects cover 6 key areas including:

- Food Waste
- Renewable Energy
- Circular Economy
- Sustainable Consumption
- Sustainable Education
- Sustainable Governance

This report takes a glimpse at achievements of UPEACE and the UPEACE Green Office since its inception. It briefly discusses the environmental sustainability actions taken on campus previously and develops an action plan to improve its future performance.
Regarding the fact that the University for Peace was established pursuant to United Nations General Assembly (UNGA) Resolution /35/55, our projects have been aiming to contribute to achieving the Sustainable Development Goals (SDGs).

Among them, we seek to support:

Good health and well-being (#3), Quality education (#4), Gender equality (#5), Clean water and sanitation (#6), Affordable and clean energy (#7), Sustainable cities and communities (#11), Responsible consumption and production (#12), Climate action (#13), Life below water (#14), Life on land (#15), and Partnerships for the goals (#17)
Green Office (GO) is a student-led and staff-supported sustainability hub that began at the Maastricht University in the Netherlands in 2010. It is a platform that initiates and coordinates a dynamic change process towards environmental sustainability within an institution with a specific focus on sustainable development and community engagement.

The UPEACE Green Office started during the Academic Year of 2018-2019. This platform was created by two graduate students, Ms. Aleksandra Jovanovic and Ms. Yumiko Takano, from the Environment, Development and Peace (EDP) Department. A proposal, which aims to increase the level of environmental sustainability on campus and beyond, was developed and formally submitted to the university. Together with three other enthusiastic graduate students as a team, the UPEACE Green Office successfully delivered remarkable achievements. As a result, it officially became a part of the Operations Department at the University in April 2019 while becoming the first Green Office in Costa Rica and in the Latin American region.
Initial steps of UPEACE Green Office

OCTOBER 2018

Founded by: Ms. Jovanovic & Ms. Takano

NOVEMBER

Green Office Introduction Presentation to the UPEACE Community

JANUARY

International Earth Charter Education Conference

MARCH

Initial Food of Waste Measurements

APRIL

Food Waste Presentation

Becomes a part of the Operations Department at the university

MAY

Fundraising for Biodigester

Short Talk: The Power of Mushrooms

Circular Economy Workshop

Earth Day Event

Vegan Food Tasting

JUNE

Installation of UPEACE Biodigester

World Environment Day: "No Waste Day"/"Does It Bother You Now" Campaigns

JULY

"No To Food Waste" Campaign

Becomes a member organization of the UN SDSN Youth

AUGUST

#ACT4SDGs Global Movement

SEPTEMBER 2019

Founded by: Ms. Jovanovic & Ms. Takano
This project was initiated after observing the alarming amounts of food waste being produced in the cafeteria. For all of us to understand our collective and individual contribution to food waste, measuring and visualizing it was the first action to be taken.

We started measuring the level of food waste with the kitchen staff and UPEACE Receptionist, Ms. Chinchilla. We collected data on a daily basis (Monday-Friday) from March 2019 - May 2019, using an Excel sheet template (see Annex 1).

After some test measuring, we decided to measure the food waste from the morning and the afternoon, once a day at 2:30 pm.

As it can be seen in the Excel Sheet, food waste is categorized into separate food waste streams.

1. FOOD WASTE

ORIGIN OF THE CAMPAIGN:
This project was initiated after observing the alarming amounts of food waste being produced in the cafeteria. For all of us to understand our collective and individual contribution to food waste, measuring and visualizing it was the first action to be taken.

FOOD WASTE DATA COLLECTION AND DATA ANALYSIS:
We started measuring the level of food waste with the kitchen staff and UPEACE Receptionist, Ms. Chinchilla. We collected data on a daily basis (Monday-Friday) from March 2019 - May 2019, using an Excel sheet template (see Annex 1).

After some test measuring, we decided to measure the food waste from the morning and the afternoon, once a day at 2:30 pm.

As it can be seen in the Excel Sheet, food waste is categorized into separate food waste streams.

BREAKFAST AND LUNCH DEMAND ESTIMATION:
It is certainly significant to measure the number of plates prepared during both breakfast and lunch plates produced and sold per day in order to analyse the efficiency of food production and consumption on campus.

