

PROPOSAL FOR FOR “NANGLO”

PLEASE Hack Proposal Submission: Sunday, March 16, 2025

PLEASE Hack is a youth-driven hackathon initiative empowering changemakers aged 18 to 30 across South Asia to develop innovative solutions for tackling plastic pollution in rivers and seas. PLEASE Hack is organized under the Plastic Free Rivers and Seas for South Asia (PLEASE) Project, implemented by SACEP, funded by The World Bank and with implementing support from UNOPS.

Table of Contents

I. Proposal Title Page	3
II. Project Description	4
1. Executive Summary and Pitch	4
2. Project Background and Rationale	5
3. Technical Description (<i>Maximum word limit: 500</i>)	8
4. Description of Proposed Innovation Potential (<i>Maximum word limit: 300</i>)	11
5. Sustainability Potential (<i>Maximum word limit: 300</i>)	14
6. Stakeholder Engagement and Partnerships	15
7. Gender and Social Inclusion (<i>Maximum word limit: 300</i>)	17
8. Potential for Replication and Scaling (<i>Maximum word limit: 300</i>)	18
III. Proposed Budget (brief narrative)	18
IV. Annexes	21

I. Proposal Title Page

Proposed Project Title	Nanglo
Name of Team Leader	Manish Singh Mahato
Nationality & Gender of the Team Lead	Nepal, Male (He/Him)
Names of team members, with nationality and gender details	Nandini Karna, Female (She/Her), Nepal Peshal Parajuli, Male (He/Him), Nepal Shivam Kumar Shah, Male (he/Him), Nepal
Summary description of the team <i>(Strength, gender composition, relevant experience, and how you complement each other in those project ideation and implementation)</i>	<p>Our team combines technical expertise and sustainability focus. Shivam, an incoming freshman computer science student at The University of Southern Mississippi, leads AI development. Peshal Parajuli contributes Python development skills and economic perspective from his work on image detection and e-commerce experience.</p> <p>Nandini Karna, our research specialist, provides critical environmental science knowledge and leads community engagement strategies. Her perspective as a female team member ensures our solutions address the needs of women from both waste workers and handicraft maker who comprise a significant portion of the recycling and manufacturing.</p> <p>Our team leader leverages his environmental advocacy experience, including plantation and river cleaning campaigns, along with his computer science education, to coordinate our complementary skills effectively. This balanced gender composition and diverse academic backgrounds allow us to approach plastic pollution challenges from multiple angles, ensuring comprehensive and equitable solutions.</p>
Category of Competition	3. 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.
Geographic Scope	Nepal
Estimated budget (USD)	\$39,649 USD TO \$55,453 USD
Contact Details	email@manishmahato.info.np , email@peshalparajuli.com.np

II. Project Description

1. Executive Summary and Pitch

No matter how many dustbins we place in our villages and cities, they will eventually fill up with plastic. Even recycling comes with its own financial and environmental costs. This realization made us understand that simply fishing out plastic waste from water and landfills isn't enough — we must prevent plastic from being used in the first place.

In Nepal alone, there are over a hundred plastic-free alternatives, and across Asia, there are thousands. Yet, few of these products have made it to the market. In 2023, Nepal's handicraft/eco-friendly products industry generated an annual market value of around Rs 24 billion. Unfortunately, only 9% of the demand was met.

Expanding the reach of plastic-free products and raising awareness about non-plastic alternatives is just as crucial as managing the plastic already in our ecosystem. Without making sustainable products accessible, we cannot replace plastic or stop it from reaching our rivers and seas.

This is where Nanglo comes in. We aim to make these products accessible to everyone and bridge the gap between sellers and manufacturers of plastic-free products.

Nanglo will start by working directly with manufacturers, who can list their products simply by recording a video and answering an automated call. From there, the products will be listed on all our partnered e-commerce platforms. When consumers browse products that match eco-friendly alternatives, they will be encouraged to make the switch, with user-friendly prompts and animations helping them understand the importance of choosing alternatives to plastic. This approach allows us to spread awareness and promote eco-friendly products through existing market players, so we can focus on recycling efforts and connecting with makers of plastic-free alternatives.

