



# Caretakers of the Environment International Conference 2023

the  
37<sup>th</sup>

*Natural*  
and  
**Cultural Heritage**

Yogyakarta, Indonesia  
July 2<sup>nd</sup>-8<sup>th</sup>, 2023

From 17 Countries,  
Junior, and  
Senior High  
School

# global FORUM

Global Forum for Environmental Education  
Volume 34, number 1, 2023





## **The 37<sup>th</sup> Caretakers of the Environment International Conference 2023**

### **“Natural and Cultural Heritage”**

#### **Collaborative Experiences on Natural & Cultural Heritage**

Sharing experience among teachers and students from various countries to prepare young generations to take actions for a sustainable planet



# PREFACE

CEI 2023





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Alumni Coordinator Jesaya Christian

# 1 Message

**Dan Hoynacki**

*President of the Caretakers of the Environment International*



Dear all Caretakers - Students, Teachers and Friends On behalf of our Board of Directors, welcome to 37<sup>th</sup> volume of the Global forum for Environmental Education, dedicated to the 37<sup>th</sup> annual Caretakers of the Environment International Conference held on July 2<sup>nd</sup> - 8<sup>th</sup>, 2023 in Yogyakarta, Indonesia.

Special thanks to the extraordinary organizing team conference team under the leadership of *Stien Matakupan, Desi Arti and Okwan Himpuni*. We deeply appreciate Indonesia's stellar commitment to Caretakers: First, Indonesia is to be congratulated on being our annual conference host for a third time since its first Caretakers conference in 2010. Second, we salute Indonesia to having developed and nurtures the largest in-country network of secondary education schools and educators since their establishment in 2001, and launched their first Environmental Teacher International Conference (ETIC) in 2008. The Global forum (GF) is meant to be a chronicle of each conference. If haven't already, please visit the Global Forum section of our primary website: [www.caretakers4all.org](http://www.caretakers4all.org) for a look back at the photos, activities, projects and delegates of previous conferences. It's the perfect place to research your next environmental project. Just as important, it is how youth and educator delegates from across our planet engage with one another with a strong environmental purpose but also with love and friendship in their hearts.

Each Caretakers conference is unique, as is every delegate who attends either in person or virtually. Each of us must put forth an extra effort to get the most out of a Caretakers conference, not only for yourself, but for your delegation, school, and country. It is one of the few opportunities to personally connect with your international peers and share mutual interests, goals, values and beliefs.

If conversational English is a challenge for you, then I urge you to use this to your advantage when engaging with other delegates. Be open, ask questions, and ask for the other person's assistance in communicating what you wish to say. English words are best served slowly, and EVERYONE has an accent! And don't be hesitant to reach out to CEI board members and other adults who have attended many conferences. They are eager as well to learn more about you.

Please forge a plan to stay connected with new friends post conference. A Caretaker is a good personal reference source on a college application or assist with wording on a resume. It is up to you to build a network of lifetime friendships.

Enjoy the conference!

Take care-  
Dan Hoynacki

## 2 Letter from Host

**Desi Arti**

*Conference Host 1 of the Caretakers of the Environment International 2023*



With sincere humility and genuine enthusiasm, we present you the Caretakers Environment International Conference. This conference serves as a valuable platform that brings together stakeholders, experts, teachers and student from around the world to discuss, share, and contemplate on an inevitable theme: "Natural and Cultural Heritage."

Environmental sustainability and the preservation of natural and cultural heritage are our collective responsibilities. Through this conference, we aim to inspire constructive and collaborative global dialogues on how we can nurture and safeguard our rich natural and cultural heritage, which not only embodies our collective identity but also plays a crucial role in the global ecosystem balance.

Over these intensive four days, we have gathered distinguished panelists and speakers from various fields, ranging from environmental sciences, archaeology, anthropology, public policy, to innovative technology. Through diverse presentations, panel discussions, and interactive workshops, we hope that this conference will stimulate critical thinking, profound idea exchange, and collective efforts to design concrete solutions that can be implemented worldwide.

We extend our gratitude to all of those who have contributed to make this conference success, including speakers, panelists, volunteers, and sponsors. Without your hard work and collaborative spirit, this conference would not have been possible.

In the spirit of togetherness and determination to bring forth real positive impacts for our planet and future generations, let us embark on this intellectual and inspirational journey. Together, let us forge a strong commitment to become responsible environmental caretakers and appreciative stewards of natural and cultural heritage. Thank you and enjoy the Caretakers of the Environment International Conference!

Respectfully,  
Desi Arti

**Okwan Himpuni**

*Conference Host 2 of the Caretakers of the Environment International 2023*



Thousands of hands are required to maintain and care for the Earth with enthusiasm, responsibility, and consistency. CEI has become one of the platforms to build awareness and concern, particularly among the youth, by collaborating and sharing inspirations. This year is exceptionally special as it embraces the

themes of nature and culture as the fundamental foundation for sustainability. Moreover, it is held in a hybrid session, allowing the active participation of many individuals, including teachers and students. We are genuinely excited and honored to be the host of this tremendous year of CEI conference.



## 3 Review

### Georgina Grillo - Costa Rica

*Golden Valley School 2022 Organizing team, CEI 2022 Organizing Team*



*Photo by LinkedIn*

As the organizer of the historic Caretakers of the Environment First Ever Hybrid Conference held in Costa Rica from July 4<sup>th</sup> to July 8<sup>th</sup> 2022, I find myself both exhilarated and humbled by the remarkable success of this event. This conference, which was

hosted by Golden Valley School (GVS) in collaboration with the Fundación Madre Tierra Verde (MTVFund) and supported by the CEI Alumni Team, and Caretakers of the Environment International marked a pivotal moment in our collective efforts to address pressing environmental issues, with a specific focus on the theme of water.

At the heart of our accomplishment lie the unwavering commitment and support of Golden Valley School, its students, and the participants who converged from across the globe. The determination and passion exhibited by the GVS student staff were nothing short of inspiring. From the very beginning, their enthusiasm shone as they collaborated with the organizing team, taking charge of various aspects of the conference's execution. It was Daniela Gutiérrez and Max Meoño, both GVS students, who led the volunteer team with unwavering dedication, demonstrating that the youth's role in environmental advocacy is not only vital but transformative.

The strength of this conference was truly amplified by the diverse participants who came together to explore the multifaceted dimensions of the conference's theme: water. With sessions ranging from "Water Refugees and Social Impact" to "Water-Based Natural Disasters, Climate Adaptation, and Mitigation," the event provided a platform for a comprehensive exchange of knowledge and experiences, the highlight was our keynote speaker, Ms. Guillén, who brought to the discussion table deep-sea mining and its impacts. The collaborative efforts of GVS and MT.

### Maahira

*CEI 2021 and 2022 Participant*



CEI 2021 was my first international conference, even though it was really exciting off-line. At first I was very nervous and afraid to be wrong, so this was a memorable experience for me. Because I attended this conference, I learned about what a sustainable community is, which turns out to be important and good for implementation in society.

CEI 2022 was very fun and exciting, I looked forward to attending the event offline. From this conference I learned a lot about water and the environment. The water theme was very interesting and nice, because almost all aspects of human life and ecosystems depend on water. Hopefully, after this conference, the projects that have been under way can continue to be implemented and raise awareness about the importance of water.

## 4 The Alumni Team

**Yesaya Christian**

*Indonesia Alumni Coordinator*



2004 Alexandria, Egypt  
2010 East Java, Indonesia  
2020 Jakarta, Indonesia  
2023 Yogyakarta, Indonesia

I'm proud and happy to be part of CEI, especially this year which was point out natural and cultural heritages. It is essential to talk about our nature and culture, for culture has a considerable role in our nature mitigation and adaptation.

We need to channel more resources to reach more young people in underserved communities in various countries. They should also be considered important stakeholders in the implementation and execution of policies and regulations, not just onlookers because these youth are the ones with the energy and the ones who probably will be around in the next 40 years.

As a result, I believe cultural heritage and creativity can contribute to addressing the root causes of sustainability issues.

Being certified in Design Thinking and creativity makes me confident to share and guide the youth generation to present their project, get a lot of insight and inspiration from project presentations and field trips to build innovative cross-country projects, and give recommendations to government and regulators to promote and support SDGs program.

Together, we need to start raising environmentally and culturally conscious youth who, in the next 20 years, will become active leaders who are passionate about environmental sustainability, and this can be done by providing quality education (SDG 4), which is a great tool to foster all other SDGs, including climate action (SDG 13).

Hopefully, many youth and professionals can support a platform like CEI because I believe Young people have immense potential to make a difference by raising awareness, developing solutions, educating others in forming sustainable habits, and encouraging future generations to act responsibly while preserving our planet.

# The Alumni Team

## Evada Putra Widatama

I've been involved in CEI 3 times (2018 Austria, 2020 Virtual, 2023 Indonesia), and participating multiple time in a different position (Participant, Volunteer, Alumni) brings me a lot of new perspective and point of view.

Which after I recollect and introspect it brings a lot of core and positive value in what made who I am today. So all I can say is Have fun, Learn, and make the most of the 7 day of CEI don't be afraid to ask and engage with all the new friend and culture and places.

ENJOY CEI ACTIVITY



## Anel Spahic- Junior Alumni at the CEI 2023

Hi my name is Anel Spahic and I am a junior Alumni at the CEI 2023 Indonesia conference. I am 20 years old living in Sweden and currently studying Engineering Physics at Lunds University. I have participated as a student twice in CEI, once in the digital conference of CEI 2021 and the other on-site in Costa Rica, CEI 2022. In this years project i focused on spreading awareness about the Right of Public Access which is a unique policy that allows people to explore the Swedish nature.

In collaboration with Sweden group 1 and Landskrona library's language cafe we created study material that was used to educate newcomers about Swedish nature and the special policy. We then organised a trip to a Nature reserve with participants from the language cafe and showed them the Swedish nature. Whilst exploring, I had the task of teaching them the limitations but most importantly, the opportunities that the policy brings and the cultural significance of it.