This results in the following equation:

\[
\text{Food Over Production per Capita} = \frac{\text{Plates prepared} - \text{Plates sold}}{\text{Number of individual customers}}
\]

PURPOSE, EXPECTATIONS AND RESULTS:
The purpose of the food waste measurements is to collect food waste data to create a food waste indicator that can be integrated to visualize our ecological footprints.

During the months of measuring, an on-going No Food Waste campaign was launched. Various Brown-Bags, events and posters were prepared to raise awareness of individual's food waste contribution as well as to increase a better understanding of the importance of sustainable food consumption. An expectation of the team after launching the campaign was to gradually lessen food waste at the cafeteria as well as to influence producers' and consumers' behaviour on food consumption.

Unfortunately, data has not been measured consistently enough to deliver a solid result (every working day, 2:30pm sharp). Therefore, the next generation of UPEACE Green Office should ensure that consistent data is collected.
FUTURE PROSPECTS: WHAT IS NEEDED TO MOVE THE PROJECT FORWARD?

For us to better comprehend our contribution to food wastes, visualizing it is the first action to be taken. However, this project should not end there, but reach beyond that. Thus, further actions must be taken as follows;

ENSURING CONSISTENCY WITH FOOD WASTE MEASUREMENTS:

- To make sure that consistent, quality data is gathered, the leader of this project must be present at the food waste measurements every day together with Ms. Chinchilla, or a substitute coordinator must take their place.

- Ms. Chinchilla is responsible for making sure that the Excel sheet with the food waste data is updated every day. Then the Excel sheet needs to be delivered to the leader of this project, who is to proofread its contents.

- Ultimately, all the food waste data should be visualized in simple graphs that will reflect the food waste behaviour to easily communicate with various audiences. This will assist in making the data easily understandable for the UPEACE Community as a whole.

MOTIVATING THE KITCHEN STAFF:

- In terms of improvement, the kitchen staff needs to be more consistent with the measurement of food waste. During the first months, the food waste was not measured correctly due to the lack of closer supervision by Ms. Jovanovic and Ms. Chinchila.

- With the presence of Mr. Masis (the Head of Operations Department), a bi-weekly meeting needs to be organized with the leader of this project and the kitchen staff in order to express the sincere importance of this project. The meeting should be open for the whole UPEACE community so that anyone who is concerned about the food waste issue can participate in finding a solutions to issues that arise.

ORGANIZING FOOD WASTE REDUCTION EVENTS:

Some ideas previously discussed at Brown Bags;

- Organizing a left-over cooking workshop.
- Brown Bag: "How to reduce our personal food waste: some simple tricks!"
The Biodigester project began as a mock crowdfunding idea for a class presentation. Due to its potential contribution to UPEACE’s energy transition, it was decided to make this idea a reality as an official project of UPEACE Green Office.

The world needs to shift away from fossil fuels for its energy demand and focus increasingly on renewable energy sources. One simple and effective solution is the usage of biogas, generated by our own green waste. A good place to start this transition was in our community, the university.

Biogas is one kind of biofuel generated through the biological breakdown of organic matter such as food scraps, manure, wastewater sludge, and crop residue in the absence of oxygen. This breakdown of organic matter without the presence of oxygen is known as anaerobic digestion. Anaerobic digestion takes place in a large tank commonly known as a digester. Inside this digester, bacteria convert organic wastes into methane gas, a reliable source of energy. Biogas is mainly a mix of methane and carbon dioxide. It may also contain traces of siloxanes, hydrogen sulfide, and moisture. Biogas stores energy that can be used directly for cooking by burning it in the presence of oxygen. It can also be converted into electricity by using it to convert water into steam, which turns a turbine connected to a generator.

The production of biogas will reduce the levels of non-renewable energy use within the cafeteria. The cafeteria currently uses Liquid Petroleum Gas (LPG) for their cooking. Relying on fossil fuels is not sustainable. This year, the Costa Rican Government announced a plan to reach zero emissions by 2050. We believe that UPEACE, as an institution that promotes sustainability, should be at the forefront of this change. The installment of the biodigester will contribute to making UPEACE independent from fossil fuels.

The installment of the biodigester will benefit the UPEACE community in numerous ways.

- The production of biogas will reduce the levels of non-renewable energy use within the cafeteria. The cafeteria currently uses Liquid Petroleum Gas (LPG) for their cooking. Relying on fossil fuels is not sustainable. This year, the Costa Rican Government announced a plan to reach zero emissions by 2050. We believe that UPEACE, as an institution that promotes sustainability, should be at the forefront of this change. The installment of the biodigester will contribute to making UPEACE independent from fossil fuels.

