



PLEASE Hack
And Save Our Rivers & Seas

YOUTH-LED INNOVATION FOR PLASTIC-FREE WORLD

Initiated through the PLEASE Hackathon
in South Asia

PLEASE Project
Plastic Free Rivers and Seas for South Asia

Implemented by:



Supported by:



Funded by



Introduction

PLEASE Hack was a hackathon organized under the Plastic Free Rivers and Seas for South Asia (PLEASE) Project. It was a youth-engagement initiative implemented by the South Asia Co-operative Environment Programme (SACEP), funded by The World Bank, and with implementing support from UNOPS.

PLEASE Hack aimed to inspire and challenge young people aged 18 to 30 from the eight countries of South Asia – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka – to develop innovative solutions that tackle the critical issue of plastic pollution in their countries.

Competitors were invited to propose a solution under three options:

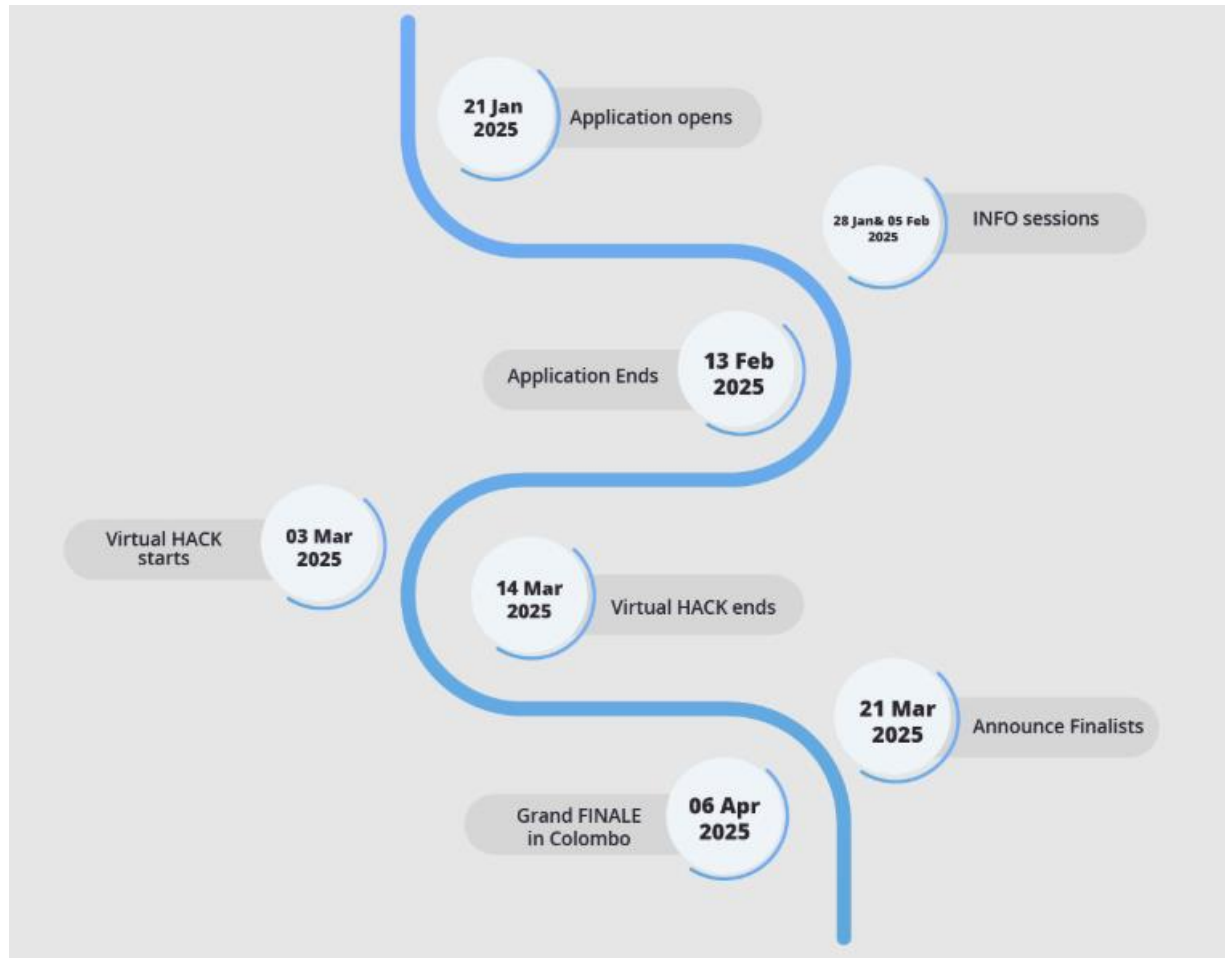
- An innovative solution that can be used by citizens at household or community level as current users of plastics in their daily lives
- An innovative solution that may be adopted by a Micro, Small, and Medium Enterprises (MSME) that currently use plastics in its production or distribution processes
- A knowledge-sharing system through a website or mobile app (or both) that enhances consumer-level awareness of plastic use in daily life and helps them be more conscious of their plastic footprint, inspiring individual action.