## Natasha Christy Njotowidjojo

Joined CEI starting in 2007 (CEI Hong Kong)

### Attended

CEI 2009 (Scotland)

CEI 2010 (Indonesia)

### Alumni

CEI 2014 (Taiwan)

CEI 2020 (Indonesia - online)

CEI 2021 (Ireland - online) panelist CEI Talks

CEI 2023 (Indonesia) pre-conference planning

Join in 2023 to support Indonesia as a host country with event coordinator planning conference activities starting from pre-conference activities, log book design, offline pre-conference activities in Yogyakarta.







# FULL PROJECTS

On Site



## "Batik Punya Cerita" Improve Batik culture awarness Among people of young age

1

Name: Achmad Hafidz Alawy

Email: achmadhafidzalawy@gmail.com

School/ organization: PKBM Samera Indonesia and PKBM Alam

Semberbak Delegation leader/ teacher: Achmad Hafidz Alawy

Students: Azzira Humairah, M. Syaefullah Rusli, and Alifia Nur Azizah

Partner organization: Jaringan Sekolah Alam Nusantara



INDONESIA

The cultural erosion phenomenon among young people in urban environments is a significant threat. According to research by the Creative Economy Agency in Indonesia, only about 35% of Indonesian youth possess adequate knowledge about traditional culture including batik. The influence of global popular culture on young people in urban areas contributes to the decline of traditional skills and knowledge.



"Batik Punya Cerita" is an education program for the young generation about the environment and Indonesian culture through Batik.

Batik is a traditional fabric decoration technique using wax-resist dyeing. UNESCO recognizes Batik not only for its unique technique but also as a heritage that showcases the cultural diversity of Indonesia. The motifs in Indonesian Batik hold historical and cultural values of each region.



Through Batik Punya Cerita programs, young people can increase knowledge and awareness about Batik, and appreciation of these Indonesian cultural heritages, including history, cultural values, traditional skills, also the opportunity to express their ideas through Batik art. This program comes with 2 ways of campaign, online and offline:

1. Present educational posts on social media, quizzes, and interesting e-books that can be shared and read anytime (Online).
2. Hold exhibitions; learn how to draw batik motifs, and make batik using canting with youth in our neighborhoods (Offline). This program has been implemented more than 5 times, with total participants reaching 50.

## Wayang As Waste Responsibility Education For Junior High

2

Shula Izzah Nabila, Shasie Alifia Putri, Fayza Aimee Muttaqin  
Advisor : Ainun Nurul Fitria



**INDONESIA**

Waste production has dramatically increased in recent decades and is not expected to decrease. Millions of tons of waste are produced by humans each year, with The National Waste Management Information System (SIPSN) estimating that Indonesia produces 30.7 million tons of waste annually, and only 15.76% of that waste is being reduced. This research aims to determine how much knowledge teenagers have regarding responsible waste disposal and whether they apply that knowledge in their day-to-day lives. So, we settled on three widespread problems: overconsumption, littering, and food waste. About 1,005 respondents, grades seven through nine, were collected.

While the questionnaire's results varied, the internal and external outcomes were comparable across five schools. Overconsumption is the primary internal issue and littering is the primary external problem. According to the research, many students lack a basic understanding of waste responsibility.

As Wayang, a traditional Indonesian performing art from Java and Bali is falling out of popularity, we constructed Wayang performance videos based on the internal and external issues of the respondents to popularize Wayang amongst teenagers further.

The next step of our research is creating a collaborative project with different schools about waste responsibility which we held meetings with the student representatives. The event, named Artistic Waste in Collaborative Project, was put on the 18<sup>th</sup> of March 2023 with four schools in attendance and 50 students participating in this project. The event had three main activities: cleaning the street of trash, campaigning about waste responsibility to the residents, and creating art from trash.



## Eco Friendly Detergent With *Morinda citrifolia* L

3

Name : Muhammad Fajri  
Email : muhammadfajri0010@gmail.com  
Country : Indonesia  
School/Organization : Sekolah Alam Indonesia  
Delegation leader/ teacher : Faith Ali Iskandar/ Muhammad Fajri S.Pd  
Students: Faith Ali Iskandar, Muhammad Nafis Dzakwan, Qalif Faizar  
Risadin Usman  
Partner organization: Sekolah Alam Indonesia



**INDONESIA**

An eco-friendly detergent produced from noni fruit, lemon, and citronella is being researched in order to alleviate pollution in Indonesian rivers, one of which being the Kalisari in Mulyorejo, Surabaya. Detergent waste has the potential to contaminate both water and land. Laundry waste polluted fields emit a foul odor and can contaminate community wells. The goal of this research is to create an environmentally friendly replacement detergent. We hope that species can survive in water that has been treated with environmentally friendly detergent.

This study's resources comprise (a) 3 noni fruits, 3 lemons, 6 lemongrass sticks, and 330 mL of water. We chose noni fruit as the major ingredient since it contains a high saponin content. The method we utilized is to blend all of the materials together, then filter the mixture through a fabric/cloth. The resulting liquid will be used as a detergent, and the dregs will be discarded. The study's findings were successful because the detergent can remove stains from clothes, the *Oreochromis mossambicus* fish can survive, and the *Cordyline fruticosa* plant can thrive despite being watered with laundry waste water.

The environmentally friendly detergent created was brownish in color with a lemongrass scent, but it had drawbacks, such as the aroma not lasting long. The lemongrass scent changing if it had been more than 1 week, and this detergent had to be filtered continuously. If no filtering is performed, the detergent forms a gray sediment below.

4

Name: Eneng Destiani  
Email : motodesti@gmail.com  
Country : Indonesia  
School: Sekolah Alam Bogor  
Teacher: Eneng Destiani, S.Pd  
Students: Kalyca Amira. A, Khansa Malika. D, Myula Aimee. F,  
Sachi. M, Arsyia Arraihan. M.  
Partnership: Jaringan Sekolah Alam Nusantara (JSAN)



INDONESIA

The 1167 Mission is a project aimed at raising children's awareness of the Tropical Rainforest Heritage of Sumatra (TRHS), which has been listed as "World Heritage in Danger." The four key mammal species (Sumatran Tiger, Sumatran Elephant, Sumatran Rhino, and Sumatran Orangutan) living in the TRHS also face the danger of extinction.



These Indonesian exotic animals play crucial roles in preserving forest ecosystems. In this project, we created animal dolls as a tool to raise awareness about the importance of protecting the four key species for the sustainability of the TRHS ecosystem among the younger generation. The dolls are made using textile waste as part of our mission to reduce waste and have a direct impact on the environment. Another unique aspect of this project is that we incorporate Batik accents as accessories for the dolls, matching



the pattern of the Batik with the characteristics of the animals. For instance, the "Siliwangi Tiger" pattern, associated with "superiority," is used for the Tiger figure. By utilizing Batik, we believe we can make a bigger impact on this issue, as Batik has become popular as an Indonesian cultural heritage that has gained global recognition.



Our project started in January and began seeking collaborative partnerships from February to March. Starting in March, we developed prototypes, and this process continued until June 2023. We also extended invitations to several institutions for partnerships and collaborations, including the Indonesian National Commission for UNESCO, UNESCO Office Jakarta, Direktorat Pengelolaan Kawasan Konservasi, Batik Pancawati, and CV. Monsh Plus.

## SIBER SIKUT PROJECT

5

MTsN 4 is the Islamic junior high school in South Jakarta.



**INDONESIA**

Gong Si Bolong is a gong with circular hole in the center, founded in 1549 in a riverbank of Krukut River, Depok, West Java province. It is declared as the National Intangible Cultural Heritage. The circular gong symbolizes the harmony, balanced, and sustainable philosophy of nature and culture. The gong plays important part in Betawi culture, usually played during harvesting season, wedding, or religious events. It often played with Pencak Silat, the Indonesian traditional martial arts.

MTsN 4 is the Islamic junior high school in South Jakarta. The students INDONESIA initiate Krukut River Clean Up (SIBER SIKUT) project since 2021 to restore the harmony of nature and culture by mobilizing people's support in protecting the local wisdom and Krukut River ecosystem. Aside from river cleanup activities, the students learned and performed Gong Si Bolong instrumental art and Pencak Silat (Indonesian traditional martial art) to raise public awareness about waste issue in the Krukut River.

The MTsN 4 team collaborate with Care Indonesia, local communities, traditional art association, and visited decisions makers from Minister to Legislative Member to raise awareness and supports for this initiative. Through this project, 25 tons of waste and garbage were collected from the riverbanks, more than 1000 local participants involved, and successfully gathered stakeholders and mass media supports.

Keywords: river ecosystem, cultural heritage, traditional arts, stakeholder youth in our neighborhoods (Offline).

This program has been implemented more than 5 times, with total participants reaching 50.