- The biodigester will create a positive impact on the environment as it captures methane to provide energy for cooking instead of it ending up in the atmosphere as a greenhouse gas. In addition, it also diverts food waste from landfill. The university’s contribution to both methane emissions and to landfill will be, therefore, reduced.

- It will resolve the issue of the current organic waste generated in the kitchen, which was not reused effectively.

- It will increase awareness about sustainable use of organic matter and closed loop energy systems as consumers in the cafeteria will participate in the process through discarding the waste in the biodigester themselves. Through this participation, students can have a hands on experience with the workings of biodigestion.
It is recommended that the methane produced by the biogester, if unused, should be released into the atmosphere. In order to ensure that the gas produced is being utilized, the piping from the biogester will lead into the kitchen, offsetting the amount of LPG electricity that is required to run their operations.

The gas from the biodigester will fuel the two-top burners most commonly used to heat the water and milk kettles. This burner is currently using LPG electricity from the hours of 8:00 AM to 3:00 PM during the weekdays; connecting the system to this burner will ensure that the gas produced is being expended. Additionally, because of the design of the windows in the cafeteria, the installation is simple as the piping can be fed in via the window’s slat openings.

Having the biodigester and its output (energy) in a visible space will allow for the educational component of this community applied project. While there are trade-offs to having a biodigester in a public area, many of these can be mitigated. Because of the design of HomeBiogas 2.0, little to no maintenance is required once the system is set up and installed. This can lessen the burden on its maintenance for the university. During the holiday seasons, where most students are absent, a valve that releases the accumulated gas can be left open. Additionally, the smell often associated with a biodigester does not apply to the HomeBiogas 2.0 system as there is a specialized compartment for chlorine tabs which eliminates the smell.

DESIGN & LOCATION:
After a consultation with the Head of Operations for the university and a representative from Home BioGas 2.0, it was decided to locate the biodigester along the southwestern border of the cafeteria. While there was the opportunity for the biodigester to be placed in Peace Park, where a larger portion of the El Rodeo community could have access to it, a more accessible area close to the cafeteria, a major generator of food waste, was preferred.

The food waste produced daily by the kitchen is very close to the daily capacity of the biodigester, which is 7L of waste. The HomeBiogas 2.0 system can also accept a variety of inputs, including vegetables, fruits, meat, and dairy products; this will make food separation easier for the cafeteria as monitoring the separation process has been a hassle for them as well.
Finding a school that is interested in setting up a biodigester system (and possibly develop educational materials with/for them).

Making the biodigester fully functional by installing it in the space next to the cafeteria. This should happen in coordination with Warner and Giovanni. (This step includes the purchase/donation of animal manure from one of the El Rodeo farms).

Monitoring the trial phase and finding an effective way to control the organic waste that is placed inside.

**MOVING FORWARD:**
There are a number of tasks to be completed before the second biodigester can be installed. First the ground must be levelled; this task can be completed by the UPEACE Green Office team and its volunteers.

Additionally, 50 L of manure must be used to initiate the process. This one-time input is expected to be donated by the El Rodeo community.

**Costs:** For the implementation of this project, a budget of 1000 USD is required. (See Annex 2 for more details on the costs involved).

Currently, the first biodigester is bought and installed at UPEACE campus. It is expected to be operating from September 2019.

**Some suggestions on how to move forward are:**
Planning a festive event when the first gas is being produced, inviting staff/rector/local news and so forth. Set up crowdfunding for the purchase of the second biodigester to be donated to the local school.

- Finding a school that is interested in setting up a biodigester system (and possibly develop educational materials with/for them).

- Making the biodigester fully functional by installing it in the space next to the cafeteria. This should happen in coordination with Warner and Giovanni. (This step includes the purchase/donation of animal manure from one of the El Rodeo farms).

- Monitoring the trial phase and finding an effective way to control the organic waste that is placed inside.
3. SUSTAINABILITY STORE

THE PROJECT:
"La Verde" Sustainability Store project was initiated with the aim of providing environmentally friendly alternatives to the UPEACE community. Since the academic year of 2018-2019 was used to better understand the market and explore ideas and collaborations, the store itself is expected to be put into place from the academic year of 2019-2020. The sustainability store is expected to promote both environmentally and socially sustainable products, ideally through a collaboration with local producers.