South Asian young innovators from many backgrounds – from remote villages to towns and megacities – competed in this event, proposing a wide range of solutions to address plastic pollution, a major environmental issue threatening the region.

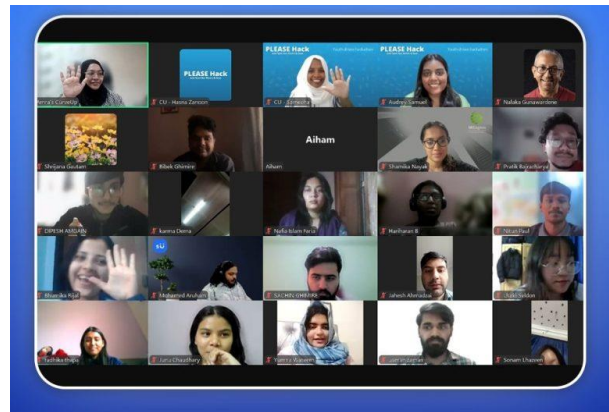
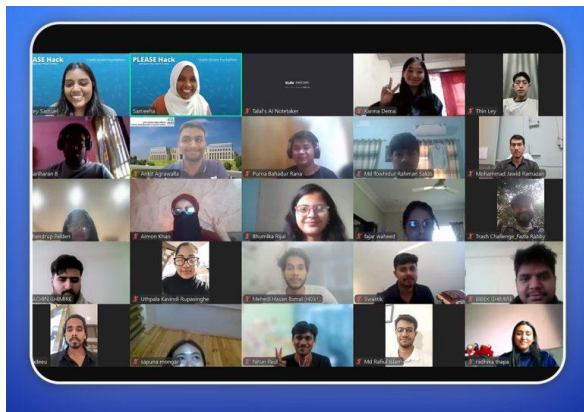
The PLEASE Hackathon launched its call for concept notes through the [PLEASE Project website](#) and social media channels on January 21, 2025. By the deadline of February 13, 2025, nearly 400 had applied. The PLEASE Project Implementation Unit's technical team reviewed the concept notes to select eligible teams.

The 92 selected teams then participated in a two-week Virtual Hackathon from March 3 to 14. The Virtual Hackathon operated as a digital creative and learning space, led by international and regional mentors and guest speakers of diverse expertise, ranging from environment, innovative ideation, to

presentation skills. During the two weeks, participants worked with strong commitment and dedication to improving their proposals. From among them, 23 finalists were selected by regional judges from Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka.



PLEASE Hack Timeline



Hackathon participants joined virtually from across South Asia during the two-week PLEASE Hackathon

Finalists

Afghanistan

[Sustainers](#) - Rohina Ghafori, Fehmeeda Kolsoom, Mitra Majeedy, Saadat Sultani, Mohammad Jawid, Ramazan

[Advanced Plastic](#) - Mohammad Jahesh Ahmadzai

Bangladesh

[Plastix 2.0](#) - Seyam Bin H Rahman, Taki Tajwaruzzaman Khan, Ahabab Imtiaz Risat, Tasnim Ashraf, Jafrin Shaila

