



Youth Inspired by Knowledge

INTERNATIONAL CONFERENCE & FESTIVAL FOR YOUTH-LED CLIMATE ACTION

August 19th & 20th, 2019
Nuevo Vallarta, Nayarit, Mexico



PREFACE

The fundamental thrust that put the subject of climate change and its inexorable consequences on the table of global dialogue has been provided by the unrelenting individual and institutional activism that collectivized in the past decades. Humans, though being the primal instigator of this impending environmental collapse, have shown solidarity in rising up to the situation and attempting to strategically transform this reality. This bombastic claim has been possible to make because of the endless spectrum of ideas and innovation that has been taking ground in recent years to systematically tackle climate change.

Adolescents and young people, who in the likes of Greta Thunberg, the 16 year old climate activist, are mobilizing action across nations and they hold the potential to spearhead the journey to Protect Our Planet. Youth leadership can only be enabled when their involvement and activism is supported, encouraged and mentored by different stakeholders in society. Establishing this relationship will be a step towards a comprehensive approach to tackling issues at hand and will also go a long way in slowly transforming the development process.

The Protect Our Planet (POP) Movement organized an **International Conference and Festival for Youth-led Climate Action** on August 19 - 20, 2019 at Marival Emotions Resort & Suites in Nuevo Vallarta, Nayarit, Mexico. The festival witnessed the participation of young people from different parts of the world including countries like Mexico, Peru, South Africa, United States of America, Ukraine and India. The two-day event was tremendously rewarding and successful, as the international youth community convened with abounding enthusiasm and showcased their wide range of sustainability initiatives that shared the vision of comprehensively addressing the growing environmental concerns.

Having around 75 participants, the event was one of a kind as it served as a platform for sharing knowledge with a sustained festive element. A myriad of exhibits, workshops, presentations and activities, made interesting by the exuberance of youthful participation, revealed the overarching truth of the boundless potential that youth can collectively wield in transforming the threatened future as they lead with action inspired by knowledge.



INAUGURATION

The festival commenced with the distinguished presence of Dr. Ash Pachauri, POP Senior Mentor, Dra. Norma Patricia Muñoz Sevilla, POP Honorary Distinguished Mentor, Dr. Adrián Fernández, Executive Director of Iniciativa Climática de México, Fernando Santiago Gómez Martínez, Project Coordinator in the Faculty of Chemistry at Universidad Nacional Autónoma de México (UNAM), Dra. Eire Reynaga Delgado from Universidad de Guadalajara (UDG), who represented Dr. Oscar Blanco Alonso, Academic Dean from the Center of Exact Sciences and Engineering or CUCEI, and Carlos Humberto Jiménez González, General Coordinator of the Delfin Program at the Universidad Autónoma de Nayarit. The inauguration was also graced by POP Chief Mentor, Dr. R.K. Pachauri (via Skype), who motivated the young change makers to be leaders of climate action and stated the importance of Sustainable Development Goals, particularly SDG 17 (Partnership for the Goals) in this continuing journey



AGENDA FOR TWO DAYS

With monumental support from several partners and youth volunteers, the POP Movement was able to provide an open platform for young innovators and change makers to present projects that they have designed and implemented in different regions. The event also built conviction on the dire need to mobilize action and build a social movement for combating the issue of climate change and environmental deterioration.

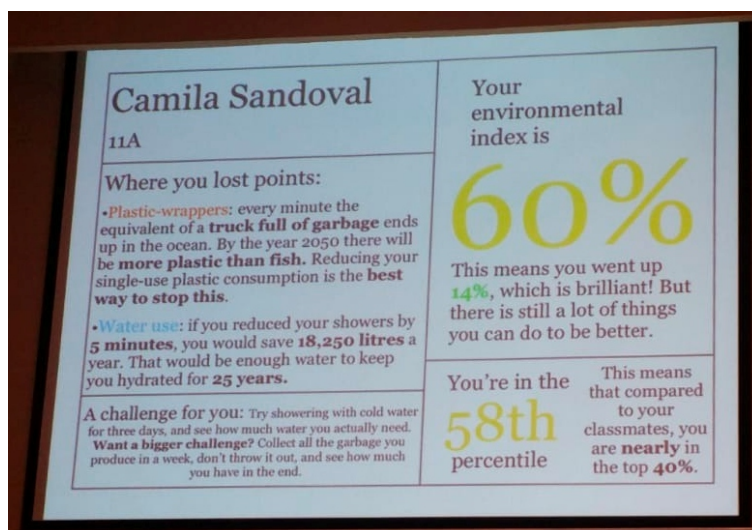
The projects and initiatives of different individuals and environmental groups were showcased in the following manner:

1. Presentations
2. Workshops
3. Screening Videos
4. Panel Discussions
5. Theatre Performance
6. Art and Messaging through the Wall of Youth Activism
7. Exhibition and Poster Presentations
8. Music Concert

PRESENTATIONS

1. The environmental index project - *Colegio Marymount Cuernavaca, Mexico*

The project seeks to reduce students' consumption by fostering social and intrapersonal competition. It involves a survey of habits using parameters like consumption of meat and packaged food, water and electricity use, clothes shopping etc. The feedback from this survey contains a numerical "environmental index", and also presents the challenges that the student needs to overcome using the available scope of opportunities. Periodical implementation of this survey among a group of students with an aim to improve the environmental index, has enabled them to take tangible steps to be more eco-friendly.



2. Eco-toxic impact of polypropylene resins at their end-of-life cycle - *Universidad Nacional Autónoma de México*

In Mexico, municipal solid waste ends up in landfills and water bodies. Depending on the method of final disposal of plastics, toxic substances like furans, dioxins, and other metals like cuprum, vanadium and nickel are released. Principal damage caused by plastic is through its end-of-life cycle, when it isn't disposed in the right manner. The presenter believed that adopting a "circular economy" culture will work against this issue and build a better society.

3. Restoration and reforestation of fragmented forests with native tree species and the creation of local conservation areas in the municipality of Zinacantán, Chiapas - *Zinacantán, Chiapas, Mexico*

Leonardo Gomez from Chiapas, spoke of the establishment of an integrated agro ecological center with agroforestry and permaculture system for the rescue of native trees in the municipality of Chanal, Chiapas. His goal is to establish such a center at which people will be trained through workshops, work tables, documentation and dynamics in order to make known what is happening to Mother Earth and raise awareness among the inhabitants of the municipality. He believes that the next important step is to collect native timber seeds that are becoming extinct, and use the opportunity to train the local community in the process of growing seedlings of forest nurseries.

Leonardo also discussed how it is important to sow and use an agroforestry and permaculture system of approach for sustainable management, with the intention that the inhabitants not only cut it out of necessity but also give it the care it deserves, knowing that it is the basis of one's existence.



*“My purpose is to reserve and rescue
the elements of nature for our future generation”*

His civil society organization called “Change Agents” creates a space, where they in the Chiapas can perform environmental management in their community by employing conservation methodologies.

4. Ecolillitas - Universidad del Caribe, Mexico

A study conducted in 2009 revealed that 767 million cigarette filters are discarded directly into the environment every year. The important fact that goes unnoticed is that all the components of a cigarette are concentrated in the filter and that it can take up to 10 years to degrade, polluting its surroundings in the process.

“Ecolillitas” is a project from Universidad del Caribe in Cancun, Mexico that has been implemented on campus to reduce the impact of cigarette waste. The project seeks to design containers for collecting cigarette filters at key locations, clean and reuse those filters through chemical treatment and conduct awareness campaigns on the need to preserve the delicate ecosystem.

6. Greenboat - Universidad de Guadalajara, Mexico

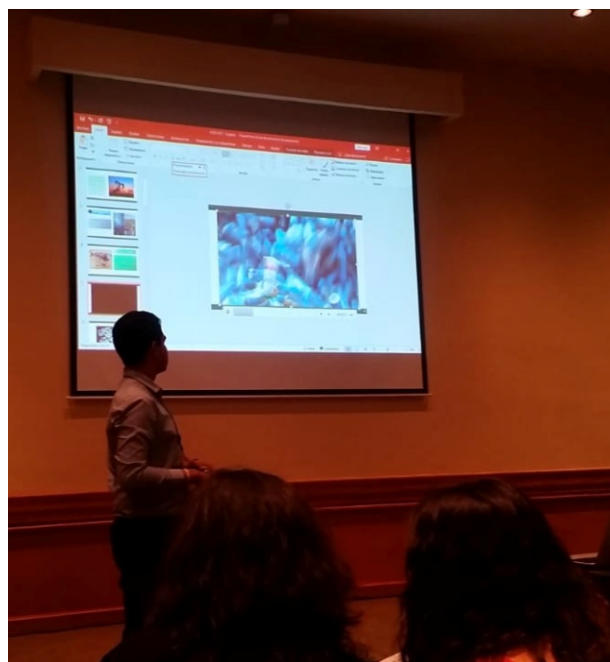
The session shed light on the problem of littered waste in public roads and the ideas that can be implemented to overcome this problem which roots from a lack of social consciousness.