PRODUCTS:
- Beeswax wraps
- Metal/bamboo straws
- 'Furoshiki'
  - Traditional Japanese wrapping cloth to transport goods
- 'The Greenies' Sip'
  - Reusable tumblers, mugs and bottles.
- Products from local organic/fair-trade producers
  - Upon requests, farm visits to the partner producers can be coordinated in order to better understand their challenges and passion for their products.
- Locally produced environmentally sustainable fashion.

4. COMPOSTING

COMPOSTING ON CAMPUS:
The UPEACE Compost Center was put in operation two years ago by a student in the food security class at the university. The UPEACE Green Office desired to incorporate this project as a more permanent part of the student experience. The compost center is located across from the greenhouse, next to the facilities shed.

The goal of the centre is to turn it into an interactive platform to learn about composting. We prepared three stations at the composting learning center for three different kinds of composting. There is a wide range of possibilities for utilizing this space.
During the first "Organic Rainbow Market", a trial of electric bicycles was introduced for market visitors to promote a healthy and environmentally friendly transportation alternative. UPEACE is located in a rich natural environment, which is also a popular destination for professional cyclists. Thus, this initiative was conducted to familiarize the visitors with electric bicycles by learning more about their benefits. For the trials, we rented the bicycles from our partner organization, Tomato’s Pizza and Wings, for visitors to try them on a donation basis. The donations were put toward funding our biodigester project.

If someone experienced with composting (or eager to learn) is willing to take on the challenge of keeping the project alive, it can be a space for students to take their food scraps from home or a place for cafeteria food waste if the biodigester fills up. Having workshops with students, as well as kids in the community can also be a great use of this space. If there are local NGOs that focus on composting, perhaps it could be a place where they could do a talk or a demonstration.

Thinking about the future of this project, it would be ideal if there was a more welcoming atmosphere created near the stations by installing more seating as well as signage with instructions on how to compost. We believe there is no such thing as waste, it is all resources, which can be reused or even upcycled. Composting is one way to learn how to upcycle precious resources.

5. SUSTAINABLE TRANSPORTATION

ELECTRIC BICYCLE:
During the first "Organic Rainbow Market", a trial of electric bicycles was introduced for market visitors to promote a healthy and environmentally friendly transportation alternative. UPEACE is located in a rich natural environment, which is also a popular destination for professional cyclists. Thus, this initiative was conducted to familiarize the visitors with electric bicycles by learning more about their benefits. For the trials, we rented the bicycles from our partner organization, Tomato’s Pizza and Wings, for visitors to try them on a donation basis. The donations were put toward funding our biodigester project.
April 1st, 2019 - The UPEACE Green Office officially became part of the UPEACE Operations Department after being acknowledged for its contributions to the University’s environmental protection and progress in contributing to some of the Sustainable Development Goals (SDGs). The UPEACE Green Office was formally invited to two interviews both internally and externally to share its movement for environmental protection during the academic year of 2018-2019.

2. FOOD WASTE MEASUREMENTS:

- **Indicators**: Found effective indicators to measure food waste behaviour on campus after several meetings with the cafeteria, the operations department and the UPEACE receptionist (all the parties involved in collecting the data).

- **Composting**: Gave a presentation and a workshop.

- **Biodigester**: Successfully raised enough money through crowdfunding to cover the cost of our 1st biodigester. Thus, one biodigester was purchased for the UPEACE community and is expected to start running from the academic year of 2019-2010. It will use inevitable food waste to generate biogas for the cafeteria. A second biodigester will be donated to an educational institution in the local neighbourhood community.
3. SUSTAINABLE CONSUMPTION

- The very first organic market at the university, "Organic Rainbow Market", was organized on campus with the collaboration of Rainbow Seeds (local organic producers and distributors). After receiving positive feedback about the initiative, a second organic market was organized. Due to the success of the pilot collaboration, the UPEACE Green Office and the partner producers have reached an agreement to hold the market on campus monthly.

- Conducted market research to set up "La Verde", a sustainability store on campus.
- A shift from disposable wooden chopsticks to reusable metal chopsticks at the cafeteria.