## Citra Rasakoe

6

Country: Indonesia

School/organization: Cita Hati Christian School West Campus

Delegation leader/advisor/teacher: Mr. Aprilianus Sinaga

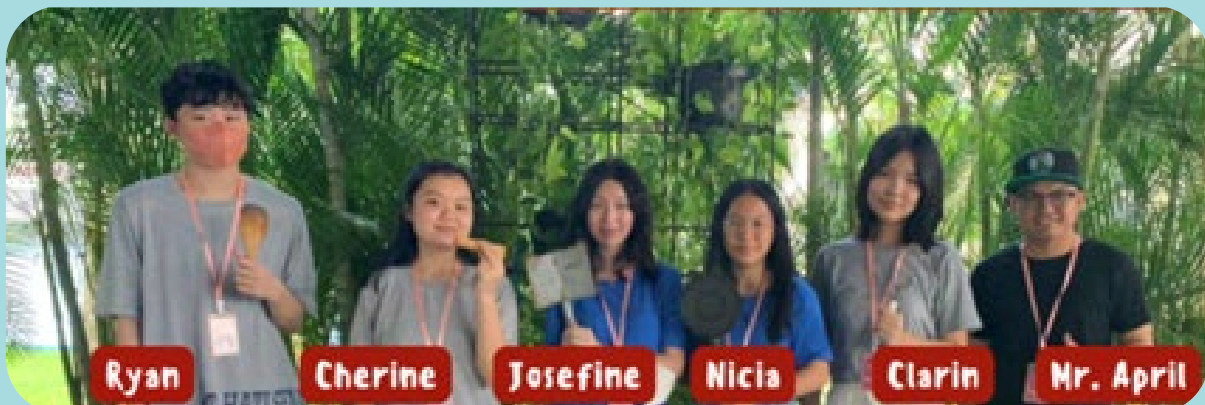
Students: Clarin, Cherine, Ryan, Josefine and Nicia



**INDONESIA**

Indonesian children's awareness of our cultural heritage has seemed to be the least interest of youth nowadays. Furthermore, due to the pandemic, children at the At-Taufiq Orphanage have been financially struggling. These problems create a resolution for our team to teach children in At-Taufiq orphanage how to cook some of Indonesia's delicious traditional dishes like, klepon, keciput, onde-onde, opak gulung, kencur and sinom. These skills will help them develop enterprise in the future, whereas they can sell traditional dishes in their community while improving their overall economy.

Further more, customers who buy those products will also be more knowledgeable regarding the traditional snacks that are sold, which leads to a sustainable cycle. We're encouraged to help them as it benefits both sides. Aside from providing the children more knowledge on Indonesian cultures by equipping the At Taufiq children with practical culinary skills and entrepreneurial knowledge, we envision that they will gain self-confidence, independence, and a sense of purpose as they look for ways to apply what we have taught them to future entrepreneurial ventures of their own. As for us, in addition to learning more about our culture and diversities, we've gained insightful knowledge on the At-Taufiq children's life and their perspective of Indonesian culture. Through this program, we were given to share experiences and practices as well as gain a more intrinsic appreciation of Indonesia's culture and the heritage that we all have in common.



Citra Rasakoe

6

Country: Indonesia

School/organization: Cita Hati Christian School West Campus

Delegation leader/advisor/teacher: Mr. Aprilianus Sinaga

Students: Clarin, Cherine, Ryan, Josefine and Nicia



INDONESIA



We used the money we've gathered to buy the materials and supplies needed to teach!



Presenting to our partners and sponsors to help with funds. We've gathered a total of Rp 16,4 Million from our school, sponsors and donations!



Teaching the At-Taufiq orphanage how to make batik and traditional snacks.

## The Glamorize Shibori Itajime

7

Cita Hati Christian Senior  
School West Campus, Surabaya, Indonesia  
The Glamorize Shibori Itajime



**INDONESIA**

Batik is one of Indonesia's cultural heritage which is recognized by Unesco and can be used for businesses to generate income. Especially the Shibori Itajime batik which is quite easy to make and can be produced in large quantities quickly. However, today's young people are less interested in batik itself.

The pandemic caused by Covid 19 has a negative impact on the community's economy. Take an example from At-Taufiq orphanage, this orphanage has been affected by the pandemic financially with less donations. This resulted in a near by orphanage forcing 19 children to leave the orphanage by the end of June 2023 due to the struggle of finance. As a result, those children will drop out from their school next academic year.

The problems above encourage us to create and carry out a project called "The Glamorize Shibori Itajime". Raising awareness of young people through learning and teaching how to make Shibori Itajime batik. It's also helping orphanages to raise money to support them financially by helping them sell their products is the goal of this project.

Challenge's problem was discovered after we visited and interviewed the leader of the At-Taufiq Orphanage. This motivates us to make a clear and detailed program which consists of research, making goals of the project, making activities and the timeline of the activities, budgeting, finding partners and sponsors as part of our project planning. Finally, we decided to cooperate with Mrs. Katarina from CV. Kreasi Jari Indonesia to learn how to make Shibori Itajime batik, tie dyed batik, cabut warna t-shirt and make a scarf / shawl with leaf decoration. After we learn those items, we teach the children of At-Taufiq. The budget to cover all activities will be covered by the school for learning. Buying equipment and materials to teach orphanage children, we do fundraising such as making and selling salted eggs, selling drinks and getting support from sponsors and donations.

As the sustainable of the project, we plan to help the orphanage sell their products in the stall which provided by Pakuwon Mall as one of our sponsor and making another batik. The Urban ecosystem will be applied in the project by providing independent-living, entrepreneurship skills and most importantly, keeping our culture from disappearing for generations to come. This skill can be used to improve the overall economy of the children and the community.



## The Glamorize Shibori Itajime

7

Cita Hati Christian Senior  
School West Campus, Surabaya, Indonesia  
The Glamorize Shibori Itajime



INDONESIA

the docummentation project





## Indifish

8

Indifish is a project based on concern about the existence of local fish in Indonesia which are decreasing. We aim to cultivate, develop the potential of local fish and preserve it.



**INDONESIA**

Indonesia has various types of typical endemic fish. However, currently many endemic fish in Indonesia are endangered due to the lack of public awareness of the existence of local fish. People are more familiar with foreign fish for consumption such as Goldfish, Tilapia, Dumbo catfish, and Siamese catfish. The presence of invasive foreign fish destroys the habitat of local fish, Armored Catfishes are found destroying the habitat of rivers around Bogor-Jakarta and Red Devil Fishes in Lake Toba.

We provide three solutions, namely, Education, Cultivation and Conservation. We educate the public about the existence of local fish, cultivate, develop the potential of local fish, and conserve local fish.



Since 2021, we have been trying to cultivate Hemibagrus Fish, and rainbow fish. Indifish also makes processed products from gourami fish, namely crackers gourami and nuggets gourami.

Our mission is to foster public awareness of the preservation of local fish, cultivate and develop the potential of local fish. We add value to processed local fish products for consumption so that they are of high selling value and preserve rare fish. Endemic fish are part of a country's identity, preserving them is part of preserving its natural heritage.

Children of At-Taufiq. The budget to cover all activities will be covered by the school for learning. Buying equipment and materials to teach orphanage children, we do fundraising such as making and selling salted eggs, selling drinks and getting support from sponsors and donations.

## 'Special Gift for My Land'

9

School/organization: Citra Alam Senior High School

Delegation teacher: Mr. Suryadi

Students: Afiifah Radhinda Salwaa, Kirani Naura Wijaya, Danta Ahmad

Sunandar, Keian Akbar Raulino, Faris Audah Ramadhan

Partnership : Palakali Creative Art



INDONESIA

### CITRA ALAM SENIOR HIGH SCHOOL

'Special Gift for My Land'. Jakarta is the capital city of Indonesia, which have various environmental problems. The area of DKI Jakarta Province is 7,659.02 km<sup>2</sup>, consisting of 661.52 km<sup>2</sup> of land, including 110 islands in the Thousand Islands and 6,997.50 km<sup>2</sup> of the sea. And what is still very dominant is the problem of waste, especially plastic waste.

Plastic waste is very damaging to the environment, disrupting the ecology and environment of land and sea. The bad impact of plastic waste is not only damaging to human health, killing various animals and fish, but also systematically destroying the environment. And definitely very dangerous for the continuation of the ecology and environment on this earth.



In 2020-2022 during the pandemic, when we were just at home holding ourselves back from many things, it turned out to have quite a unique impact related to waste, especially plastic. According to sources from the Ministry of Environment and Forestry, there has been an increase in plastic waste by 30-50%. With the results of LIPI's research, online shopping activities have increased tremendously. The comparison When in 2019, the average person shopped online 1-5 times a month. In 2020, it can be up to 10 times or even more, per month. Even today, it is still increasing. Shopping for anything, from food, drinks, books, vegetables, and other necessities.

While 96% of online shopping packaging is plastic, the composition of the packaging consists of tape, plastic wrap and bubble wrap, which will then simply be thrown away as trash. And the biggest consumers of online shopping are teenagers.

We are here to focus on the problem of waste on the mainland, the land where we live is polluted by garbage. Because it turns out that our awareness as teenagers is still very low, we know the impact of waste pollution, but our actions are still very minimal.

We are trying to carry out campaigns to keep reminding us how we have to keep the land clean of trash. This is an interesting campaign that makes teenagers especially want to know more about how real action is to protect the land from waste pollution.



9

School/organization: Citra Alam Senior High School

Delegation teacher: Mr. Suryadi

Students: Afiifah Radhinda Salwaa, Kirani Naura Wijaya, Danta Ahmad

Sunandar, Keian Akbar Raulino, Faris Audah Ramadhan

Partnership : Palakali Creative Art



INDONESIA

This campaign is through clay products (clean soil that we take from the nearest environment), which are used as a container for plants to be placed on the table.

The title of our project is "a special gift for my land" a symbol so that we always keep the land clean. The shape of this clay product that we make ourselves varies to make it more attractive (in the form of traditional cakes or Jakarta cultural icons), which will then be used as plant pots. This special gift is a campaign package: a clay pot, a bookmark bearing the message of taking care of the soil, eco-friendly packaging, tote bag.

In addition to making products, we also conduct campaign roadshows to schools, educate them about how we protect the environment from waste, and invite them to plant crops by first making plant pots/containers from clay.

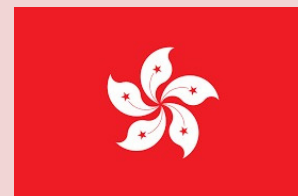


About project impact, around 10000 people are affected by this campaign project school, community, individu, media social. Increasing awareness about protect the land, open mind about keeping the land clean/keep the land clear of trash, adds to the creativity of the Teenagers, inspiring to planting to decreasing air pollution.