5. Ecofila and Recolecton - Universidad Iberoamericana, Mexico

Through individual and collective actions, young students from Universidad Iberoamericana pledged to care for and protect the environment. They have been promoting sustainable lifestyle changes that include refusing single-use plastics and adopting waste recycling practices. They work towards raising public awareness on large environmental impacts caused by individual actions and also perform market, social and environmental analysis to interpret the results of lifestyle changes.

7. Obtaining functional biofilms from waste generated from the wheat crop with incorporation of propolis extracts - Universidad Estatal de Sonora, Mexico

This is an integrating project based on the pillars of sustainable development, which aims to develop functional biofilms with propolis extracts, to reduce the use of single-use plastics. This project has proven results in the laboratory. It aims to be implemented at a large scale, beginning with Sonora, Mexico.



8. Sustainability of self-care products among vulnerable communities in India - *The POP Movement, India*

This study focuses on the disposal of waste from self-care products used by vulnerable communities for their sexual and reproductive health. Self-care products are made up of artificially synthesized materials like latex rubber, plastic, silicon polymers, dioxins, fibers, polyvinyl acetate, ethinylestradiol, levonorgestrel, depo medroxyprogesterone, norethisterone, and silastic material which are harmful to the environment. Over half of the world's population is now at risk because of untreated self-care waste.

Sustainability priorities for vulnerable communities regarding the disposal of self-care products depend on social, cultural, political and economic phenomenon that undercut the fundamental needs and rights of a person/community. This project presents a model that could be implemented in regions to overcome the challenges faced by vulnerable communities with respect to self-care product waste disposal.

WORKSHOPS- Foundation for Critical Thinking

1. *Xhocatli - Universidad de Guadalajara, Mexico*

The workshop headed by Tinmar demonstrated how one can produce organic chocolates and handmade marzipan at home.



2. *Green puzzle in CUCEI - Universidad de Guadalajara, Mexico*

Students of CUCEI conducted different activities that form a green puzzle. The concepts of interrelation between doubting, questioning and learning were used as a method of teaching by the group. The importance of teamwork and collective efforts for building a strong movement was conveyed.

An interactive workshop was conducted where phrases and reflective images were used for the sensitization of students in the CUCEI school. A collective mural for the creation of environmental awareness was designed by the students. Proposals were made on identifying potential areas for vertical plantations, which can be made with a sustainable urban model that focuses on adaptation measures to climate change.

“We have the pieces of the puzzle but there is one to fill out. That is, your participation in this initiative with which we can all lead together.” - Student from CUCEI

3. Carbon footprint - Universidad de Guadalajara, Mexico

Dra. Eire Reynaga Delgado from UDG conducted a workshop on carbon footprint and explained how global warming has been a result of anthropogenic activities like transportation. Making the interaction practical, volunteers were invited to bring out a calculation of their individual carbon footprint. spect to self-care product waste disposal.



4. Waste segregation and management - Instituto Politécnico Nacional (IPN), Mexico

Dr. Jonathan from IPN spoke about beach litter and strategies for its management. Recycling was the strategy proposed for beach goers to manage their own waste. Categorical efforts required for 'Blue Flag' certification, which is an international recognition conferred on beaches meeting certain criteria of cleanliness and environmental propriety, were discussed. Overcoming issues like plastic waste and the seaweed menace were given focal attention.

5. Eco Eaters - Tahoe Expedition Academy, United States of America

Through Eco Eaters, the Tahoe Expedition Academy are working with restaurants and hotels in Nevada to eliminate plastics. The plastic contamination and its menace was discussed in relationship with the Great Pacific Garbage Patch and its impact on biomes. The audience were provided with guidelines to avoid single-use plastics and were sensitized on the need to protect the planet from plastic waves through a number of dynamic games.