4. CIRCULAR ECONOMY

- Circular Economy Brown Bag: Invited a guest speaker from Costa Rica, Ms. Behr, who produces pendants and other artworks made from 100% recycled plastic waste.
• No more plastic straws: Single-use plastic straws are now banned at the cafeteria.

• 'Does It Bother You Now' campaign was initiated by UPEACE students, Mr. Zúñiga and Ms. Jovanovic, and delivered as a part of "No Waste Day" campaign organized on World Environment Day, with the aim of raising awareness about the negative impacts of single-use plastics on the environment and ecosystem. Physical installations was set up on pathways on campus to visualize the amount of our daily plastic waste. This campaign was delivered together with our "No To Food Waste" campaign.

5. SUSTAINABLE EDUCATION

• International Earth Charter Education Conference
Leading the way to sustainability 2030: Education, the Earth Charter, and the Sustainable Development Goals

The UPEACE Green Office was invited to participate in the conference to learn more about global initiatives taken by various sectors at different levels, which are to combat environmental issues. During the conference, representatives from the UPEACE Green Office actively contributed to the discussions by sharing knowledge and ideas to improve the environmental sustainability level on camps through their projects.
6. SUSTAINABLE GOVERNANCE

• Environmental Impact Report
  In order to ensure transparent reporting on progress towards sustainability efforts, and have a better visualization of such efforts past and ongoing. UPEACE Green Office took an initiative to produce the Universities very first environmental sustainability report called the "Environmental Impact Report" from the academic year of 2018-2019. The report is an official publication through the university, which is expected to be produced every academic year. In the report, listed projects will be analysed and evaluated based on criteria such as efficiency and effectiveness while considering the future needs of those projects.

• Institutional Environment Policy
  UPEACE has its own established environmental policy endorsed by high management, which aims to minimize environmental impacts on campus and other university properties. UPEACE Green Office has become one of the institutions under the Operations Department that updates the policy, and monitors and evaluates it with the aim of improving its environmental sustainability performance.
  Under the Institutional Environment Policy, the University, individuals and groups will:
  ○ respect the university sustainability regulations and consult the university when conducting any activities or projects that have a potential to cause environmental harm;
  ○ create and promote both a sustainable and responsible culture across the UPEACE community; and
  ○ build and maintain a framework including the planning, decision-making and governance required to enact the commitments of the policy.
COLLABORATIONS WITH EXTERNAL INSTITUTIONS

EARTH DAY: MORA LIMPIA Y SOSTENIBLE

"El Día de la Tierra", an event organized by Mora Limpia y Sostenible to celebrate Earth Day and promote plastic-free movement in Ciudad Colón (neighbourhood community of UPEACE).

- During the event, the UPEACE Green Office introduced the team and presented our work on campus to the Mora community.

- The introduction was conducted together with the UPEACE representatives of the Departments of Operations and Marketing to show our bold collaborative efforts to ensure a green transitions on campus.

ORGANIC RAINBOW MARKET: RAINBOW SEEDS

Organizing 'Organic Rainbow Markets' monthly (previously named: UPEACE Organic Market) to highlight the social and environmental impacts of organic agriculture and the significance of responsible production and consumption. It included the promotion of the local food movement in Costa Rica to actively encourage sustainable consumption in the UPEACE community.
ORGANIC AGRICULTURE: RAINBOW SEEDS

During the first "Organic Rainbow Market", a presentation about organic agriculture in Costa Rica was given by Co-Organizer of Rainbow Seeds, Ms. Rojas. Organic agriculture offers numerous advantages to producers, consumers and the environment. However, there are several challenges that producers face today. Therefore, Ms. Rojas was invited to give us more insight into the issues on the ground from her perspective as a producer.

MAPTING APP PROMOTION: EARTH CHARTER INTERNATIONAL

The UPEACE Green Office passionately supports the idea of an application called Mapting. Mapting is a free application for smartphones and tablet for users to learn more about the Sustainable Development Goals (SDGs) and the Earth Charter Principles (ECPs) to promote global actions and projects through picture & video sharing on the platform. This is a platform to turn any frustrations about today's global issues, which everyone witnesses in everyday life, into inspirations: to transform them from a challenge to a change.