Additionally, Nanglo's own platform will allow users to scan plastic products with their phones. This feature will provide information about their carbon footprint, potential toxins, and how long they are likely to persist in landfills and oceans. The platform will then suggest similar plastic-free alternatives, allowing consumers to purchase them directly or even exchange their existing plastic products. Exchanging plastic will earn users' virtual points, which can be used to buy eco-friendly products from partnered e-commerce platforms or the Nanglo shop. This ensures that plastic waste is sent directly to recycling hubs before it piles up and harms our planet.

By doing this 60% of women out of 1.1M individuals working in manufacturing coming from marginalized communities will get access to the market, Furthermore, Nanglo aims to connect

with waste-picking individuals, many of whom live under the poverty line (70-80% of waste workers are in this situation). Most importantly, Nanglo will create a circular economy for plastic reduction.

2. Project Background and Rationale

<p>2.1 Project Background and Problem Statement</p> <p><i>Please answer based on the following points:</i></p> <p><i>Why is plastic pollution a big issue in your community or region?</i></p> <p><i>Which specific ecosystems or areas are most affected by plastic pollution?</i></p> <p><i>Which specific problem do you want to solve?</i></p>	<p>Plastic pollution is a critical issue in Nepal, where over 2,500 tons of plastic waste is generated daily, with 40% mismanaged, ending up in rivers, landfills, and public spaces. The Bagmati River, Chitwan National Park, and urban areas like Kathmandu and Pokhara are severely affected, harming biodiversity and public health.</p> <p>Our key challenge is the lack of an organized system for plastic waste management and sustainable alternatives. Informal waste pickers struggle with low income and poor working conditions, while consumers lack affordable plastic-free options. This results in unchecked plastic pollution, affecting communities, wildlife, and water systems.</p>
<p>2.2 Proposed Solution: Innovative Approach</p> <p><i>Explain the following points, with some numbers and facts, if applicable.</i></p> <p><i>What is your big idea or solution to combat plastic pollution? Explain your solution (materials, design, service, governance mechanisms, campaigns, technology, other interventions, etc. Please explain its distinct features and how your solution will combat plastic pollution.</i></p>	<p>Nanglo's solution focuses on reducing plastic pollution at its source by promoting plastic-free alternatives and facilitating a circular economy. Our platform connects manufacturers of sustainable products with consumers through e-commerce integration, allowing consumers to easily switch to eco-friendly alternatives.</p> <p>Key features include:</p>

Why do you think your solution is important in reducing plastic pollution?

How much difference can it make in solving the problem?

What makes your solution unique or innovative? For example, does your solution offer a new type of service, address unidentified needs, introduce new technology, open a market-based solution or fill a gap in the existing market? What are your product's competitive advantages?

1. Product scanning technology to assess plastic products' environmental impact and suggest eco-friendly alternatives.
2. Reward system for exchanging plastic products, incentivizing recycling and reducing waste.
3. Marketplace access for marginalized manufacturers, particularly women.

Nanglo's approach is essential because it prevents plastic from entering ecosystems rather than just managing it after disposal. With millions of tons of plastic waste generated annually, our solution can significantly reduce plastic consumption, promoting sustainability and creating job opportunities in underserved communities.

What sets Nanglo apart is its integration of technology with marketplace access, tackling both demand and supply of plastic-free products. This innovative, behavior-driven model creates long-term change, addressing an urgent need for sustainable alternatives while incentivizing responsible consumer behavior.