## Microplastics Investigation: PP MPs' Impact on Aquatic Organisms

10

Microplastics Investigation: PP MPs' Impact on Aquatic Organisms  
Queen Elizabeth School Old Students' Association Secondary  
School Student : Sheung Yan CHAN, Sze Yuen LEE, Kiu Hei CHAN,  
Cheuk Lam WU  
Project supervisors: Chi Fai WONG, Pat Chun CHAN

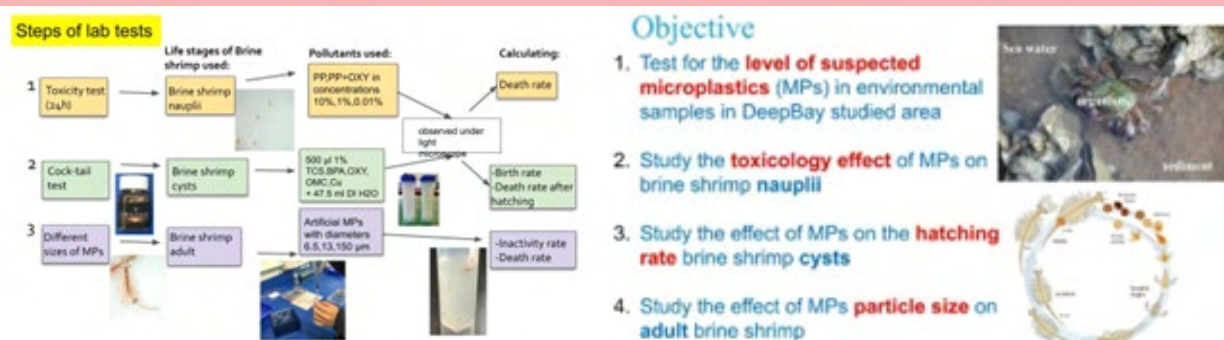


HONG KONG

Microplastics (MPs) plastic fragments less than 5 mm in length. MPs impose risks on human health and ecosystems, as they may absorb environmental pollutants due to their high surface area to volume ratio.

MPs are ubiquitous pollutants in two catchment systems in the Deep Bay oyster culture region. By the use of different stages of brine shrimp samples, we studied the effect of polypropylene (PP) (as MPs samples) and contaminated polypropylene on aquatic organisms. Brine shrimp nauplii treated with MPs alone resulted in a higher death rate in all nauplii samples and contaminated MPs treated with Oxybenzone increased the death rate further significantly. The result suggests only a small amount of pollutants carried on the surface of MPs. The estimated threshold value in contaminated MPs to nauplii is at a relatively high concentration. Adult brine shrimp samples were used to study the effect of different particle size MPs' negative impact on aquatic organisms. Particle size of 13  $\mu\text{m}$  MPs causes the greatest negative impact on adult brine shrimps. The hatching rate of brine shrimps under MPs and contaminated MPs it's also studied through the hatching rate of the nauplii. The brine shrimp cysts showed a significant decline in hatching rate under the influence of MPs and contaminated MPs treated with a cocktail solution (Oxybenzone Octinoxate BPA Triclosan  $\text{CuSO}_4$ ) and under individual pollutants (Oxybenzone Octinoxate).

It is first proposed in this report to use the hatching rate of brine shrimps to study the impact of pollutants (including MPs) on aquatic organisms.



### Microplastics Investigation: PP MPs' Impact on Aquatic Organisms





## The Use of Brine Shrimp to Test for Water Pollutants

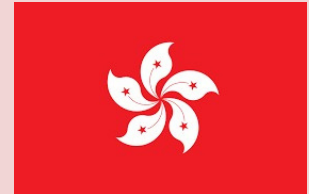
11

The Use of Brine Shrimp to Test for Water Pollutants

Queen Elizabeth School Old Students' Association Secondary School

student : Tsz Kwan WONG, Ka Wai KAN, Hoi Ki MO, Luk Choi YIN

Project supervisors: Chi Fai WONG, Pat Chun CHAN



HONG KONG

The use of brine shrimp nauplii to test for the overall toxicity of sediment samples is proposed. Brine shrimp nauplii were treated with different concentrations of heavy metals, chromium (III), copper (II), nickel, lead and zinc, and organic pollutants, including triclosan, oxybenzone, octinoxate and bisphenol A. The brine shrimp nauplii were observed under a dissection microscope to determine the death rate. Results showed that brine shrimp nauplii are more sensitive to copper, cadmium, bisphenol A and oxybenzone. The LC50 (24h) are 55.5, 24.9, 5.6 and 2.7 ppm respectively. Zinc is also likely to have synergistic toxic effects with nickel or lead. The title of our project is "a special gift for my land" a symbol so that we always keep the land clean. The shape of this clay product that we make ourselves varies to make it more attractive (in the form of traditional cakes or Jakarta cultural icons), which will then be used as plant pots. This special gift is a campaign package: a clay pot, a bookmark bearing the message of taking care of the soil, eco-friendly packaging, tote bag.

Brine shrimp nauplii were treated with extracts from sediment samples collected from the oyster culture zone of the Deep Bay, namely Pak Nei, Sha Kiu Tsuen and Hang Hau Tsuen. The sediment samples were extracted with neutral sodium acetate to dissolve the exchangeable heavy metal ions and some organic pollutants. The death rate of brine shrimp nauplii treated with the sediment extract of Hang Hau Tsuen was similar to 1 ppm BPA; about 10 to 20% higher than that of the other two sites. Since Hang Hau Tsuen is closer to the residential area and Lau Fau Shan Seafood Market than the other two sites, its sediment samples are likely to have a higher level of environmental pollutant content. The results suggest brine shrimp nauplii is a sensitive and suitable bioindicator to monitor the environmental change in the overall level of pollutants in sediment samples.

### Objectives

Test for the sensitivity of brine shrimp to different water pollutants, so as

to evaluate whether brine shrimp can be used for water quality monitoring

1. Place 15-20 adult brine shrimp into 15 mL heavy metal solutions.

50 mL tube  
15 mL heavy metal solution (Cr, Cu, Ni, Pb or Zn)  
Adult

Triplicate of every heavy metals

Saline water as control

3. Count for the number of dead brine shrimps for 5 consecutive days

## Clay and Wooden Toys

12

### Clay and Wooden Toys

Russia

Lyceum № 28

Tatiana Khodyreva, Tatyana Fetinina, Anna, Olga, Alisa, Vlad, Dima, Danil, Ar-tyom, Sasha, Arsenii, Sakhar



**RUSSIA**

Cultural heritage is our link to the past. It is full of sense and beauty. We care and keep it for further generations. Our survey has shown that the citizens of Kirov region are aware of the importance of folk art and have its samples in their homes. But we have also found out that we are facing the reduction of folk crafts in our Motherland. The most popular of the left are Matryoshka dolls, Dymkovo toys, straw articles, weaving and birch bark articles.

The aim of our project is to show the beauty and importance of folk crafts and to find ways for their promotion. To reach this aim we studied the information related to the history of folk crafts remained in our region and met people involved (craftsmen, lecturers, factory workers). We also experienced the process of making clay toys and painting Matryoska dolls. The next step was to meet young learners and remind them of the importance of folk crafts in our history and to make them a part of it by involving them in making their own toys. We showed that every color, every pattern had a certain meaning and was not chosen at random. What is more, we learnt that our local government had had some attempt to support our folk crafts by investing in workshops, but it was not enough. There's still much work to do!





## Conservation of Texcoco Lake

13

### Mexico IE 1: Conservation of Texcoco Lake

In 2018, the new government of Mexico, generated a great controversy by the cancellation of the New International Airport in Texcoco, which would replace the Benito Juárez International Airport, that cannot grow because it is in the middle of the city.



MEXICO

The reasons for doing so, even though construction was advanced, were that there was corruption, that the area was not suitable for an airport because the ground sinks and floods, that the inhabitants could not continue using products such as tequesquite, ahuate and the spirulina algae, that they would lose their cultural traditions and, above all, that the environmental destruction was irremediable.

Mexico City was built on an area of sweet and salty lakes, which covered 114,000 hectares. Since 1519, they were dried up to extend the urban area, with great climatic alteration. By the beginning of the 21st century, there were less than 4,000 hectares left, including an artificial lake, the Nabor Carrillo, built to regulate flooding in the city, to prevent the strong toxic dust raised by the saline soil, and for the recovery of migratory birds that come from Canada.

The government is building the largest park in the world there, with the ecological recovery of 14,000 hectares and areas for sports, culture, and recreation. To try to reduce the controversy that continues, we decided to investigate the advantages and disadvantages of both projects and disclose them, since the process greatly affects our entire region and there is a lot of ignorance about it.



## Xo chimilco, chinampas and ajolotes

14

Mexico IE 2: Xo chimilco, chinampas and ajolotes



MEXICO

Our project focuses on chinampas and ajolotes. The chinampero agricultural system is located in the Mexico City. The word chinampa which means “in the fence” and chimamitl which means “hedge or fence of reeds”. The chinampas are islets built in swamp and lakes with an accumulation of aquatic plants and sludge extracted from the bottom of the canals and supported by ahuejote stakes (The ahuejote is a tree of thin trunk, whose height can reach 15 meters). The good climate for plants, the lake ecosystem and the proximity to the city and generated favourable agricultural conditions for sustainable food production and local consumption. Since ancient times the chinampas have had a diverse fauna, among this wonderful fauna is the axolotl “ambystoma mexicanum”.

Since the 20th century there have been water megaprojects to bring water to the city center that altered the ecosystem and instead sent semi-treated water to conserve the wetland. This water situation linked to the growth of the urban sprawl, over the years, has led to the disappearance of the chinampero agricultural system along with the wetland and thus contributed to climate change, because it provides environmental services that benefit carbon sequestration through lake vegetation, temperature regulation, the watershed water system, and the reduction of greenhouse gases through sustainable and local food production.

Our project promotes economic support initiatives for chinampa agriculture; Generate sustainable irrigation mechanisms (The bike pump); and raise awareness of the importance of the axolotl within the culture and ecosystem.