[GreenNest](#) - Isrt Jahan Eshita, Nusrat Jahan Nilima

[PlatiMitra](#) - Md Towhidur RahmanSakib

Bhutan

[EcoPlast Bhutan](#) - Karma Dema

[EcoStraw Bhutan](#) - Indra Bahadur Chuwan, Padma Lal Monger, Deebya Pokhrel, Nitya Nepal,

[EcoPet](#) - Shendrup Palden, Sonam Chopel Dorji

India

[TrashSwap](#) - Vridhi Kamath

[Ecomposite](#) - Shubhashri Sushil Agrawal, Prafful Mishra

[Green Alchemy](#) - Ankit Agrawalla, Anubhav Kumar Bhagat, Vranda Kaushik

Maldives

[Bananovate](#) – Saaif Mohamed Rasheed, Abdullah Muhannadh Mohamed, Mohamed Hanan

[EcoConnect](#) - Mohamed Aruham, Ali Ahsan Saeed, Abdul Badeeu Najeeb, Ahmed Yooshau, Mohamed Aiham

[Beansprouts](#) - Aishath Suha, Ali Siyaz, Hassan Shaafin, Mohamed Isaam Rameez, Thooha Ahmed

Nepal

[Himalayan Knowledge Hub](#)– Sushila Shrestha, Yunish Ghimire, Pratik Bajracharya

[Re-Leaf Plastic](#) - Junu Chaudhary, Dikshita Gyawali, Dipesh Amgain, Bikash Mahato

[Bio-Enhanced Epoxy Resin Recycling System \(BEERS\)](#) - Sachin Ghimire, Bibek Ghimire, Bipana Ojha Khatri, Ashman Karki, Sabina Ghimire

Pakistan

[EcoPave](#) - Toseef Nawab, Laiba Khan, Shahroz Khan

[Architile](#) - Inara Hussain

[H2O Pads](#) – Yumna Waseem, Saboor Ahmed Khuwaja

Sri Lanka

[Blue Net](#) – Chathura Madusanka Thalegampala Gamage, Manchanayakage Pabodha Theekshani Manchanayaka

[‘Myco Box’ by White Root](#) – Demitha Manawadu, Sahas Eshan, Ridmini Hasari, Benuri Edirisinghe, Banuka Liyanage

[Bioplastic Revolution](#) – Sachintha Nilakshan, Sajini Piyarathna

Judges

[Durreshawar Mahmood](#), Environment and Climate Change Advisor - Regional Judge Afghanistan

[Shaikh Muhammad Mehedi Ahsan](#), Chief of Party, Climate Action, Winrock International - Regional Judge Bangladesh

[Shamima Akhter](#), Director, Corporate Affairs, Partnerships & Communications, Unilever Bangladesh - Regional Judge Bangladesh

[Namgay Wangchuk](#), General Manager, Natural Resources Development Corporation Limited, Regional Judge Bhutan

[Tenzin Jamtsho](#), Managing Director of Dungkar Estate & the Director of Administration & Finance for Druk Gyalpo's Institute, Bhutan- Regional Judge Bhutan

[Shantanu Srivastava](#), Practice Leader, Thinkthrough Consulting Pvt. Ltd - Regional Judge India

[Mohamed Inaz](#), Director, Climate Change & Sustainable Development, Nexia Maldives - Regional Judge Maldives

[Sumit Yadav](#), Co-Founder & Chief Executive Officer, Mantra Incorporation - Regional Judge Nepal

[Purnima Shakya Bajracharya](#), Head of Exploration at UNDP Nepal - Regional Judge Nepal

[Anam Rathor](#), Sustainability and Climate Change Expert- Regional Judge Pakistan

[Ahmad Jamal Wattoo](#), Advocate, Plastic waste reduction and climate mitigation strategies - Regional Judge Pakistan

[Vindya Jayawickrama Wijesinghe](#), Senior Innovation Officer/ Director (Techtransfer & Commercialization) National Innovation Agency (NIA) Sri Lanka - Regional Judge Sri Lanka

[Sachie Panawala](#), Additional Chief Innovation Officer, National Innovation Agency - Regional Judge Sri Lanka

[Amila Abeynayaka](#), Postdoctoral Research Associate, DTU Technical University of Denmark - Regional Judge Sri Lanka

The Regional Hackathon Finale was held in Colombo, Sri Lanka, on April 6, 2025. Three regional and eight national winners celebrated their innovations at the end of the event. The Sri Lanka team **'Myco Box by White Root'** was unanimously selected as the overall 'Regional Winner'. Coming in second place was Team **'Green Alchemy'** from India, and Third place was awarded to Team **'Eco Pet'** from Bhutan.