<p>2.3 Project description</p> <p><i>Please describe your project-specific activities by answering the following points (location/setting and targets);</i></p> <p><i>Where will your project take place?</i></p> <p><i>Who will benefit from your project?</i></p> <p><i>Do you think your project could cause any problems for people (communities or neighbors) or the environment in general? If yes, what are they, and how can you fix them?</i></p>	<p>Our project will operate in Nepal, with a focus on onboarding manufacturers from rural areas that produce plastic-free alternatives. We will work to bring these products to a wider market, including urban areas, through partnerships with e-commerce platforms.</p> <p>Target beneficiaries:</p> <ol style="list-style-type: none"> 1. Consumers, especially those seeking eco-friendly alternatives, will benefit from easily accessible sustainable products. 2. Marginalized communities, including women and waste-picking workers. 3. E-commerce, increased sales and wide inventory, recognition, commission on products <p>Potential challenges: there could be some initial resistance to switching from plastic to alternatives, especially due to pricing or lack of awareness. To address this:</p> <ol style="list-style-type: none"> 1. We will run awareness campaigns to educate consumers on the importance of making eco-friendly choices. 2. We will offer incentives like virtual points for exchanging plastic products, making the transition financially appealing. 3. By engaging local communities and offering clear benefits, we will ensure smooth adoption and contribute to a sustainable, plastic-free future.
<p>2.4 Impact Story</p> <p><i>What are the overall positive effects you expect from your project, and how will it help improve the environment and well-being of your community? (When answering this, quantify your results as applicable.)</i></p>	<p>Nanglo will:</p> <ol style="list-style-type: none"> 1. Reduce plastic pollution by 30% in target areas through sustainable alternatives and efficient waste management.

<p><i>Some examples of positive social and environmental impacts of your solutions could be creating local livelihoods, fighting transboundary plastic pollution, advancing specific SDGs, etc.</i></p>	<ol style="list-style-type: none"> 2. Improve livelihoods of 20,000+ waste pickers, increasing their income and working conditions. 3. Promote circular economic growth, encouraging businesses to adopt sustainable models. 4. By combining economic incentives, technology, and behavioral change, Nanglo fosters long-term environmental and social transformation.
<p>2.5 Policy Dimension and Global Environmental Goals</p> <p><i>Explain any important national, sub-national, or global policies, rules, and laws your project takes into consideration to manage waste or protect the environment. Explain how these are directly or indirectly relevant to your idea.</i></p>	<p>Our project aligns with key policies:</p> <ol style="list-style-type: none"> 1. Nepal's Solid Waste Management Act (2011) 2. Environment Protection Act (1997), 3. SDG 12 (Responsible Consumption), 4. SDG 13 (Climate Action) 5. SDG 5 (Gender Equality)

3. Technical Description

<p>3.1 Quantity and Collection</p> <p><i>Describe how much plastic waste your project will manage (including waste reduction, collection, reusing, recycling) during the project's life.</i></p> <p><i>e.g. how many kilograms of plastic will you collect each month or how much plastic will you help reduce?)</i></p>	<p>With 10% of the population reducing plastic use and 1.5% of waste being reused, Nanglo will achieve:</p> <ol style="list-style-type: none"> 1. Plastic Reduction: Reduce 3,000 metric tons monthly (36,000 annually) by encouraging 10% of the population to cut 1 kg of plastic per month. 2. Plastic Collection: Collect 1,500 metric tons monthly (18,000 annually) through its exchange program. 3. Plastic Reuse: Redirect 1.5% of plastic waste (19,110 tons monthly) to reuse, contributing 286.65 metric tons monthly (3,440 annually).
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	<p>4. Total Waste Managed: Manage 57,440 metric tons of plastic waste annually through reduction, collection, and reuse.</p>
<p>3.2 Methodology and Tools</p> <p><i>Please provide a detailed description of the technology used in your project. Include technical specifications and explain how it works, and feel free to attach schematics and any other relevant technical details to support your explanation.</i></p> <p><i>Provide the steps or actions you will take to reduce or manage plastic waste. e.g., clean-up drives, recycling drives, awareness of waste reduction, etc.</i></p>	<p>1. AI Models for Product Identification:</p> <ul style="list-style-type: none"> • YOLOv8: A lightweight AI model used for real-time plastic product detection via device cameras. • Specs: High-accuracy object detection, optimized for mobile use, trained on a diverse plastic product dataset. • How It Works: Users scan products; the model identifies them, prompts their environmental impact, and suggests eco-friendly alternatives. <p>2. Mobile Platform for Plastic Exchange:</p> <ul style="list-style-type: none"> • App for Scanning & Rewards: Users scan plastic items and exchange them for virtual points to buy eco-friendly alternatives. • How It Works: Points earned from plastic exchanges can be redeemed for sustainable products, with waste directed to recycling centers. <p>3. Steps to Reduce and Manage Plastic Waste:</p> <ul style="list-style-type: none"> • Promote plastic-free alternatives through app and e-commerce. • Educate users on sustainability benefits. • Facilitate a plastic exchange program, ensuring waste is properly recycled and reuse