6. One less straw - One More Generation (OMG), United States of America

The project works on two levels. Firstly, the group engages in ground level advocacy targeting restaurants that use single-use plastic, with the purpose of sensitizing them and promoting behavior change. There have been several success stories with local stores quitting the use of single-use plastics following the intervention by the group. The team has also developed a food-rating app, in order to let the consumers become aware of restaurants' sustainability practices through a concept called, green rating.

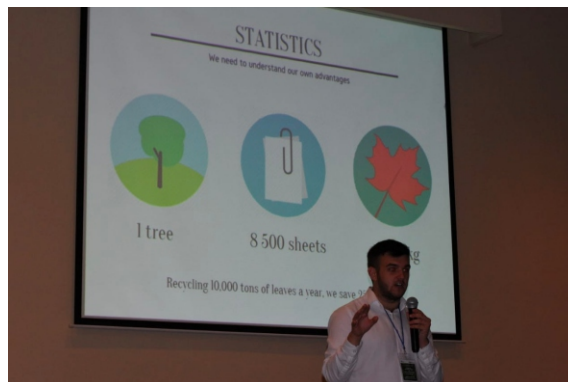
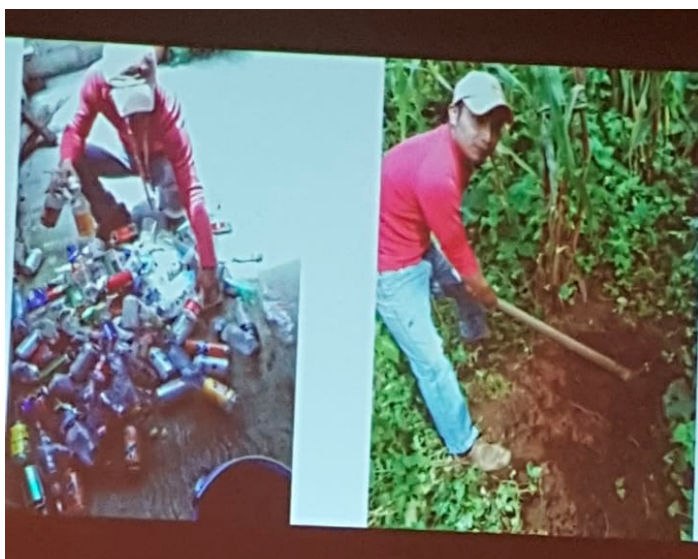
VIDEO PRESENTATIONS

1. Future in leafs: Global strategic sustainability in paper & packaging - Green Education Foundation, Ukraine

Valentin, founder of re-leaf foundation, spoke of great balancing actions that change problems to solutions. Using dry leaves for paper production, his work focuses on allowing recoverability and accessibility.

2. Ecological stove and edible mushrooms - San Juan Chamula, Chiapas, Mexico

This project is based on the ecological condition in Chiapas, Mexico. The project is focused on ecological stoves that work through Seebeck effect, a thermal energy conversion mechanism. It envisions smoke-free cooking in the future and also better recycling of solid wastes through its application.



3. Nanocellulose hydrogels from banana peel waste for remediation of wastewater - Universidad de Guadalajara, Mexico

In light of the rampant pollution in oceans, lakes and other bodies of water, the project aims to use banana peel waste as raw material to obtain nanocellulose and synthesize a hydrogel capable of absorbing chemical substances or heavy metals that are present in wastewater.

Organic waste which could be decomposed is used instead to create a value-added product which will give a feasible environmental proposal in the treatment and remediation of water, since the biomaterial, obtained from renewable sources is biodegradable and non-toxic.



4. Intelligent neighborhoods in Los Mochis, Sinaloa - Universidad Autónoma de Occidente, Mexico

The Smart Neighbourhood program is one of the civil protection plans of the state of Sinaloa and part of the Municipal Urban Development plan. The program which works in collaboration with civil society associations and socially responsible companies, is implemented by transmitting knowledge on global theoretical framework including treaties and international agreements, as well as national legal techniques and instruments, official Mexican standards, laws, and local, municipal and state pacts.

Universidad Autónoma Occidente seeks to establish the Smart Neighborhood Program in the Santa Cecilia Fractionation community, in order to promote the achievement of the 17 Sustainable Development Goals (SDGs) proposed by the United Nations on the 2030 Agenda for Sustainable Development. The Smart Neighborhood program focuses specifically on SDG 11 and SDG 13 which is about making cities and communities inclusive, safe, resilient and sustainable (SDG -11), and adopting urgent measures to combat climate change and its effects (SDG 13).