Regional Winner: Myco Box' by White Root, First Runnerup: Green Alchemy, Second Runnerup: Eco Pet

The regional winners had the opportunity to attend and speak at the high-level Regional Roundtable Meeting "Plastic Free Rivers and Seas: A Vision for South Asia" organised by the PLEASE project on 7-8 April 2025. The teams' innovations were shared with policymakers, researchers and development practitioners at the event.



The Regional Finale - An Inspiring Day with Young Innovators, Fighting Against Plastic Pollution in the Region



"On behalf of the World Bank Group, I feel privileged to be part of this innovative youth-driven Hackathon to fight plastic pollution. We support our young leaders to develop sustainable plastic-free solutions. Still, this is only a starting point. Through continuous partnership, and increased financing, including the essential private sector involvement, we need to ensure that these innovative ideas create enduring transformation."

Joseph Ese Akpokodje

Senior Environmental Specialist, World Bank Group

"On behalf of the judges, I would like to share that we have experienced great satisfaction from reviewing all innovative proposals from across the region. All proposals demonstrated outstanding initiatives that truly inspire admiration. The skills you have developed through this Hackathon journey will benefit you in every direction your future pathway takes you."

Ahmad Jamal Watoo

Regional Judge - Pakistan



"We express our heartfelt appreciation for organizing the Hackathon, an innovative platform which empowers youth like us. This platform, with mentorship and confidence-building activities, helped us develop creativity while achieving clarity through collaborative work. Through this Hackathon, we gained better ideas while meeting inspiring peers. We are deeply grateful for the experience."

Nitya Nepal

Team: Eco-straw Bhutan

Bhutan Finalist

Opening Remarks

The Director General of South Asia Co-operative Environment Programme (SACEP), Norbu Wangchuk, officially opened the Finale event with an encouraging message to all attendees, particularly youth participants, for their involvement in addressing the critical environmental issue.

Through his remarks, Mr Wangchuk focused on the urgent climate and plastic emergencies in South Asia, which exposes the region to severe risk, including the Himalayan glacier melting, exacerbating the plastic pollution in rivers and coastlines. He emphasised that youth possess an innovative spirit, essential for creating effective solutions, and encouraged participants to transform their passion and creativity into action. Highlighting the importance of regional cooperation, he noted that the Youth are critical for South Asia to overcome plastic pollution and climate challenges through innovative, collaborative efforts.



"The crisis unfolds before our eyes as South Asia faces its future through our current actions. We should use our energy with creativity and courage to fight against climate change and plastic pollution. Young generations are our hope; let's support them in driving positive actions. The world is watching; it's time for us to act, together"

Norbu Wangchuk

Director General

South Asia Co-operative Environment Programme

Integrity Setting

Anjalie Devaraja, Project Director of the PLEASE project, explained the competitive process and rules that ensure the hackathon's integrity. She appreciated the judges' and participants' dedication to maintaining integrity, transparency, and inclusivity throughout the competition. The Hackathon process, from evaluating competitors' concept notes for the finale, maintained integrity through clear eligibility requirements and evaluation procedures. The evaluation was managed by an independent panel of expert judges who did not belong to the organisers (World Bank, SACEP, UNOPS) to ensure impartiality and credibility in their decision-making. The judging criteria were distributed to participants and judges to build trust and openness.

"True success lies not in winning, but in coming together with integrity and sharing ideas. Let's not forget to empower young generations to drive innovative solutions for a cleaner, more inclusive future."