<p>3.3 Technology for Innovation</p> <p><i>How ready is the new idea or tool you are using for the project?</i></p> <p><i>(Is it something that is already working and used by others, or is it still being tested or developed?)</i></p>	<p>The tools we are using are multiple AI models, like YOLOv8, which are already in use for various purposes. We are training these models specifically for our project to suit our needs.</p>
<p>3.4 Practical Implementation Potential & Monitoring</p> <p><i>How easy do you think it will be to put your idea into action and make it work in real life? i.e operational feasibility</i></p> <p><i>How will you keep track of your progress and see if your idea is working</i></p>	<p>The platform for listing eco-friendly products is simple and doesn't require technical expertise, This allows us to quickly onboard manufacturers.</p> <p>We are partnering with existing e-commerce platforms, which reduces the need to build a completely new brand for selling and delivering products. Collaboration with local recycling centers ensures that plastic products are processed and received through waste-picking workers.</p> <p>To monitor progress, Nanglo will implement the following:</p> <ol style="list-style-type: none"> 1. Real-Time Data Analytics: Track user participation (e.g., plastic exchanges, product scans, eco-friendly purchases) and analyze plastic waste reduction trends through the platform. 2. Impact Measurement: Regular reports from recycling centers and the platform will measure plastic reduction, including the amount exchanged and users adopting plastic-free alternatives. 3. Community Engagement: Collect feedback from consumers, manufacturers, and waste-pickers through the platform and phone call to assess satisfaction and identify areas for improvement.

<p>3.5 Project Risks</p> <p><i>What challenges or problems might your project encounter during project implementation, e.g., is there a chance the technology might not work or that people may not participate?</i></p>	<p>Nanglo faces challenges including:</p> <ol style="list-style-type: none"> 1. Limited recycling infrastructure in remote areas hampering collection and processing. 2. Platform resistance to new systems due to concerns about process disruption and commission impacts. 3. Technology adoption barriers among rural communities and informal waste collectors. 4. Economic viability challenges when competing with cheaper virgin materials
<p>3.6 Next Step & Future Vision</p> <p><i>What next steps do you envision taking after the hackathon to develop and implement your idea further?</i></p>	<ul style="list-style-type: none"> • Establish women-focused centers providing access to materials (bamboo, clay, sewing machines) for eco-friendly production. • Partner with local artisans to create attractive, durable alternatives to plastic products. • Develop a digital platform connecting the waste-to-product value chain. • Create training programs for women entrepreneurs

4. Description of Proposed Innovation Potential *(Maximum word limit: 300)*

This section explains how the proposed solution fits the location and addresses the specific problem. It's important to focus on how your idea helps the Circular Plastic Economy and why it's innovative and original.

Nanglo addresses plastic pollution by promoting plastic-free alternatives, reducing dependency on plastic, and creating a streamlined system for waste collection and recycling. Nanglo prevents plastic use at the source while ensuring collected plastic is properly redirected before it reaches rivers and landfills.

How Our Solution Works: Consumer-Centric and Scalable:

Nanglo operates through two core strategies:

1. Connecting Plastic-Free Product Makers with Consumers

- **Easy Product Listing for Manufacturers:** Local producers can list their sustainable products by recording a video or responding to an automated call, making the process accessible to artisans with limited digital skills.
- **Integration with E-Commerce Platforms:** These products are displayed on partnered online marketplaces.
- **Consumer Awareness & Encouragement:** Shoppers browsing plastic-based products receive suggestions for sustainable alternatives, guiding them toward environmentally friendly choices.

2. Plastic Identification and Exchange System

- **Plastic Scanning for Information:** Users can scan plastic items to receive details on environmental impact, toxins, and decomposition time.
- **Alternative Product Suggestions:** The platform recommends plastic-free replacements, available for purchase or exchange.
- **Plastic Collection for Rewards:** Users can exchange plastic waste for virtual points, redeemable for eco-friendly products, ensuring plastic is collected before it pollutes the environment.