The team works with Environmental Engineers available in the community and uses their expertise to promote sustainable development in Santa Cecilia. During the presentation, it was proposed that the project be expanded to other communities and that it is adopted in the regulatory framework to ensure that it is a source of employment for the team working as volunteers.

5. Greenster - Universidad de Guadalajara, Mexico

Greenster is a mobile application developed by students from Universidad de Guadalajara that creates awareness and fosters a culture of recycling. The project envisions to have a global outreach and generate impact by ensuring that people from different sectors in society develop a culture of recycling.

PANEL DISCUSSION

The panelists who chaired the discussion represented different backgrounds. They were Ms. Vanessa Hernández, POP Youth Mentor, Dr. R.K. Pachauri, POP Chief Mentor, Dr. Adrián Fernández, Executive Director of Iniciativa Climática de México, Carter Ries, Founder, One More Generation, Mateus de Sousa Shields, Environmental Activist and Student, and Dra. Jazmín del Rocío Soltero Sánchez (representing Dr. Oscar Blanco Alonso) from University of Guadalajara. Four major questions were explored by the panelists as they discussed ideas and possible action plans that could be realistically implemented. The questions which served as vital pointers for discussion are mentioned below:

- 1) What are the key opportunities and pathways available to limit the warming of the planet 1.5°?
- 2) What is the role of youth movements in raising awareness on the urgency to address the climate emergency?
- 3) What can one expect of the international climate negotiations before 2020?
- 4) What urgent lifestyle changes must youth make to protect the planet?

STAGE PLAY

Unpublished ecological theater “Heroes never die” - Universidad de Guadalajara, Mexico

Poor waste management in Mexico is a major concern. In the 38% of organic matter that is segregated, 11% are plastic. Around 102,895.00 tons of waste is generated daily, of which 83.93% are collected and 78.54% are disposed of in final disposal sites, thereby recycling only 9.63% of the waste generated. Mismanagement and corruption inherent among federal authorities ensures that serious issues like irregularity of hazardous waste materials go inadequately addressed. Therefore, companies responsible for solid waste management do not follow good practices that benefit the environment.



Social activism, coupled with decisions in Mexican policy system has led to control and management. It is a great example of how small actions make huge changes. Currently, Mexico has been debating new waste policies. The new law for solid waste deals with landfills and updates the technique of confinement and final disposal. Collective actions such as a play can change paradigms.

The play succeeds in establishing a narrative that values are a fundamental part of change and that collective actions can change paradigms.

WALL OF YOUTH OPTIMISM

No planet B: The State of Climatic Emergency - A wall of Youth Activism Inviting Commitments

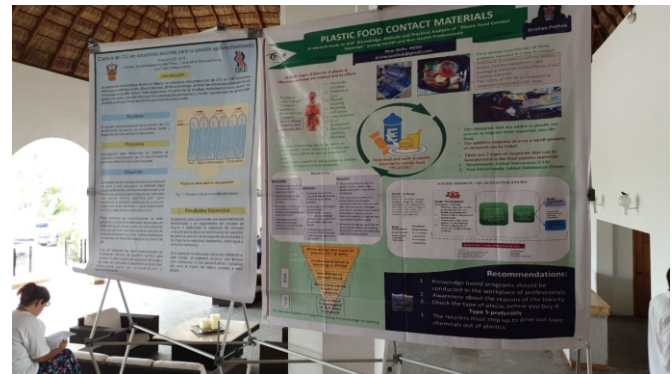
Using art and messaging, young people demonstrate actions and activism that they pledge to Protect Our Planet.



EXHIBITS AND POSTERS

1. Plastic food contact material (PFCM) - *The POP Movement, India*

A Knowledge Attitude and Practices (KAP) study of health and non-health professionals was conducted, wherein it was discovered that their daily use of Polyvinyl Chloride (PVC) is on a significant rise. This is because the properties of PVC have been altered with the addition of chemicals to enhance its quality, durability, and flexibility. Every time a consumer uses a PVC product, it has a harmful effect on the user as well as the environment. When plastic comes in contact with food material used for packaging, chemicals from the plastic move into the food product. The KAP survey conducted as part of the research revealed the following reality: “knowledge” about the 7 types of plastic is very limited; people do not pay much attention to how their food is packaged and largely consume food packed/stored in contact with plastic materials; the “practice” of ordering food online has seen an upward trend with subsequent increase in the consumption of hot food packed/stored in contact with plastic materials.