Application users post their actions to resolve the issues linked to the SDGs by capturing and sharing them on the platform so that other users can get inspiration from their ideas and actions. In order to achieve all the SDGs all over the world, we must all collaborate by learning from each other and inspiring one another.
UPEACE

On Environmental Sustainability Efforts
1. WASTE MANAGEMENT

RECYCLING:
- Using recycled papers for printing.
- Recycling system monitored by an expert with a certificate in the field.

Food Waste:
- Reconstructing the cafeteria at dropping-off point to better organize the area, which functions also to visualize food waste produced in order to increase awareness of individual contribution to food waste.

2. PARTNERSHIPS

REDIES Partnership:
- REDIES is the Costa Rican Network of Sustainable Educational Institutions ("Red Costarricense de Instituciones Educativas Sostenibles"). Currently, the network has 21 members.
- The main goals of this network are:
  - To attain the commitment of the authorities of the educational institutions participating in REDIES.
  - To achieve the sustainability of their Campus.
  - To establish strategic alliances on the issue of sustainability that favor the exchange of knowledge and technical cooperation.
  - To promote and execute sustainability actions amongst the member institutions of the network and communities that conform it.
- In the Praxis, the institutions share knowledge by the organization of formal trainings or just by consulting among each other about good practices or on how to resolve a specific problem.

3. RENEWABLE ENERGY

GOING SOLAR:
- Installing 213 Solar Panels on campus, covering 70% of energy demand on campus (see image below).
- Shifting all the light bulbs on campus to LED bulbs and a consideration of the future prospect to build skylight domes (See image below).
Solar Oven initiative was taken by Ms. Somboonlakana (UPEACE student) to make a great use of natural sun heat to warm food as an alternative to using microwave and other energy intensive cooking/heating methods.

Crops and various plants are grown in this garden, and they are sold mainly to the UPEACE community today.

This initiative was taken by the current Head Department of the Environment, Development and Peace, Dr. Sylvester, with the aim of producing organic vegetables and herbs for the UPEACE community and it will be used as a teaching tool on topics related to food such as food security, sustainable agriculture and so forth.

Sustainability Interactive Board was also initiated by Ms. Somboonlakana to share different understandings of 'sustainability' from different cultural perspectives of participants and write them down around the drawn tree to 'grow the tree'. This is a metaphor to visualize that all the differences can be the source of solutions to the environmental issues the world faces today.

Sustainability Interactive Board

4. UPEACE GREENHOUSE

GREENHOUSE:

This initiative was taken by the current Head Department of the Environment, Development and Peace, Dr. Sylvester, with the aim of producing organic vegetables and herbs for the UPEACE community and it will be used as a teaching tool on topics related to food such as food security, sustainable agriculture and so forth.

- Crops and various plants are grown in this garden, and they are sold mainly to the UPEACE community today.

5. SINGLE-USE PLASTICS

REDUCING ENVIRONMENTAL FOOTPRINT:
- Using reusable materials for plates, cutlery and glasses.
- Encouraging the UPEACE community to bring their own bags for any purchasing activities on campus and to carry their lunch boxes when taking away food.
6. SUSTAINABLE EDUCATION

INITIAL STEPS:

- Inviting environmental experts and activists from all over the world as visiting professors and guest-speakers in both formal and informal settings as well as to the UPEACE Green Office events.

- The very first UPEACE World Climate Simulation was taken place in the academic setting through an initiative taken by Ms. Candelario and Ms. Takano from the university. This platform was prepared to increase understanding of the complexity of actual climate negotiations with the use of a simulator, which calculates the potential consequences of submitted proposals during the simulation sessions to visualize its impacts.

7. WATER MANAGEMENT

REDUCING BLUE FOOTPRINT & CLEAN WATER:

- Implementation of dry urinaires in the male toilets to decrease the levels of blue footprints on campus.

- The main source of water provided on campus comes from its own water system and quality check-ups are conducted twice a year by Asociación Administradora de Acueducto Rural El Rodeo for the filtered water on campus.

8. STUDENT-LED

STUDENT COUNCIL:

- The UPEACE 2018-2019 Student Council continuously encouraged the UPEACE community to bring their own cups, plates and bags for any student-led activities.

- Furthermore, 100% organic cotton material was chosen for 2018-2019 graduation T-shirts and Tote Bags to promote ethical fashion practices with the collaboration of a local producer.

- Bamboo grown on campus were utilized to build a Holistic Centre ("Bamboo House").