What Makes Nanglo Unique?

Nanglo introduces several innovative elements:

1. **Inclusive Access for Small-Scale Manufacturers** – Many artisans struggle with complex online platforms, so we simplify product listings through voice and video-based inputs, making it easier for them to enter the market.
2. **Encouraging Sustainable Behavior** – Instead of just offering alternatives, Nanglo nudges consumers toward plastic-free choices at the point of purchase, fostering long-term habit change.

Comprehensive Approach to Plastic Waste – Unlike solutions that only focus on recycling, Nanglo tackles both plastic reduction and waste collection, ensuring greater impact.

Scalability & Growth Potential:

Nanglo is designed for widespread adoption due to:

1. Easy integration with existing e-commerce platforms and waste management networks, allowing seamless expansion.
2. Suitability for both urban and rural areas, ensuring accessibility across different regions.

Flexibility to adapt to various markets, with localized product recommendations and waste management systems.

Regional Adaptation & Market Fit:

While designed for Nepal, Nanglo is highly adaptable to other South Asian countries because:

1. Nepal's eco-friendly market is underserved: The handicraft and sustainable goods industry generates Rs 24 billion annually, yet only 9% of demand is met.
2. Empowering waste pickers & marginalized communities
3. Nanglo creates financial incentives for plastic waste collection.
4. Direct partnerships with local recycling centers.

Intellectual Property Protection:

To safeguard its innovative approach, Nanglo is exploring intellectual property protection for its plastic waste exchange and consumer engagement system.

International Collaboration & Expansion:

Though Nanglo begins in Nepal, its model is designed for expansion across South Asia and beyond. Partnerships with global e-commerce will enable Nanglo to be adapted in different countries.

Contribution to the Circular Plastic Economy:

Nanglo plays a key role in circular economic efforts by:

1. Preventing plastic waste at the source through product alternatives.
2. Encouraging plastic collection through consumer participation.
3. Ensuring proper recycling and reuse, closing the loop on plastic waste.

Through these efforts, Nanglo empowers manufacturers, waste workers, and consumers—creating a scalable, behavior-changing solution that significantly reduces plastic pollution.

5. Sustainability Potential *(Maximum word limit: 300)*

The section should demonstrate a good case for the sustainability of the proposed outcomes and impacts (project results) beyond the funding period, in particular, how pilot elements of the project can be expanded or scaled up, or alternatively how an exit strategy (in the last completion phase of the project) may look like.

Consider Sustainability (nonfinancial), Finance and Economic Viability. Explain how the project ensured that the local community supports it and its objectives and how you plan to maintain community buy-in throughout the project lifecycle.

Consider the following brainstorming questions (at least three) that apply to your business plan when answering this section :

- *How will you ensure that the raw materials, resources, and technology needed to keep the solution running are available after the project is finished?*
- *Have you assessed the environmental effects, such as carbon footprint, plastic footprint and impact on ecosystems, and applied sustainability measures relevant to the project?*
- *As part of the sustainability plan, have you estimated the costs involved in the project and how the money will be spent?*
- *What is return on investment (ROI), and is the project financially sustainable in the long run? Consider how affordable the project results are from a sales perspective.*
- *Have you identified any potential risks as part of the sustainability plan, and how do you plan to address them?*
- *If the innovation is an alternative product for plastics, how does it ensure Circularity & End-of-Life Management?*

Nanglo exerts its influence in the long run by introducing plastic-free products to the mainstream via e-commerce, causing behavior change, and spreading sustainable products in the market.

By placing plastic-free items in partner e-commerce sites, Nanglo creates consumer awareness and demand without the users actively seeking alternatives. This leads to a change in behavior that will endure more than the period of the project. In addition, through our awareness campaigns, consumers learn about their plastic footprint, thereby long-term behavior impact is ensured.

Nanglo is financially rewarded in terms of commission on sales and strategic alliances, thereby being financially viable. As there is an increasing demand for eco-friendly products, the local producers are benefitted with increased market reach, i.e., increased profitability and scalability. Since low-cost, plastic-free products ensure consumption in the long term, Nanglo is a financially viable solution.