Natural and Cultural Heritage

The 37<sup>th</sup> annual Caretakers of the Environment International Conference



## Monarch Butterfly

15

### Mexico IE 3: Monarch Butterfly

The Monarch butterfly is an important cultural heritage asset for Mexicans since ancient times, it was believed that butterflies were the warrior's souls when they died in battle. Since then, this insect has been included in traditions like the Day of the Dead. That's why it is thought that the butterflies are part of the spirit of the forest and the soul of the dead.



**MEXICO**

Every year, the Monarch butterfly (*Danux plexippus*) embarks on a journey that begins in Canada and the United States and ends in Mexico. This trip is made through five different generations. The butterfly arrives at the Monarch Butterfly Reserve, which focuses on conservation, promotion of sustainable economic development, and sustainable education. Before the creation of the reserve, the inhabitants had economic activities with a high environmental impact. As part of the change, there was the promotion of new sustainable activities (sustainable agriculture, aquaculture, and ecotourism). These new activities changed the way people think about the forest and its conservation.

The importance of the conservation of the forest in the reserve for Mexico City is to feed with water the Cutzamala system, the same system that provides drinking water to nearly 9 million people in Mexico City's Valley.

In conclusion: there has been a change in the mentality of the people, it's been an opportunity for economic growth, thousands of acres of forest have been protected and recovered, and there has been a considerable reduction in the local mafia, drug trafficking, and violence.



## Mushroom Cultivation

16

Project title: Mexico IE 4: Mushroom Cultivation  
School/organization: Instituto Escuela del Sur  
Delegation leader/advisor/teacher: Abraham Pita Larrañaga, Elda Gabriela Pérez Aguirre, José Antonio López Tercero Caamaño  
Students: Karim Obregón Espinosa Nina Ramos Gullco



**MEXICO**

Mushrooms are eukaryotic systems that have complex structures in which they include the mycelium, their principal structure because it is what makes all the plants of an ecosystem be communicated together. Mushrooms are very popular and valuable in Mexico because they've been used in medicine, gastronomy and other aspects since prehistoric times.

We did an investigation on the cooperatives in our country, which are local companies of people that work together to satisfy common needs, and we found that many of them had a project about growing edible mushrooms from zero.

We decided to follow their steps and try to find a methodology to grow mushrooms in our school. With exacted proportions, we planted seeds with the mycelium of the fungus with straw and stored them in a humid place in our school, after six weeks the mushrooms were fully grown. We registered the growth of the mushroom in terms of how the mass grew through the time. This methodology is sustainable because it does not produce toxic fertilizers or machines that produce polluting gases. Besides, everything used is reusable except for the water, and it has a lot of alternatives for the same process.

The mushrooms, also, consume CO<sub>2</sub> from the atmosphere and help the environment, they can also decompose plastic, so they remediate contaminated grounds.

We considered that we could apply this same methodology in a cooperative system by doing it on a bigger scale and start distributing their product to other places, and by that, benefiting their local economy.





17

### Bridging People and Nature; Public Access and Sweden's Heritage

The knowledge of Swedish nature, and the practical applications of plant remedies and other contexts likely thrived in earlier years. To delve into this matter in Landskrona and raise awareness about Swedish nature, the Swedish group conducted a survey. This was distributed to students at Öresundsgymnasiet and middle-aged individuals, both whom were asked the same questions. The results from this survey will be presented during the presentation.



SWEDEN

Over the last decade, Sweden has witnessed a significant influx of people from diverse places of the world. Refugees are relocating for various motivations. In many countries, restrictions or safety concerns prevent individuals from freely exploring nature. In Sweden, the freedom to traverse nature safely is permitted, and we aim to raise awareness and educate others about the unique concept of the "Right of public access" that is exclusive to Sweden.

Collaborating with the Swedish Central Library, the Swedish group developed study materials in easy Swedish, focused on nature, as the library offered informal Swedish conversations for newcomers to Sweden. They presented this material during a conversational session known as the Language Cafe. During a subsequent session, the group gauged interest by asking how many attendants would like to join for a Sunday afternoon trip to a nature reserve. We gathered 11 participants from diverse regions in the Middle East and Africa, and together we immersed ourselves in a day of exploring Swedish nature and ecosystems while simultaneously enhancing their Swedish language skills.



## Urban Recycling Program- Bookbinders

18

School/ organization: Caretakers USA Illinois Chapter  
Delegation leader/ teacher: Wayne Schimpff  
Students: Madeline Painter, Rupsa Mitra, Mika Carreon  
Partner organization: The Bookbinders Initiative  
Project title: Urban Recycling Program- Bookbinders



USA



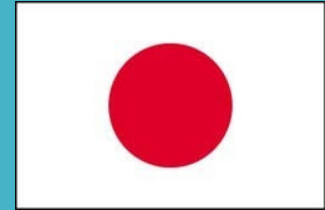
The Bookbinders Initiative is made of older students writing bilingual children's books (in both English and Spanish) that are about nature and the environment. Every part of them is made by the students, from writing, drawing and translating to the actual binding of the books. Each book cover is made with a recycled cereal box, hand-decorated and with a label about where it came from. These books are meant to encourage a love of reading, learning, nature and language, all in a sustainably produced way. Hundreds of copies of 10 different books have

already been distributed to kids in the Chicago area, who get to bring the books home to their families for free. 400 copies of 12 books are being produced this summer, and they will be given to kids 5-8 this fall. More books are currently being written by our initiative, and a website and YouTube channel are in the middle of being created so that books will be available in both e-book and video audiobook formats as well.





19



JAPAN





# FULL PROJECTS

virtual



20



INDONESIA

There are a lot of cafes and coffee shops around our school in Mampang that make a lot of coffee grounds. One of those coffee shops makes 90kg per month, and that is only one coffee shop. Those coffee grounds aren't utilized yet, therefore our research aims to utilize them and socialize with organizers of cafes or coffee shops about it. Researchers chose to convert coffee grounds to biodiesel because researchers also read that Indonesia's oil reserves from fossils could run out in 2030 if there are no discoveries.

Apart from recycling coffee grounds, researchers socialize on how to convert coffee grounds to biodiesel with the organizers of cafes and coffee INDONESIA shops to make them interested in recycling coffee grounds because they have many coffee grounds that could be reduced.

The experiment was done at researcher's home and the University of Indonesia's Chemical Engineering Laboratory. The socializing and survey were done on owners and employees of coffee shops or cafes.



The process of the research took two months from October until December. While the process of changing coffee grounds took approximately two weeks.



The conclusions are:

1. Coffee grounds can be converted into Biodiesel by drying, Extraction, and Transesterification processes.
2. The average coffee shop organizers are interested in and understand recycling coffee grounds. Which means this research is successful.

Researchers are planning to do a campaign by giving posters in more coffee shops so more people would know and be interested.



21

## Herbal Tea from Soursop (*Annona muricata* L) Leaves to lower blood glucose level

School/Organization: Sekolah Alam Indonesia

Delegation leader/ teacher: Shabriya Aruni S./ Sulaeha.S.Pd

Students: Shabriya Aruni S., Kalila Atha S., Aradana Shabira R.

Partner organization: Sekolah Alam Indonesia



INDONESIA

Tea has become a tradition for Indonesian people in the morning and when a guest comes to our house. Most people on the island of Java like sweet tea, they add sugar to the tea they make. Our herbal tea is made from Soursop Leaves and black tea to lower blood sugar levels, and stevia leaves as a sweetener so that the herbal tea doesn't taste bland and tastes like drinking regular tea. The role of soursop leaves in this tea is to lower blood sugar levels in diabetic patients.



Diabetes is a condition in which blood glucose or sugar levels increase or are above normal limits. Uncontrolled blood sugar will interfere with the work of other organs of the body and can cause



death. Diabetes is also one of the causes of 7 diseases that cause death in Indonesia. Soursop leaves contain flavonoids and tannins which can lower blood sugar levels.

Same with soursop leaves, black tea also has flavonoid compounds, with a dose of 1 gram of soursop leaves, 0.75 grams of black tea, and 0.25 grams of stevia leaves. The research method researchers use is quantitative, researchers give the herbal tea to respondents who have diabetes to consume herbal tea for 5 days. Respondents will be checked every day to see a decrease in blood sugar after consuming herbal tea. After 5 days of consuming herbal tea, the respondent's blood sugar level decreased, although it did not decrease drastically. Researchers plan to market herbal tea for diabetics.



## The Decline In The Number of Forests in Riau

22

Duri Nature Junior High School  
The Decline In The Number of Forests in Riau



**INDONESIA**

Riau is a province located in Sumatra with many rare floras such as Rafflesia Arnoldi, Mitrasremma, and Sapria, and many rare and endangered animals such as the Sumatran Tiger, Sumatran elephant, and Binturong. Sadly, many floras and faunas are almost extinct because they lost their habitats. Irresponsible people demolished all the natural forests as well as the habitat of the rare flora and fauna in various ways such as cutting and burning the natural forests. This rampant logging has reduced forest area from 78% in 1982 to only 33% in 2005. An average of 160,000 hectares of forest is cleared each year, leaving 22%, or 2.45 million hectares of natural forest in 2009. All these actions are called Deforestation.

Deforestation has affected the balance of the ecosystem, especially the smoke from forest fires due to land clearing activities. Many animals, including endangered animals, died and were burned alive. Worse yet, many people were contaminated by the smog such as eye irritation, asthma, and lung cancer. There are many ways to resolve this problem, one of which is reforestation.

Reforestation is the replanting of forests that have been cut down. Reforestation is useful for rebuilding natural habitats and preventing soil erosion that can be caused by wind and rainwater. Therefore, I plan to invite everyone to reforest. Reforestation may cost a lot of money, but a clean and natural environment is more expensive and important for our future children and grandchildren.