- Encouraging the UPEACE community to use the UPEACE Bus service as the main transportation, in order to reduce carbon emissions.

- Almost no air conditioning use all over campus with the exception of a few rooms.

- A Clothes Swap organized by Ms. Haltz (UPEACE student) to promote reducing ecological footprints.

- Partnership with vendors on corridor space for cultural exchange as well as local and sustainable consumption. Many products support marginalized groups (based on fair trade principles).
UPEACE & UPEACE
GREEN OFFICE

Action Plan (2019-2020)

*This is a general action plan including, but not limited to the 2019-2020 academic year*
1. #ACT4SDGS MOVEMENT

- On August 2019 the UPEACE Green Office officially joined the #Act4SDG Global Movement, hence being the 3rd initiative to be recognized in Costa Rica.

- By joining this movement, the UPEACE Green Office expects to organize and/or join a collective initiative to contribute to achieving the SDGs. This movement will take place between the 20th and 30th of September 2019.

2. FOOD WASTE AND CONSUMPTION

- Improving food waste indicators and consistency in measurements.
- Improving the method of price setting on meals (e.g. by weight or by size)
- Continuing with ‘Food Rescue Projects’:
  - “#Beautifruits” & “#Alternativeveggies” campaigns.
  - Encouraging the UPEACE community to choose ‘ugly’ fruits and vegetables to appreciate their natural unique shapes and excellent tastes.

3. RENEWABLE ENERGY

- Continue promoting the Biodigester and its methane for feeding the cafeteria’s kitchen gas stoves.
- Pushing forward the project of building light skydomes on campus ceilings (to reduce electricity usage).

4. SUSTAINABLE CONSUMPTION

- Setting up "La Verde", a university sustainability store.
- Continue organizing ‘Organic Rainbow Markets’ on a monthly basis with local organic producers at UPEACE.
- Pushing for more vegan options and healthier, home-made snacks without (plastic) packaging
- Introducing 'Meatless Mondays' to raise awareness on the issue of meat overconsumption
- Shifting materials of UPEACE products to sustainable ones.
- Opening exhibitions about local movements (local organic and/or fair-trade producers to encourage sustainable consumption).
- Setting up bike racks on UPEACE Buses to encourage the UPEACE community to cycle more.
- Using bamboo grown on campus to build, rather than purchasing from companies.
- Setting up a ‘ComplEAT-It’ campaign together with the support of the cafeteria.
- Serving food by size (Small, Medium, Large) with different prices to encourage people to rethink their food intake, take portions they can finish and they feel are adequate.
5. SUSTAINABLE EDUCATION

- Sustainability Campus Tour during the UPEACE orientation week to increase understanding of UPEACE and UPEACE Green Office’s environmental operations on sustainability.

- REDIES has a training sub-committee that plans on what topics should be addressed throughout the year.
  - Priorities need to be set so that the staff and students involved in the Green Office can benefit from this.

- Expanding the World Climate Simulation to a permanent academic requirement for Environment, Development and Peace Department (EDP) students, as it is for all the students with the UPEACE Model UN Conference (UPMUNC).

- Developing a better design/framework for promotional campaigns to increase the chances for our target audience to receive and digest the information provided.
  - E.g. increasing face to face, mouth to mouth promotions

- Developing collaborative initiatives with the Earth Charter International.

- Making regular coordinating positions at the UPEACE Green Office as academically credible ones, as internship opportunities under consultation with Dr. Olivia Sylvester, the current Head of UPEACE EDP Department.

- Continue inviting expert guest speakers, specifically in the field of environmental protection to expand learning opportunities for the UPEACE community.
6. CIRCULAR ECONOMY

SINGLE-USE PLASTICS:
- Banning single-use plastics to be sold/offered on campus.
- Starting a zero plastic campaign to raise awareness on plastic-related issues, and to influence people's behaviour away from single-use plastic consumption.