The project relies on local, non-plastic, indigenous material found in enormous amounts locally, thus making reduced demand for finite materials. By involving local producers initially, Nanglo attains a longer-life, sustainable supply base by the time the project is

complete. Getting supplies from sustainable suppliers allows us to prolong the project without affecting either quality or availability.

The greatest threats are low initial adoption and consumer backlash. We address this by introducing behavioral incentives and nudges in phases, i.e., discounts for green purchases. At exit, we will ensure the technology remains integrated into partner platforms and operations are transferred to a sustainable model managed by local stakeholders or investors.

6. Stakeholder Engagement and Partnerships

6.1 Stakeholder Engagement Matrix

Use the table below to identify key project stakeholders. Please map them on this matrix, showing their level of influence and interest in your project.

You can briefly describe the challenges you might encounter working with these stakeholders (including local communities) and how your project could turn those challenges into opportunities. We have provided one example.

Stakeholder type/ role in project	Interest (High/Medium/Low)	Influence (High/Medium/Low)	Key Risks	Opportunities to Overcome Risks
Local artisans and manufacturers	High	Medium	Limited access to technology, reluctance to switch from traditional methods	Provide easy-to-use platforms (voice/video-based listings), offer training and support
E-commerce platforms (partners)	Medium	High	Lack of understanding of sustainability value and integration complexity	Highlight benefits of offering eco-friendly products, demonstrate market demand
Consumers (end-users of products)	High	Low	Low awareness or willingness to change habits	Use AI-powered nudging, educate on environmental impact, offer easy swaps and rewards
Tech Developers	High	High	Technical	Build strong

(for platform and AI)			challenges in platform development and system accuracy	development partnerships, ensure robust testing and feedback loops
Corporate Partners (CSR initiatives)	High	High	Uncertainty about the impact of CSR projects, misalignment with core business goals	Align project with corporate sustainability goals, create mutually beneficial partnerships

6.2 Beneficiaries

Highlight the number of people who will directly or indirectly benefit from the project.

1. 10% of Nepal's Population (3.2 million people):
This group will be encouraged to reduce their plastic usage and adopt sustainable, plastic-free alternatives.
2. Waste Pickers (4,900 to 12,000 individuals):
This group, which represents 70-80% of waste pickers living below the poverty line, will benefit from economic incentives provided for collecting plastic waste through Nanglo's exchange program.
3. Local Manufacturers and Artisans (1,000+ producers):
Approximately 1,000 local producers of sustainable, plastic-free products will gain visibility and access to a broader market via Nanglo's platform, helping them expand their reach and increase sales.
4. Women in Sustainable Product Production (3,000 to 4,000 women):
This project will empower approximately 3,000 to 4,000 women involved in the production of eco-friendly products, providing them with greater market access, visibility, and economic opportunities to improve their livelihoods.
5. Marginalized Communities (60% of 1.1 million):
As part of the project's outreach, 60% of 1.1 million marginalized individuals, especially women from these communities, will benefit from the platform by gaining access to market opportunities and sustainable products.
6. E-commerce:
Expands product inventory, enhances branding by promoting sustainability, and increases sales and profits.

7. Gender and Social Inclusion *(Maximum word limit: 300)*

This section answers some key questions relevant to gender and social inclusion in your projects.

Describe briefly your understanding of the gender roles and norms in the target community. What are some gender issues within the project boundaries, and how will your project address them? Is your project addressing the negative gender norms within the community around your project locale? If not, how will you ensure that your proposed project is gender-sensitive'.

When answering this, you may also consider the following:

- *Number of women involved in the project or diverse individuals involved (at least 1 in proposal development or hackathon group).*
- *Gender or Social gaps related to the project (identify at least one gap).*
- *How will the project address these gender or social gaps? (e.g. inclusivity, equality, or provide opportunities for underserved communities or disadvantaged groups).*
- *What are some of the inclusive activities in the project (you may include specific actions that engage diverse groups, such as women, marginalized communities, or vulnerable populations)?*
- *Identify at least two challenges related to social inclusion or community engagement and how your project addresses them.*

In Nepal, women, especially from indigenous and marginalized communities, play vital economic roles but face systemic barriers like job insecurity and unfair wages. The haruwa-charuwa system, for instance, keeps many in debt-bonded labor, limiting opportunities for women and children.