Anjalie Devaraja

Project Director

Plastic Free Rivers and Seas for South Asia Project (PLEASE Project)

South Asia Co-operative Environment Programme



Presenting the Innovations by Countries

The Finale was filled with youthful, innovative energy, where all 23 teams pitched their final proposals to regional judges and a live audience that comprised fellow competitors as well as other invitees. The order of presentations was randomly drawn by countries as follows:



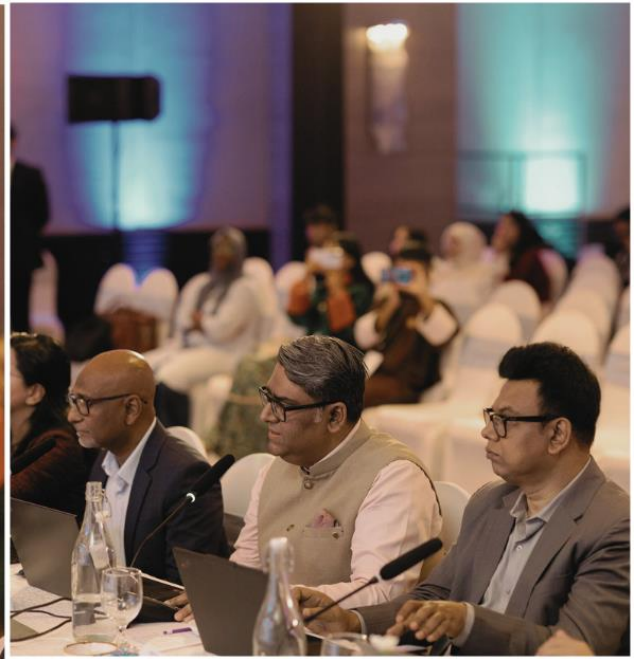
Finalists of the PLEASE Hackathon drawing the order of presenting for the finals

- | | |
|---------------|----------------|
| 1) Bhutan | 5) Pakistan |
| 2) Sri Lanka | 6) Maldives |
| 3) India | 7) Afghanistan |
| 4) Bangladesh | 8) Nepal |

Each team had seven minutes to present their innovative solution, which was followed by seven minutes of questions and clarifications from the judges, who scored individually on each competing team.

After all 23 teams had presented their innovations, the judges retreated to compare their scores and deliberate on the winners. In the end, their decisions on first, second and third winners were unanimous.





Award-Winning Innovations by South Asian Youth

Regional Winner cum National Winner of Sri Lanka: 'Myco Box' by White Root



Team: Myco Box by the White Root - Pabodha Theekshani Manchanayaka & Chathura Madusanka

Myco Box by White Root team from Sri Lanka was recognized for their outstanding innovation, securing both the Regional Winner title and the National Winner award for Sri Lanka. Focusing on Sri Lanka's fishing industry, Myco Box's innovation addresses the environmental impact of Styrofoam waste. In Sri Lanka, fishermen commonly use Styrofoam boxes to store fish. These boxes break easily, and when abandoned in the natural environment, they can break down and create microplastics harmful to marine life. Myco Box offers an eco-friendly alternative: a fully biodegradable fish storage box. Its outer layer uses mycelium, a root-like structure found in fungus, while the inner layer combines

aluminum foil and cardboard for durability and reuse. Myco Box's biodegradable fish storage box is affordable (US\$6– US\$8 compared to US\$10– US\$20 for Styrofoam) and customizable. The team has created fish storage boxes as part of their innovation alongside other sustainable packaging solutions, which will lead to establishing their first pilot plant. The team needs USD 16,000 to establish the production plant and is actively seeking partnerships with fisheries, exporters, farmers, and coastal communities. Their innovation supports several Sustainable Development Goals (SDGs), promotes zero-waste production, and has received positive feedback from potential users.



"We have the tech, the expertise, and the resources—what we need is your investment to turn agricultural waste into sustainable packaging."

Team: Myco Box by the White Root

Regional Winner - First Runner up cum National Winner of India: Green Alchemy



Team: Green Alchemy - Ankit Agrawala, Anubhuav Kumar Bhagat, Vranda Kaushik

Team **Green Alchemy** from India presented a solution to tackle microplastic pollution using biodegradable enzyme pellets. Highlighting South Asia's acute microplastic crisis, Green Alchemy found that environmental degradation increases economic vulnerability. The team's winning innovation as the First Runner- up is enzyme pellets, which degrade PET plastics into simple monomers with 90–95% efficiency within 40–72 hours. The pellets can be used in wastewater plants, industrial zones, and coastal areas. Currently at Technological Readiness Level (TRL) 6, Green

Alchemy aims to reach TRL 10 in two years. Their financial model includes initial reliance on grants and later revenue from product sales and consulting. They plan to scale domestically across India, then regionally to Pakistan, Bangladesh, and Sri Lanka. Green Alchemy intends to collaborate with governments, industries, and communities, aligning with SDGs 6, 13, and 14. They seek US\$ 95,000 for scaling, emphasizing energy savings, quicker degradation, and reuse benefits to attract clients like Unilever and Coca-Cola.