For this, strong collaborative and communication efforts are needed with the cafeteria and other departments on campus.
  - Collaborating with the cafeteria for bamboo/metal straws (no more paper straws nor bioplastics)

RECYCLING | WASTE MANAGEMENT:
- Improving the recycling system on campus while exploring upcycling alternatives of single-use plastics.
- Improving signs for bins on campus to ease the waste segregation processes for its users.
- Putting some posters next to the waste containers for clearer descriptions of specific waste items and their correct waste streams.
- Promoting and participating in community-based projects, lectures, workshops with a presence of experts, professors and activists (between UPEACE and the Mora Municipality) in the field of environmental protection.
- Organizing exhibitions & film screenings on campus on sustainability topics.
- Promoting the MAPTING App to increase understanding of the SDGs and the ECI Principles.
- Proposing an agreement with the Mora Municipality and other Costa Rican entities to create bike lanes and acquire e-bikes for students and staff to use on route to El Rodeo, as a way of promoting zero-emission and healthy transportation alternatives.

- Working towards UPEACE electric buses.
  - Setting up fundraising projects.

- Setting up WASTE-FREE Implementation Day.
  - During these days, the UPEACE community should have an opportunity to purchase reusable products on campus from "La Verde", the UPEACE GO sustainable store.
7. SUSTAINABLE GOVERNANCE

- Updating the Institutional Environmental Policy every 2 years on behalf of UPEACE.
- Publishing an Environmental Impact Report annually by the end of the academic year.

8. ARCHITECTURE

- Crowdfunding for more ecologically smart architectural designs for UPEACE to maximize the use of natural sunlight and have a better ventilation.
  - E.g. light skydomes (see image on page 18).
- Making plant/green curtains for more natural air conditioning and to decrease unwanted solar heating of buildings (see image below).

9. PARTNERSHIP BUILDING

- Start getting actively involved with environmental initiatives through UN SDSN Youth.
- Connecting with:
  - Other Green Offices across the globe.
  - Local producers (including, but not limited to, producers from Feria Verde, Raibow Seeds, Con Market, etc.)
  - Other local universities
- Making partnerships locally, domestically and internationally with social enterprises, sustainable businesses and organizations (E.g. Mora Limpia & Sostenible, Misión Tiburón, etc.).
Learn more about environmental sustainability actions taken by UPEACE & UPEACE Green Office:

<p>| | | |</p>
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<tr>
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Annex 1:

**EXCEL SHEET TEMPLATE FOR FOOD MEASUREMENTS**

<table>
<thead>
<tr>
<th>TIPO DE RESIDUOS</th>
<th>Peso (KG)</th>
<th>Descripción</th>
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<tbody>
<tr>
<td>Cámara frío</td>
<td></td>
<td>Una vez por semana/ producto perdido en cámara frío</td>
</tr>
<tr>
<td>Cámara secos</td>
<td></td>
<td>Una vez por semana / producto perdido en cámara secos</td>
</tr>
<tr>
<td>Preparación desayuno</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparación almuerzo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platos desayuno</td>
<td></td>
<td>Sobrantes de desayuno comedor</td>
</tr>
<tr>
<td>Restos Buffet desayuno</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platos almuerzo</td>
<td></td>
<td>Sobrantes de almuerzo comedor</td>
</tr>
<tr>
<td>Restos Buffet almuerzo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimación de demanda DESAYUNO</th>
<th>Producido</th>
<th>Vendido</th>
<th>En cantidad de personas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimación de demanda ALMUERZO</td>
<td>Producido</td>
<td>Vendido</td>
<td>En cantidad de personas</td>
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</tbody>
</table>

*Note: The food waste is categorized into separate food waste streams.*
**Annex 2:**

**BIODIGESTOR: COSTS FOR IMPLEMENTATION**

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost</th>
<th>Description</th>
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<tr>
<td>HomeBiogas 2.0 Biodigester, including piping and burner. (without tax)</td>
<td>1305 USD</td>
<td>Quoted Price for (2) digesters</td>
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<td>Two-top heating stove</td>
<td>100 USD</td>
<td>Estimated cost</td>
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<tr>
<td>Chlorine tablets</td>
<td>14 USD</td>
<td>Estimated cost</td>
</tr>
<tr>
<td>Manure</td>
<td>0 USD</td>
<td>Estimated cost; based on donation from El Rodeo community</td>
</tr>
<tr>
<td>Signage</td>
<td>75 USD</td>
<td>Estimated cost</td>
</tr>
</tbody>
</table>

**Note:**
For the implementation of this project, a budget of 1000 USD is required.
“Humanity has taken a path that’s destroying the living earth. Together we can stop this. Every action has a consequence, and so does inaction. What will your impact be?”

UPEACE Green Office