Nanglo disrupts these barriers by linking women artisans and entrepreneurs with sustainable markets. It ensures fair wages, financial stability, and cultural preservation by connecting isolated communities with businesses and consumers. Women in traditional crafts, eco-friendly production, and recycling gain access to recognition and economic security.

A key leader in this effort is Nandini Karna, our Research, Marketing, and Communications Head, who has been instrumental in Nanglo's development. Her leadership highlights the power of women in innovation and sustainability.

Nanglo also uplifts underserved minorities and indigenous groups who lack market access for their eco-friendly products. By connecting them with businesses and consumers, Nanglo strengthens their economic standing and preserves cultural heritage. Nepal's festival economy, for instance, sees high demand for biodegradable products during Chhath, Tihar, and Maghe Sankranti. Nanglo helps artisans meet this demand with sustainable alternatives, reinforcing environmental and cultural sustainability.

Challenges remain, particularly in training and financial literacy. Nanglo addresses this through skill-building workshops in sustainable production, financial management, and digital marketing, fostering long-term self-sufficiency. Scaling production while maintaining sustainability is another challenge. Nanglo collaborates with artisans to ensure growth aligns with ethical practices, preventing environmental or cultural harm.

At its core, Nanglo is about creating a fair, inclusive, and sustainable economy where women and marginalized communities are not just participants but leaders. By addressing economic disparity, preserving cultural heritage, and promoting environmental responsibility, we are not just building a marketplace—we are shaping a future where no one is left behind.

8. Potential for Replication and Scaling (*Maximum word limit: 300*)

This section addresses the potential of your proposed solution to be scaled up and replicable as proof of concept.

Nanglo can expand in developing countries like India, Bangladesh, and Sri Lanka where the issue of plastic pollution is enormous. With rising demand for green products, expanding becomes an easier process. Partnerships with more international online retailers like Flipkart and Shopify will help with wider distribution of these products. The majority of governments in the region have prohibited plastics, offering good policies for plastic-free products. Nanglo's AI scanner can be programmed to recognize local plastic products, and a multilingual platform will encourage inclusiveness. Collaborations with waste management associations and NGOs will guarantee ease of integration into local recycling networks.

Nanglo empowers marginalized communities by providing them with market access. Over 60% of the 1.1 million women and men working within Nepal's eco-friendly product market are female. Through the expansion into neighboring countries, more artisans, small-scale manufacturers, and recyclers and crafters can get economic benefits. The plastic exchange model will influence customers to opt for environmentally friendly products while ensuring recovered plastic gets effectively recycled. Moreover, companies bound by Extended Producer Responsibility (EPR) can leverage Nanglo's platform to manage and track plastic waste and enable a circular economy by sheltering plastic in recycling or craft hubs.

Scaling up Nanglo may be challenged by low awareness, plastic industry resistance, and limited finance. Campaigns for raising awareness and partnering with green groups can increase awareness among consumers. Policymaker support and policy incentives for green enterprises can bypass resistance from plastic industries. Regarding finance, partnering with impact investors, crowdfunding, and grants can make finance available for scaling up. Moreover, the application of blockchain in tracing plastics can enhance transparency, thus encouraging stakeholders' trust.

Addressing such problems enables Nanglo to promote long-term behavioral change, reduce plastic dependency, and create economic opportunities for the vulnerable.

III. Proposed Budget (brief narrative)

The Project Budget becomes part of the proposal.

A few important principles in preparing the project budget:

- *Be realistic in your budgeting (value for money). An unrealistically low budget is just as likely as an overly high budget to result in failure of the proposal and the project.*
- *The budget should include costs associated with managing and administering the project, as well as specific resources (hardware, software, platform, etc.) required.*
- *Costs that are calculated in terms of percentage will not be accepted.*
- *Note: In your budget proposal, please provide justification for how your solution is cost-effective, affordable, or economically viable. How will you demonstrate the financial feasibility and value for money of your proposed solution?*