## SYRE PROJECT

23

Name: Eneng Destiani (Teacher)

Email : motodesti@gmail.com

Country : Indonesia

School: Sekolah Alam Bogor

Teacher: Eneng Destiani, S.Pd

Students: Rayana Aiman Nitisara, Ahmad Rey Rasydan

Partner Organization: Salam Permaculture, Bogor city environment department



**INDONESIA**

Project Syre is a project that aims to raise awareness among students and the younger generation about the importance of climate change mitigation. Based on UMD 2017 data Industrialization has adversely affected the pollution of the earth, and the expansion of industrial offices, illegal logging, and forest fires cause vulnerability to natural disasters in forests. This has led to the loss of 1.3 million hectares of trees in Indonesia. Therefore we did this project to save the earth. We planted trees in areas that lack trees to produce oxygen. A great outcome of this activity is to preserve iconic fruits and trees from Indonesia. The trees we planted were Kemang, Sukun, Duren Matahari, Duren Bawor, Kepel and others.

We collaborated with salam permaculture to do this action. Within two months, 40 trees were planted in the area. We started this project in January until now. We invited students of Sekolah Alam Bogor to participate in planting trees around the school. Every student brought a tree from home. We also invited the Bogor City Environment Agency to collaborate in the next plan. We hope this project will be sustainable and many people will care about the environment.





## Grana cochinilla

24

Project title: Mexico IE 5: Grana cochinilla

Country: Mexico

School/organization: Instituto Escuela del Sur

Delegation leader/advisor/teacher: Carmen Larrondo Sayavedra

Students: Karla Paola Martínez Fonllem, Erick Martínez Serrano, Paloma Nahomi Meixueiro Castro, Lucía Natasha Valenzuela Duval, Andrea Marianne Villa- grán Pimentel.



MEXICO

Grana cochinilla is an insect also called as *Dactylopius coccus*, its length is between 4 and 5 mm, it mayorly infects certain kinds of cactuses like San Gabriel's cactus, *Opuntia tormentosa*. It was developed in states like Puebla or Tlaxcala but in the 17<sup>th</sup> century it was mostly domesticated in the states of Oaxaca, Sonora and Baja California.

The female grana contain 10% of carminic acid, which was used by Mixtecos (Mexican antique culture) as a natural colorant for dyeing fibers and to obtain the color they wanted.

The harvest requires extensive care and when it reaches its maximum development, it's killed by various methods, and there are different ways to dye it, depending on the color you want to get.

As in 16<sup>th</sup> century it became one of the most important products in the Mexican territory, due to its exportations and the way it changed the cloths and fabrics in Europe, we decided to get to know it better.

We experimented by mixing carminic acid extract with: lime diluted in water, blackberry juice, Jamaica tea, citrus juice, onion tea, white vinegar, sodium hydroxide, and hydrochloric acid. Through the simultaneous mordent process and from the results with different fibers we decided that our final project would be made with wool felt and with a dissolution of sodium bicarbonate.



Then, we joined the pacific protest of March 8<sup>th</sup>, women's day, offering purple flowers that we knit and dye ourselves to our female police officers.



## Urban Spaces

25

Project title: Mexico 6: Urban Spaces

Country: Mexico

School/organization: Instituto Escuela del Sur

Delegation leader/advisor/teacher: Carmen Larrondo Sayavedra

Students: Rodrigo Terrán Campos Medina, Evelyn Valeria Contreras Hernández, Karla Mariana De Legarreta Adame, Tistia Montenegro Muñoz, Atzin Emilia Ortiz Chávez.



**MEXICO**

Public spaces are those used by a community; they can balance the urban view, with green areas to restore the image of a territory. They give a sense of affective ties, care for environment, as well as familiarization with neighbors, families, co-workers, and schoolmates in the community.

Our objective is to promote an awareness of the greater good by intervening physically and symbolically in public spaces close to us. As students who live around the school, we located the closest: a park that we often pass by ignoring the problems it faces by not being cared for or being underused, creating an environment that doesn't invite you to enjoy it.



We recognized that there's little connection between the members of the community that is expressed in few initiatives to improve a space that belongs to everyone.

With this project we seek to join the efforts of our student community with the community of neighbors. We began by cleaning campaigns, we added log benches, artistically painted rocks in corners, hung posters that expressed solidarity and promoted thinking of ourselves as a community, all made by ourselves. Most importantly, we did cultural activities such as outdoor readings and theatrical performances on the culture of peace to recognize that this park is a space where we can have fun, learn, and live together.

Our actions contributed to recognize the solidarity from the student community and the neighbors. We learned that our actions, even if small, can give a sense of greater community to an ignored space like this park. If we start the transformation with small actions, gradually and with patience we will be able to build stronger bonds of care within our community.



## Cenotes

26

Project title: Mexico 7: Cenotes

School/organization: Instituto Escuela del Sur

Delegation leader/advisor/teacher: Elda Gabriela Pérez Aguirre, José Antonio López Tercero Caamaño

Students: Cecilia Eidel Green Pineda, Antonia Ramírez del Cueto, Sofía Struck Miran- da



MEXICO

Cenotes are beautiful underground rock formations filled with fresh water. They can sometimes be open or semi-open, allowing people to swim freely in them. This makes them popular tourist attractions and/or fresh water supplies for local communities. For centuries, they've been vital for Mayan culture. The name comes from Mayan (ts'ono'ot) and carries great spiritual importance.

Cenotes represented a birthplace and an entrance to the Mayan underworld. Not only do they allow for thriving communities nearby, but also provide a home for complex ecosystems, accommodating more than 70 endemic species. However, problems arise with contamination from pesticides, drainage systems and certain chemical

compounds toxic to the ecosystem. Recent studies have revealed deformations in some of the endemic species when they come into contact with these chemicals and pesticides, mainly from sunscreen and other synthetic substances. Due to the ongoing importance and use of cenotes by local cultures, the same chemicals and fecal coliforms are in the water the communities consume, causing numerous health problems.

As already mentioned, foreign tourists also enjoy these natural treasures and are just as susceptible to the infections caused by the contaminants.

Our project aims to propose a sustainable solution, accessible and safe for the communities and foreign tourists: a sunscreen that doesn't pollute or damage these beautiful ecosystems and their fascinating flora and fauna. After much investigation and consulting professionals, we have come up with a couple of recipes that fulfill these requirements.





## Outdoor School

27

Project title: Outdoor School

Country: United States of America School/Organization: Blanchet

Catholic School Delegation leader/advisor/teacher: Dr. Halsey Randall

Students: Denavae, Rieve, Carter, Tanveer, and Rafael



USA

For our project, we mainly focused on the subtheme of Water and Society. We decided to plan our school's Outdoor School for the sixth grade class, educating them about water and the climate we live in. We planned for months ahead of time, researching learning activities, connecting with local people to come speak, and overall crafting a fun, team-building experience for the students.



When it came time for Outdoor School, our school bused us, the sixth graders, a few teachers, and CEI "camp counselors", over to a local State Park we had selected called Willamette Mission. For three days, we did ice-breakers, inquiry projects, listened to a Forestry worker and a local Native American tribe member speak, went on guided hikes, discussed ways the sixth grade class can better the environment, tested the water quality of the lake, studied flora and fauna, and did class-bonding activities that will help the sixth grade class remember their time on Outdoor School forever.





## The Zero Point of History Göbeklitepe

28

Project title: The Zero Point of History Göbeklitepe  
Country: Turkey  
School/organization: TED Istanbul College  
Delegation leader/advisor/teacher: Nilgün Kaya  
Students (no last names!): Bilge, Ezel Dila



**TURKEY**

Aims to promote cultural sustainability by organizing Göbeklitepe activities in our school for more than a year. We believe that Göbeklitepe is specifically important at this point because it is more than a national value, it is the zero point of humanity. Unfortunately, the dimension of sustainability that has received the least attention is social sustainability. Social sustainability is about the continuity of social values into the future. Cultural sustainability has importance for various reasons such as preservation of identity, interconnectedness, economic opportunities etc. Göbeklitepe has an important place for our country and it is very important for people of all ages to recognize, wonder and protect Göbeklitepe. It is very important that not only our citizens but also foreign tourists recognize Göbeklitepe as well. In order to achieve this, first we wanted to teach lessons to the entire school. We read books about Göbeklitepe, prepared animations, prepared replicas of findings and sculptures in the excavation site, visited Göbeklitepe with VR glasses and even organized a trip there. But also, we figured out that we wanted to tell foreigners about Göbeklitepe in order to promote international awareness as well. So we went to international congresses to talk about our culture and importance of Göbeklitepe and maybe as the last step we want to represent our culture, identity and country in caretakers in order to promote cultural and social sustainability.



## From Landscapes to Legacies: Discovering Türkiye's Natural and Cultural Heritage

29

Country: Türkiye

School/ organization: Robert College

Delegation leader/ teacher: Erol Şahin

Students: Defne Aluç, Nehir Özcan, Defne Avcılar, Mustafa Doruk

Takım Partner organization: Robert College



**TURKEY**

Our community involvement project aims to raise awareness among middle school students in our community about the current state of mucilage and its impact on the seas, particularly the Bosphorus. As an environmental school located in Arnavutköy, near the Bosphorus, we are responsible for protecting this vital natural legacy.

To achieve our objectives, we plan to collaborate with various stakeholders. Firstly, we will engage with our head of school to highlight the issue and garner support for our cause. We will emphasize the importance of protecting the seas and the urgent need for action.

Additionally, our school recently introduced a Geographic Information Systems (GIS) course. We will work closely with the GIS department to develop a project focused on monitoring the Marmara Sea. This project will observe fish migration patterns and preserve fish shelters and spawning areas.

Recognizing the challenges posed by the limited resources of local administrations and the unfavorable eco-friendly policies of the current administration, we will primarily focus on smaller institutions and NGOs. By fostering connections between our community and organizations like Robert College, a leading institution committed to sustainability, we can harness their expertise and support to drive impactful initiatives.

Through these collaborative efforts, we aim to instill a sense of environmental responsibility in our middle school students, empower them to protect our seas and the Bosphorus and contribute to the larger goal of creating a sustainable future for our community and the ecosystem.