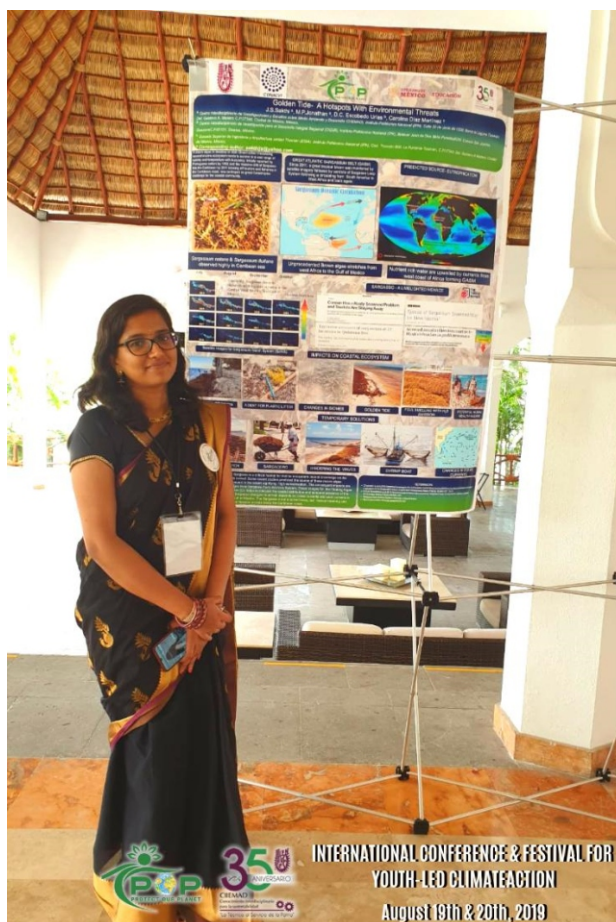
2. Objects made from recycled material - *The POP Movement, India*

Essentials and decors like pochette, flower vases, sheet folders, holder, photo frames and umbrellas were made from discarded materials like newspapers, board games, waist belts, single-use plastic bottles, scrapped electric cables, rope, invitation cards, blazer buttons, among others.



3. Golden tide - a hotspots with environmental threats - *Instituto Politécnico Nacional (IPN), Mexico*

Presence of unusual amount of Sargassum (brown macroalgae) in the Caribbean region produces several impacts on coastal ecosystems, including coastal erosion, a dent for plastic litter, changes in biomass, golden tide, foul smelling Hydrogen Sulphide emission and potential human health hazard among others. The massive arrival of Sargassum to this region was observed since 2011. The Caribbean coasts are highly influenced by this seaweed problem and it's local impacts on tourism and coastal ecosystem has become an emerging menace. The temporary remedies for the affected area have been well documented with possible natural and man-made solutions in the coastal areas.



4. Dehydrator with solar oven for sustainable development and nutrition - Universidad de Guadalajara, Mexico

The dehydrator with solar oven, is low cost and aimed at families with low income resources. The model is characterised by self-supply and allows natural cooking of food, making it last longer, and thereby becoming advantageous for communities living in poverty and extreme poverty. This project also supports social entrepreneurship.

6. Solid waste management, basic sanitation and environmental educational motivation in the Municipality of Zinacantán, Chiapas - Zinacantán, Chiapas, Mexico

This project aims to maintain and conserve forest areas and religiously important areas, by collecting and managing waste and preventing pollution. It also encourages environmental education in the municipality through the participation of key people.

5. Establishment of a forest nursery with a permacultural approach for the recovery of 6 species of native timber trees, reforestation and ecosystem restoration in Chanal, Chiapas - Leonardo Gómez Velasco, Chanal, Chiapas, Mexico

The project presents a comprehensive model for the reforestation of an important ecosystem located in the area of Chanal, Chiapas through the creation of a permaculture center, in which 6 species of native trees are produced and recovered with a specific purpose.



Mario Alberto Santiz Ruiz from Chiapas displaying handworks made by his community

7. CO₂ capture in aqueous solutions or possible use - Universidad de Guadalajara,

The burning of fossil fuels in Mexico has reached a proportion equivalent to 3.87 metric tons of CO₂ per individual per year. Dealing with emissions from chimneys is one among the many possible ways to reduce this statistic. Treatments like ozone gas washing only remove the main by-products from the chemical reactions and do not take advantage of possible products that could be utilized. The research seeks to develop a system of capture and recovery of CO₂, that is transformed into production utilities with aqueous solutions.