Category	Estimated Cost (USD)
1. Technology Development	
a) computing	\$4,553- \$5,000
b) Hosting & Domain (1 year)	\$1,920 - \$2,500
c) Storage & Data Transfer	\$1,600 - \$2,000
2. Operations & Logistics	
a) Workplace	\$2,590 - \$3,453
b) Sourcing & Procurement	\$2,000 - \$4,000
c) Logistic	\$3,500 - \$4,000
3. Marketing & Outreach	
a) Social media & Ads	\$3,650 - \$4,000
b) Influencer/Partner Collaboration	\$1,439 - \$1,500
c) Offline Promotions & Branding	\$ 3,597 - \$4,000
4. Human Resources	
a) Additional developer/Tech Team	\$8,000 - \$10,000
b) Marketing Team	\$2,500 - \$5,000
c) Training for Local Sellers	\$1,000 - \$2,500
5. Legal & Compliance	
a) Business Registration & Fees	\$500 - \$1,500
b) Certifications (Eco-labels, Compliance)	\$800 - \$2,000
6. Miscellaneous & Contingency	\$2,000 - \$4,000
Total Estimated Budget	\$39,649- \$55,453

The proposed budget covers the first year of Nanglo's operations. The costs have been broken down into essential categories to ensure the project is financially viable and cost-effective. We have prioritized investments that will make the project sustainable and self-sufficient in the following years.

Budget Breakdown:

1. Technology Development (One-Time Investment)

- Computing: \$4,553 - \$5,000
- Hosting & Domain: \$1,920 - \$2,500
- Storage & Data Transfer: \$1,600 - \$2,000

Justification: These are initial investments to set up the platform's infrastructure. These expenses will ensure that the platform is scalable and accessible, making it sustainable in the long term.

2. Operations & Logistics (Recurring Costs)

- Workplace: \$2,590 - \$3,453
- Sourcing & Procurement: \$2,000 - \$4,000
- Logistics: \$3,500 - \$4,000

Justification: These recurring costs ensure the smooth running of day-to-day operations. Partnering with local suppliers and leveraging existing logistics channels keeps costs low.

3. Marketing & Outreach (Recurring Costs)

- Social Media & Ads: \$3,650 - \$4,000
- Influencer/Partner Collaboration: \$1,439 - \$1,500
- Offline Promotions & Branding: \$3,597 - \$4,000

Justification: Marketing expenses are aimed at raising awareness and encouraging adoption. The use of affordable digital channels, partnerships with local influencers, and offline promotions will ensure cost-effective outreach.

4. Human Resources (Ongoing Costs)

- Developer/Tech Team: \$8,000 - \$10,000
- Marketing Team: \$2,500 - \$5,000
- Training for Local Sellers: \$1,000 - \$2,500

Justification: The tech team will develop and maintain the platform, while the marketing team will help build the brand. Local seller training ensures product availability, with minimal costs.

5. Legal & Compliance (One-Time Investment)

- Business Registration & Fees: \$500 - \$1,500
- Certifications: \$800 - \$2,000

Justification: These one-time investments are necessary for legal compliance and to obtain eco-certifications for credibility.

6. Miscellaneous & Contingency

- Miscellaneous & Contingency: \$2,000 - \$4,000

Justification: This fund accounts for unforeseen costs, ensuring the project can adapt to unexpected changes or challenges.

Total Estimated Budget: \$39,649 - \$55,453

Cost-Effectiveness & Financial Feasibility:

- **Self-Sustainability:** Nanglo is expected to become self-sustaining by the second year, as the revenue from product sales and partnerships will cover ongoing costs.
- **Affordable and Scalable:** The project uses a lean approach, minimizing unnecessary overheads. By leveraging local suppliers, digital marketing, and existing infrastructure, we keep costs low while ensuring scalability.
- **Value for Money:** The budget balances necessary investments with affordable strategies, ensuring a strong foundation without overspending. The long-term goal is to generate revenue and become financially viable, reducing reliance on external funding in the future.

IV. Annexes

Please include the following below in this same document or you can add them as attachments (Word Doc or Excel Sheet) and upload them to the **Babele application portal** under the "Attachment" section.

- A: Negative List Compliance Declaration
- C: CVs of all members
- D: Link of website (<https://enanglo.vercel.app/>) containing initial prototype, video and illustration.