"The plastic crisis isn't waiting—neither are we."

Team: Green Alchemy



Regional Winner - Second Runner Up cum National winner of Bhutan: EcoPet



Team: Eco Pet – Shrendup Palden & Sonam Chopel Dorji

The Bhutanese team, **EcoPet**, presented an innovative solution to tackle plastic waste through a gamified app called EcoPet. Motivated by childhood experiences of witnessing appalling waste pollution, the team emphasised the need for new ways to engage youth in plastic waste management. EcoPet encourages students aged 10 to 15 to take care of digital pets by recycling plastics, verified through QR codes, and redeeming eco-points for real-world or in-game rewards. The app uses gamification to boost engagement, retention, and behaviour change among teenagers and the overall population. Revenue

streams of EcoPet innovation include a portion from recycled material sales, green product advertisements, and partnerships. EcoPet aligns with Bhutan's Zero Waste Goals, together with SDGs to promote social inclusion, while offering leadership roles for marginalized groups. Although the innovation is still in the design phase, EcoPet draws inspiration from renowned apps like Duolingo and Tamagotchi. The development phase of the EcoPet app is a three-month timeframe, followed by partnerships and scaling efforts. Financial support, partnerships, and policy engagement will expedite the development and application of the innovation within Bhutan and the South Asian region.



"EcoPet is not a silver bullet—but it's a tool to help young people form lasting green habits."

Team: Eco Pet

National winner - Afghanistan: 'Advanced Plastic Collection Drones and Robots'



Team: Advanced Plastic Collection Drones and Robots – Moh Jahesh Ahmadzai

The winning team from Afghanistan presented an innovative solution to plastic pollution through the Advanced Plastic Collection Drones and Robots project. Recognising plastic waste's severe environmental, health, and economic impacts, particularly in Afghan cities like Kabul and Jalalabad, the innovation proposes using autonomous drones and AI-powered robots to detect and collect waste from rivers and urban areas. The project combines cutting-edge technology, eco-friendly materials, and modular designs to create a scalable, cost-effective system with potential

regional and global impact. Currently developing the prototype phase, the plan includes pilot testing, community engagement, and expansion in a year. Despite funding and regulatory challenges, the innovative project aims to build partnerships with governments, the private sector, and NGOs. The importance of social inclusion, especially empowering women, is also a focus in the innovative project. It aligns with SDGs 12, 13, and 14, offering a tech-driven and long-lasting approach to managing plastic pollution.

National winner - Bangladesh 'Plastics 2.0'



Team: Plastix 2.0 – Seyam Bin H Rahman, Taki Tajwaruzzaman Khan, Ahabab Imtiaz Risat, Tasnim Ashraf & Jafrin Shaila

The National Winner, **Plastics 2.0** is an innovative initiative addressing plastic pollution in Bangladesh, bridging gaps through behavioural psychology and augmented reality (BPAR). The innovation's key features include the AR lens that visualises a plastic-free environment, a smart scan function offering eco-scores and alternatives for plastic products, a citizen science map for crowdsourced pollution tracking, and EcoJourney, a gamified behavioural change model. The app uses frugal AI, reducing energy consumption by 60% and working on-device to

minimise carbon emissions. The innovation's business model includes marketplace commissions, ad revenue, and data monetisation for NGOs and governments. The expansion is planned across South Asia within two years of the launch. A particular focus of the project is empowering women and marginalized communities. Although challenges remain in data accuracy and adoption, Plastics 2.0 aims for sustainable impact through awareness, action, collaboration, and engagement.