It was noted that by employing a monitored experiment and a follow-up of the designed process, the project's viability will be determined by percentages of the reaction performance. If it is found suitable for industrial use, the process could be redesigned and techniques could be employed to handle semi-industrial and industrial volumes.

MUSIC CONCERT

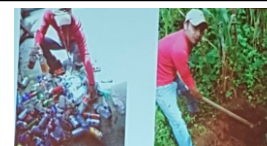
Singer and POP Youth Music Ambassador, Ximena Villalón conducted a concert at the POP Festival. Through her extraordinary voice, during her concert she powerfully conveyed the following messages:

- Protecting the Planet is everyone's responsibility
- We have no Planet B
- We are rapidly losing our biodiversity
- We are dealing with a climate emergency and need urgent youth action and activism

AWARD CEREMONY

The best projects were recognized and awarded under the following categories:

PRESENTATIONS	
Business Model	Nanocellulose hydrogels from banana peel waste for remediation of wastewater - <i>Universidad de Guadalajara, Mexico</i>
Sustainable Development Promotion	Sustainability of self-care products among vulnerable communities in India - <i>The POP Movement, India</i>
Young Environmentalist	Rompecabezas Verde (Green Puzzle) - <i>Universidad de Guadalajara, Mexico</i>
	The Environmental index project - <i>Colegio Marymount Cuernavaca, Mexico</i>
Protection to the Environment	Restoration and reforestation of fragmented forests with native tree species and the creation of local conservation areas in the municipality of Zinacantán, Chiapas - <i>Zinacantán, Chiapas, Mexico</i>
	Establishment of a forest nursery with a permacultural approach for the recovery of 6 species of native timber trees, reforestation and ecosystem restoration in Chanal, Chiapas - <i>Leonardo Gómez Velasco, Chanal, Chiapas, Mexico</i>
Support and Innovation	Fogón Ecológico - <i>San Juan Chamula, Chiapas, Mexico</i>
	Dehydrator with solar oven for sustainable development and nutrition - <i>Universidad de Guadalajara, Mexico</i>
Civil Society Engagement	Eco Eaters - <i>Tahoe Expedition Academy, United States of America</i>
	One less straw - <i>One More Generation (OMG), United States of America</i>
POSTERS	Plastic food contact material - <i>The POP Movement, India</i>
	Dehydrator with solar oven for sustainable development and nutrition - <i>Universidad de Guadalajara, Mexico</i>
	Golden tide-a hotspots with environmental threats - <i>Instituto Politécnico Nacional (IPN), Mexico</i>
	Co ₂ capture in aqueous solutions or possible use - <i>Universidad de Guadalajara, Mexico</i>



LEARNINGS FOR FUTURE DIRECTION

The International Conference and Festival for Youth-Led Climate Action revealed a number of overarching truths, which are vital to behold in the long-drawn journey towards altering the course of sustainable development and Protecting Our Planet. Firstly, it is absolutely essential to acknowledge and accolade the different range of themes that were covered by the young participants during the course of two days, as it goes to highlight the need for a multidimensional approach to decipher and unravel the multifaceted issue of climate change. Secondly, the festival showed that when given adequate support and motivation, youth take the lead without any setback or hesitation, and drive innovation and ground level action, wielding their knowledge of academia coupled with exposure to their immediate environmental reality. Furthermore, the festival brought together youth from different parts of the globe and provided a common platform enabling them to not only showcase their work, but also take lessons from other youth-led environmental initiatives from around the world. The festival fostered a sense of solidarity and knit this diverse group together through their shared ideals, thereby building the capacity for a strong movement.

The annual POP Festival is truly special and one of a kind because of the aforementioned truths and a myriad of other reasons. It is a solid testimony to the fact that youth can be leaders of change and pioneer environmental movements if they channelize their potential towards this unified goal. The POP Movement enables this process and envisages a global youth-led movement by providing sustained support and encouragement to young people across the world in the form of capacity building and mentorship.



POP Mentors with the Young Participants at the International Conference and Festival for Youth-Led Climate Action- Nuevo Vallarta, Nayarit, Mexico, August 2019



THINKING THROUGH KNOWLEDGE AND INSPIRATION