## Waste into worth Upcycling for outside learning

30



MACEDONIA

The Urban ecosystem is where most people live and spend most of their day in, so it requires the most attention.

We picked the Urban ecosystem because it has the most impact on our day-to-day lives. Our project is focused on facing the biggest problem in that ecosystem which is the build up of trash and other waste. So, we aim to help solve part of that problem and make something useful out of that waste.

We have decided that the best way of doing this is by setting up the specially made bins (votebins made from recycled materials from

CEI 2021), collecting the waste from the bins, and finally production of specific products for the outdoor classrooms. Also, from our sponsors National woods, we will receive log waste. Specifically, from the cigarette butts we aim to produce bean bags for leisure activities in the classroom. Moreover, from the logs collected we want to equip the sitting area. The name of our project Waste into worth Upcycling for outside learning has both elements, innovation of a product and service to the environment.



By accomplishing this we will spread awareness, encourage others to use our product, and help with solving part of the problem. This will be done with the help of our main partner Parks and Greenery. We estimate this project to start with phase four in September 2023.





## "Renewable energy revolution: From classroom to clean energy"

31

Essay Group 2: "Renewable energy revolution: From classroom to clean energy"

"Planting Seeds of Sustainability: Embracing Nature for a Breath of Fresh Learning in a Sustainable Classroom Environment"



**MACEDONIA**

In today's era, sustainability has become an imperative in all aspects of life, including education. This essay proposes a simple yet effective idea of incorporating air purifying plants on classroom window sides and utilizing rainwater collectors to water these plants. This initiative not only promotes a healthier learning environment but also optimizes resource utilization, reducing energy waste and fostering a sustainable future. Classrooms are spaces where students spend a significant portion of their day. Unfortunately, indoor air quality often falls short, leading to various health issues and reduced productivity. By strategically placing air purifying plants on the window sides, we can harness the natural air cleansing abilities of these plants.

Plants act as natural filters, absorbing harmful pollutants and releasing fresh oxygen. This simple addition can significantly improve indoor air quality, benefiting both students and teachers. To ensure the longevity and vitality of these air purifying plants, a sustainable watering system is essential. Rainwater collectors provide an efficient solution. By collecting rainwater from rooftops, we can utilize this abundant natural resource to water the plants. This approach minimizes the need for conventional water sources and reduces strain on existing water systems.

Furthermore, rainwater is naturally devoid of harmful chemicals found in tap water, contributing to the overall health of the plants and reducing the ecological footprint of the classroom. Implementing this idea not only enhances the learning environment but also promotes sustainability. By introducing air purifying plants and rainwater collectors, we minimize energy waste and tap into nature's inherent efficiency. The plants act as living air filters, reducing the need for energy-intensive mechanical air purifiers. Additionally, rainwater collectors eliminate the reliance on energy-consuming water sources. This synergy between nature and education demonstrates our commitment to environmental responsibility and sets an example for students, encouraging them to embrace sustainable practices in their daily lives.

Embracing air-purifying plants on classroom window sides and utilizing rainwater collectors exemplify a simple yet powerful idea to foster a sustainable learning environment. By harnessing nature's power and reducing energy waste, we create healthier classrooms, nurture ecological awareness among students, and contribute to a brighter, sustainable future for generations to come. Let us embrace this concept and pave the way for a greener education system.

## "Renewable energy revolution: From classroom to clean energy"

32

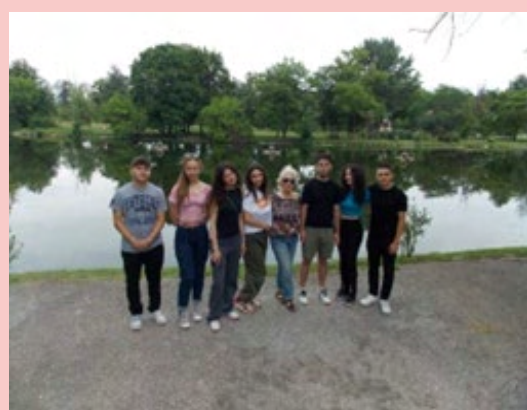
Ema Bogdanovska, Stefan Sivevski, Filip Sivevski,  
Pavel Bojadzievski, Ivana Veleva and Iva Aleksovska



MACEDONIA

CEI, From an early age students spend most of their time in school, therefore schools play a significant role in forming their viewpoints. Ecology and keeping the environment clean has often been a topic for discussion, but never too seriously taken into consideration.

Our idea is to inspire young minds to become environmental caretakers. A practical way to envision this is by involving students in regular ecological activities within the school, whereas the students awareness about the importance of maintaining a healthy environment can be raised. Cleaning the



school yard, trivia, sports competitions and ecological lessons are all part of these ecological activities included in our plan which will take place every Monday for 45 minutes-one school class with the head teacher, therefore expressing the meaning of our motto 45 minutes a day, keeps unhealthy surroundings away. By participating in this kind of projects, not only will the students be proud of doing something meaningful, but the resulting clean surrounding will serve as an additional motivator for future actions of this kind. The mentioned activities will also provide an opportunity for teamwork and communication. Rewarding involvement can be of assistance in enhancing students motivation and engagement in conserving their environment. On the contrary, minor consequences for non-participation may serve as a gentle reminder of their responsibility. The school as an institution is very important itself, meaning it needs to accompany the students' during their ecological journey and offer support, hence promoting the clear message about the importance of environmental conservation.



# YOUNG Reporter

On Site





Written Report by MADELINE from USA

### 1st Day

CEI 2023 Natural and Cultural Heritage in Yogyakarta, Indonesia was a brilliant success the week of July 2<sup>nd</sup> through July 8<sup>th</sup>! On the first evening of the conference, delegates played games to get to know each other and listened to CEI Talks, informative discussions about environmental organizations in Indonesia. e represented countries at CEI.

### 2nd Day

The next day was the poster exhibition, where groups presented a quick, visual version of their project to other delegations. At the end of the day, the opening ceremony welcomed the 16 countries of CEI 2023 to Yogyakarta both online and in-person, accompanied by some wonderful performances from a local marching band and dancers.

### 3rd Day

On the third day of the conference, delegations presented their full projects to a full room of representatives from other countries. Delegates presented and received questions for up to half an hour, and these presentations made the wheels start turning for possible global collaboration between projects later in the week. Day 3 ended with cultural workshops teaching design, dance, batik, and comic strip making, followed by the Fun Market. The Fun Market was a night of international music, dance, and trading foods and souvenirs from all 16 of the represented countries at CEI.

### 4th Day

On the morning of Day 4, conference attendees traveled to the nature school Sekolah Citra Alam to learn about the curriculum there, and do a clay activity. The day ended with various online and in-person cultural performances, including dances, singing, cooking, and storytelling from each country present.

### 5th Day

The next day, delegates first visited Prambanan Temple and the palace of the Sultan of Yogyakarta, then broke into four groups to visit various different local ecosystems (Urban, Rural, Water, and Mountain) to do various activities like fishing and creating hats out of leaves.

### Final Day

On the final day of CEI 2023, delegations worked collaboratively to make posters of takeaways from the week and ways delegates could take action to help the environment in the future. They also discussed ways to have international collaboration on the projects they presented at CEI, so that in the next year these projects will continue to expand and develop. The week ended with a closing ceremony announcing CEI 2024 in Sweden, with a theme of Education, Regulation, and Collaboration for a Sustainable Future.



Written Report by NASYA from Indonesia

1st Day

CEI 2023 was held in Yogyakarta, Indonesia. With the theme Nature & Culture Heritage, this year conference take one of the Indonesia culture, is Java. The conference start from 2<sup>nd</sup> July-8<sup>th</sup> July 2023, which attended by 16 countries (offline and online). On the first day, we start with a little games (mainly to get know each other and makes some new friend). Finished with the games, we continue to the explanation about SDG. Next, we listen to CEI Talks. There's a lot of inspiration we get and very useful.

2nd Day

On the second day, we will go to ISI (Indonesian institute of the Art). Before we go, we have breakfast first so we gets a lot of energy to run the day. Arriving at ISI, we were given time for display out booth for the public exhibition. After that, we got to tour the campus. During the campus tour, we were introduced to several majors and all of theme are very interesting.

After the campus tour, we were given time to have lunch and will be followed by public exhibition.

During the public exhibition, we were given the opportunity to visit each booths from each country that had projects that were no less cool. We (Young Reporter) also conducted interview sessions at several booths. After the public exhibition, it's time for us to see the opening ceremony of CEI 2023.

During the opening ceremony, the appearance of the ISI representatives was very cool and amazing.

3rd Day

On the third day, the day has come. We return to ISI to present the project that we have made. To improve our ability to share ideas and teamwork also collaboration, we are given time to write down the ideas we have and will stick them on the board. To keep the spirit up, we also join the culture workshop. There are 4 workshop that we can join (we have to choose one). There's Jumputan, Comic strips, Graphic printing, and dance. There is one event that is less no exciting, is call Fun market. Each country will introduce them self with variety of culinary, souvenirs, and much more. The event at that time was very lively until didn't realize how fast the time.



Written Report by NASYA from Indonesia

#### 4th Day

On the fourth day, no less exciting than the third day. We will visit Sekolah Citra Alam Yogyakarta. We also learned how to make crafts using clay during the making, it was very exciting and lots of unique shapes from each participants. Continue to visit PT. Timbul which produces pottery. Not only pot, they also produce statues using wood, aluminum, and stainless steel. After the factory, we continued to visit the museum. Not only there statues, there are also exhibition from several artist. Have visited the factories and the museum, don't forget to visit the souvenir shop, the name is Kasongan. They are dominant selling statues but there's also other souvenirs. After that, we returned to ISI for the Culture performances. From each country will present performance that represent their country.