National winner - Maldives: EcoConnect



Team: EcoConnect – Mohammed Aruham, Ali Ahsan Saeed, Abdul Badeeu Najeeb, Ahmed Yooshau & Mohamed Aiham

The Maldives team EcoConnect showcased a solution that tackles plastic pollution through a digital, community-driven platform. In the Maldives, Male alone utilizes 280,000 plastic bottles daily, contributing to severe marine pollution. EcoConnect's innovation addresses the root cause of plastic pollution: the rapid growth of plastic production. Their mobile app enables users to post and geotag waste sites and create actionable heat maps with AI-based brand and location analysis. It also features an AI chatbot named 'Rachel' that offers eco-friendly tips. In the first year of their launch, the team aims to introduce core features and

build a user base, then plans to expand in the region in the following year. The digital platform's success relies on high user engagement, strong partnerships, and data availability. The app aligns with local and global environmental goals and fosters community cleanups. The plans include multilingual support and empowering marginalized communities to enhance inclusivity. EcoConnect's vision is a scalable, self-sustaining model that inspires behavior change and promotes a plastic-free lifestyle across South Asia.



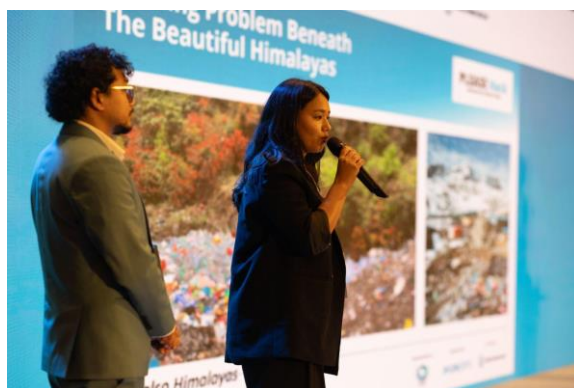
National winner - Nepal: 'Trash Trail' Himalayan Knowledge Hub



Team: Himalayan Knowledge Hub – Sushila Shrestha, Yunish Ghimire & Pratik Bajracharya

Nepal's winning team, **Himalayan Knowledge Hub** presented a concept for managing plastic waste in the Himalayas through a decentralized collection system with centralized software. Focusing on the severe plastic pollution in the area, particularly along popular hiking pathways such as the Mardi Trek, the team proposed creating a segregation centre at Dhampus, gathering plastic waste for Pokhara's recycling operations. Designed to run on low-bandwidth systems, the team's innovative mobile app called 'TrashTrail' would track trash, schedule

pickups, and compile data. They plan to launch the pilot project by diverting around 58 tons of plastic waste annually, creating green jobs, and generating income from selling premium plastics and service charges to hotel owners. The approach highlights linkage with local government systems to be replicable and scalable. Despite existing players in the region, their innovative approach is overcoming topographical challenges using mobile technology and handheld devices. They aim to start within six months, partnering with local municipalities.



National winner - Pakistan: EcoPave



Team: Himalayan Knowledge Hub – Sushila Shrestha, Yunish Ghimire & Pratik Bajracharya

EcoPave presented an innovative solution to address two major environmental problems in Pakistan, by transforming plastic and marble waste into valuable resources. Pakistan's annual plastic bag production reaches 55 million units, while marble waste amounts to 300 tons, damaging both agricultural lands and aquatic environments. EcoPave's innovation transforms plastic waste and marble slurry into durable construction materials through their developing process, which does not involve plastic melting. The method cuts down carbon emissions while promoting the circular

economy. The prototypes developed by EcoPave surpassed government standards for strength. The products are both budget-friendly and accessible, costing 80 Pakistan Rupees per square foot. EcoPave plans to introduce its solution in Pakistan and then expand throughout South Asia. The innovation also aligns with SDGs 9, 12 and 13. EcoPave aims to reduce 500 kg of plastic waste monthly, while building employment opportunities for local residents. Their innovative project offers a stronger, cheaper, greener alternative to traditional construction materials.



National Winners



Annexes

Annex 1	<u>PLEASE Hack competition's eligibility criteria and rules</u>
Annex 2	<u>PLEASE Hack judging criteria for Virtual Hackathon (national competitions)</u>
Annex 3	<u>PLEASE Hack judging criteria for the regional competition</u>
Annex 4	<u>List of National Winners and South Asian Regional Winners</u>
Annex 5	<u>PLEASE Hack: Post-event media mentions</u>