#### 5th Day

The fifth day is a trip day. The first destination is Prambanan temple, the weather is quite hot but the wind is quite strong too. After Prambanan temple, we also visit Yogyakarta palace. When we got there, we were greeted by a puppet show, there a lot of knowledge was gained about Yogyakarta palace. Next activities is ecosystem trip which divided into 4 (mountain, water, urban, rural).

#### Final Day

Last day of CEI 2023. The first session is reflection and FGD ( Forum Group Discussion). After that, we discussed the project for CEI 2024 which will be held in Sweden. Before heading to ISI, we will visit this one place that cannot missed when visit Yogyakarta, is Malioboro. There, we buy some unique souvenirs from Yogyakarta. Continued to ISI for the closing ceremony. The closing ceremony is no less lively than the opening ceremony. And it was closed by the handover of the CEI 2024 host to Sweden.





Written Report by NINA from Mexico

1st Day

The first day of CEI 2023 Natural and Cultural Heritage in Yogyakarta, Indonesia was about listening to talks and making conscience in keeping the environment, and having discussions about these same subjects. The participants also played games to get to know each other better.

2nd Day

On the second day all the participants officially arrived. It was the poster exhibition where the participants showed about what their project was about with visual help. In the evening there was the Opening Ceremony, where all 16 countries were welcomed in CEI 2023 Indonesia.

3rd Day

The third day was about the participants presenting their full projects to a whole classroom of other participants and receiving questions about it. To continue with the day, all the participants chose a cultural workshop to attend, design, comic strip making, dance or batik. And finally, the day ended with the Fun Market, an activity to trade and know more about the music, the food, the toys and other aspects of each country.

4th Day

In Day 4, all the participants traveled to the nature school Sekola Citra Alam where they learned about the way this school works, and they had a clay making activity. At the end of the day, there were various cultural performances, where each country showed a little more about their culture through a performance, as well as the online countries showed it with a video.

5th Day

On the fifth day, the participants visited the Prambanan Temple and the palace of the Sultan of Yogyakarta, then the participants divided into four groups, to visit different ecosystems, like the urban ecosystem, or the rural ecosystem. In each one of these there were various activities to do, like hiking a mountain and painting rocks.

Final Day

On the final day, the participants worked together to think about future projects and make posters about them, and also finding ways to connect different projects together and make collaboration between different countries.

The CEI 2023 week ended with the closing ceremony, where there were various performances and the participants from Sweden presented about the CEI 2024, which will take place in their country and it will be about Education, Regulation and Collaboration for a sustainable future. With this, CEI 2023, Natural and Cultural Heritage in Yogyakarta, Indonesia finally ended with lots of learning, sharing and making new friendships to bind the countries of the world, all for a better future.



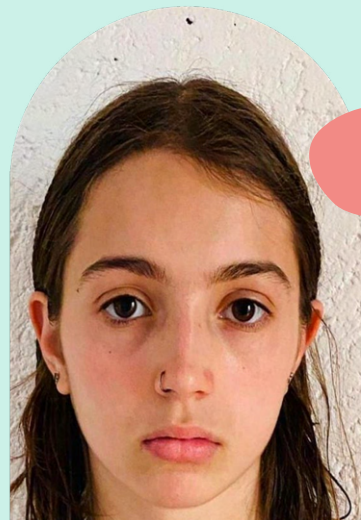
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and Transportation Team

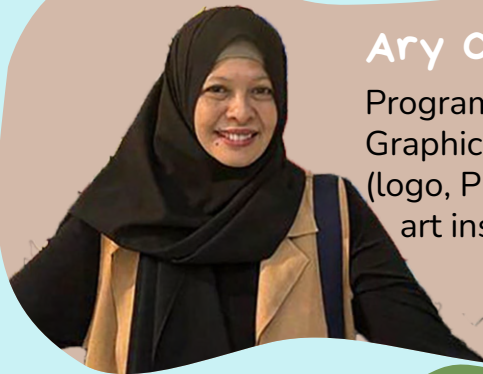


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**Kinanti Arum  
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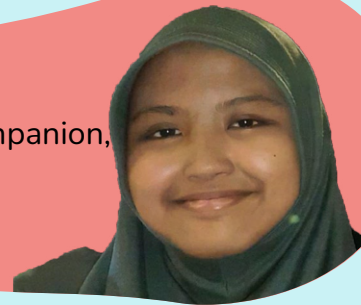
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Najla



Atika  
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Companion,  
Games



Hana  
Group Companion,  
Field Trip



Zahra  
Chaperon



Eda

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# PRE-CONFERENCE & CONFERENCE PUBLICATION

documentation





**save the date**

**DIALOGUE CEI TALK**

Buiding the environmental awareness of the youth to be participated in creating a sustainable environment

**Project Showcase**  
Caretakers of The Environment Internasional (CEI Indonesia)

**rePACKING workshop**

**Monday, April 3rd, 2023**

**session 1** 10.30 - 12.30 am (GMT+7) hybrid  
**session 2** 07.00-08.00 pm (GMT +7) online

**Palakali Creative**

**MINISTRY of ENVIRONMENT and FORESTRY**  
Policies that support the action of the youth

**DANONE & UNILEVER**  
Private Sector, sharing their education syllabus related to the education of waste sorting and managing process that involving the youth

**IPRO**  
Education and communication in creating the environmental awareness of the youth

**Bank Sampah Jaya DamarKiri**  
Concrete action by involving the youth in solving waste problem through integrated selecting and collecting system

**PALAKALI CREATIVE**  
Implementing the education to the youth regarding the waste management to produce the creative economy

**JARAK**  
Provide education and facilitate teenagers in the sector concerning waste to develop and duplicate business in the sector of waste

**Zoom Registration**  
<https://rebrand.ly/dialog030423>  
@cei\_indonesia

**save the date**

**Pre Conference CEI TALK**

**YOUTH CARETAKERS FOR SUSTAINABLE ENVIRONMENT**

**Monday, April 3rd, 2023**

**session 1** 10.30 - 12.30 am (GMT+7) hybrid  
**session 2** 07.00-08.00 pm (GMT +7) online

**Ms. Nurten Selda Mersin Ilgü**  
CEI Turkey

**Ajeng Kusuma**  
Indonesian Institute of the Arts, Yogyakarta

**Students Research Sharing**  
Sekolah Alam Indonesia

**Zoom Registration**  
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**PreConference CEI 2023**

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Sekolah Alam Indonesia

**Pre Conference CEI 2023**

**Sinta saparina**  
Kementerian Lingkungan Hidup dan Kehutanan RI

**Ujang Selihin**  
Kementerian Lingkungan Hidup dan Kehutanan RI

**Maya Tamini**  
UNILEVER

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DANONE

**Zul Martini Indrawati**  
IPRO

**Ary Okta PALAKALI CREATIVE**

**Helda Fachri**  
Bank Sampah Kami Jaya DamaKiri

**Maria Clara Bastiani JARAK**

**PreConference CEI 2023**

**Showcase Project**

**Sekolah Citra Alam**

**Sekolah Alam Indonesia**

**Pre Conference CEI 2023**

**WORKSHOP repacking**  
with PALAKALI CREATIVE

**Natural and Cultural Heritage**

**Poster Project Showcase exhibition**

**free open for public**

from 16 countries junior high + high school level

**37<sup>th</sup> Caretakers of the Environment International Conference 2023**  
July 2<sup>nd</sup>- 8<sup>th</sup> 2023  
Indonesian Institute of Art Yogyakarta, Indonesia

CEI Indonesia welcome you to the marvelous experiences

**Natural and Cultural Heritage**

**Our Projects PRESENTATION PROJECT**

from 16 countries junior high + high school level

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**Natural and Cultural Heritage**

**FUN! market**

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**37<sup>th</sup> Caretakers of the Environment International Conference 2023**

**Natural and Cultural Heritage**

From 17 Countries, Junior and Senior High School

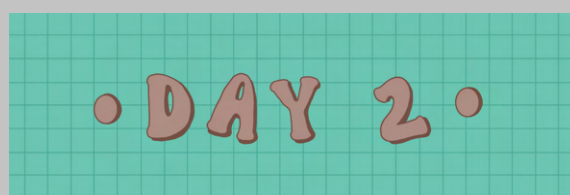
Yogyakarta, Indonesia  
July 2<sup>nd</sup>-8<sup>th</sup>, 2023

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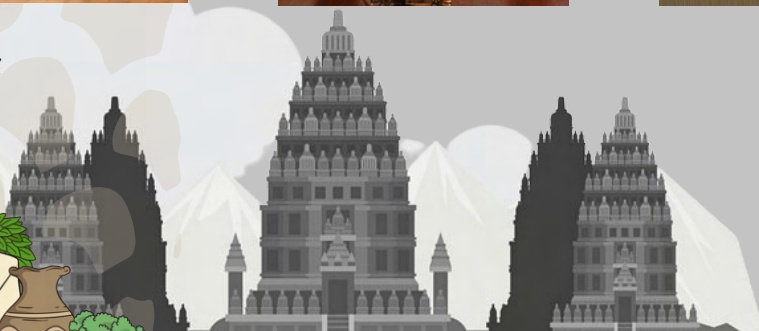
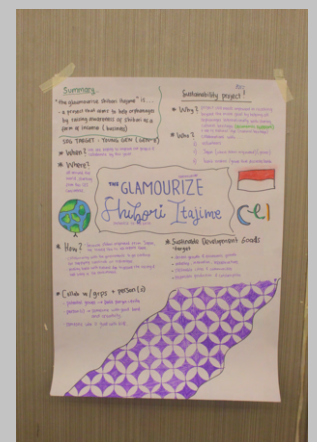
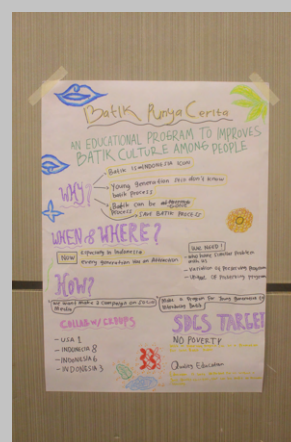
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