




PETRA RESOURCES



**ENVIRONMENTAL
RESEARCH & STARTUP**

CHALLENGE

INAUGURAL IMPACT REPORT

February 2023

The Petra Environmental Research and Startup Challenge is a vision of Petra Resources.
The project was funded under



The project was designed and implemented by





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Reviewed and edited by Wainright Acquoi and Monique Cooper-Liverpool.

RECOUNTING THE PROJECT

in Numbers

32
applications



21  **11** 


1,000USD
prize money

Applications from
3 countries

-  India
-  Rwanda
-  Liberia

4
finalists



5
facilitators



5
mentors



3
judges





Additional
400USD
donated for second winner

1
industry:
The Environment



Projects ranged across clean energy, waste management, and plastic recycling

1 
training partnership
*Orange Digital Center
Liberia*


15K+
social media engagement

2
media publications





Acknowledgement

A team of consultants from TRIBE designed and implemented this project.

Elvis M. D. Browne, TRIBE's Senior Operations Associate led the conceptualization, design and implementation.

Wainright Acquoi, CEO, provided technical support and oversight. Lexandine Taylor, COO, provided administrative oversight and contributed to the development of this report.

Project Analyst, Moore Johnson, supported the project development and managed its execution, subsequently joined by Jewel Howard.

Other TRIBE team members supported the applicants' evaluation process and planned the final pitch event, including Wesleyan Wende, Jallah Sumbo, Randolphlyn Johnson, Jackson Boimah, Mulbah Kolleh and Joshua Alston.

The following Petra Resource Incorporated team members contributed to the applicants' evaluation process, including Anthony K. Bindah, Jr, Teagbae K. Poindoe and Mohammed A. Massaley.

Monique Cooper-Liverpool, Petra's Managing Director provided technical support and supervision. Catfish Brownell, Petra's Technical Director provided technical review.

Kelvin Wright, Petra's Business Support Associate supported the project development and execution.

The report visuals and design were done by Rye Nacasi, TRIBE's Design Lead.



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Partners' Highlight



PETRA RESOURCES

[Petra Resources](#) is a leading Liberian management consulting firm, registered in 2014 and licensed by the Environmental Protection Agency of Liberia as an environmental evaluator. The company offers environmental and social governance and management services, natural resource policy advisory, strategic planning and multi-stakeholder facilitation. Petra's foundation for its business is deeply rooted in the company's core values of integrity, respect and accountability, which frame its approach to projects, clients and team members.

TRIBE is a non-profit design, strategy, and



[TRIBE](#) is a non-profit design, strategy, and implementation company improving learning outcomes, facilitating workforce development and building entrepreneurial ecosystems. TRIBE builds events, campaigns, projects and social impact initiatives from conceptualization to execution and reporting. A 2021 Acumen Academy investee, TRIBE has designed a multi-stakeholders national youth employment taskforce model and is pioneering the integration of formal entrepreneurship education into Liberian high schools.



Executive Summary

Liberia's environmental ecosystem faces severe headwinds, ranging from climate change to pollution and improper waste disposal. Growing development demonstrates the sectors' market potential, but limitations in scientific explorations and innovative solutions impact efforts to build sustainable practices that address the environmental and natural resource challenges. Petra Resources, in partnership with TRIBE, launched an environmental research and startup challenge to inspire increased interest in the sciences and discover new solutions that address environmental challenges. The project, implemented under Petra's Pay-it-Forward Initiative, combined a scientific approach with entrepreneurial development to spur innovation and cultivate the active engagement of young people in these sectors.

This report highlights the project implementation journey and discusses learnings and insights that may contribute to building similar future initiatives relevantly with increased impact. As an earlier model of environmental-focused startup challenges across Liberia, the report covers the project design process,

underpins the need for continuous innovation in the environmental sector, and argues the rationale for strategic ecosystem partnerships to support and strengthen such parallel initiatives for impact amplification. The overarching goal of the report is to help interested, and relevant key stakeholders learn and understand the significance of these initiatives and feel inspired to explore ways for further development and collaboration.

Every stage of the project is presented. Section One covers the project overview and design. Section Two describes candidates' recruitment, training, and mentorship. Section Three discusses the pitch event. Section Four reviews the project as an inaugural initiative. Section Five discusses the key challenges and project limitations. The final section presents learnings and recommendations.

We have included an addendum at the end of the report to highlight the project's impact on the winners for the four months following the final pitch event.





Vision Statement: Paying It Forward

The journey of establishing this Pay It Forward initiative was born out of our desire to exhibit Petra's core values, as well as guiding tenants our co-founders hold dear.

First, the Pay It Forward initiative was a way for us at Petra Resources to demonstrate the gratitude of our business through service to other aspiring professionals, particularly in our company's area of work. We deeply appreciate the urgency of new ideas and solutions for our environment and natural resources in Liberia and we know this work cannot be done alone. It requires many of us, working with shared goals over generations - which is where we wanted to apply our efforts.

In deciding how to demonstrate this gratitude, we were also clear about our desire to demonstrate leadership. As a business, we have rooted ourselves deeply in the private sector with the aim of championing Liberian skills and expertise in advancing our sector, our economy and our shared future. Liberia's relatively small private sector holds tremendous potential for changing the dynamics of our complex environmental and social circumstances. We chose to prioritize our social

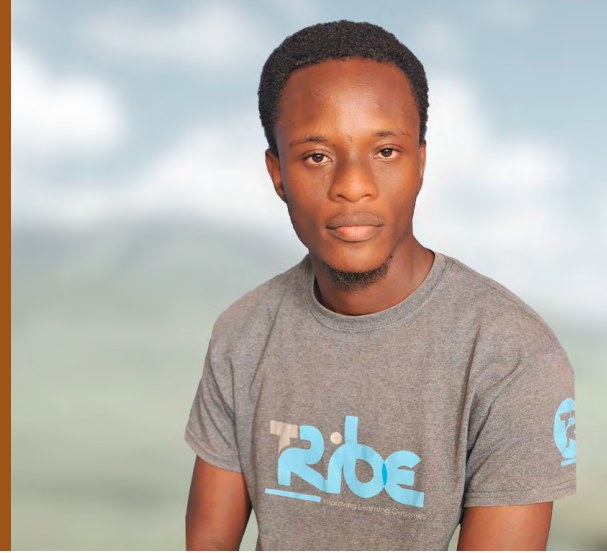
investment in young business owners and decision-makers equally committed to leading through their work in the private sector.

Finally, as we explored how we could bring all our desires for this to fruition, one thing that was clear was that our focus would need to be on innovation and impact. Given what we know and understand of the multiplicity of socio-economic challenges of Liberia and our intrinsic connection to our environment, this must also be the starting point for our solutions. Through a competitive process, we hoped to offer exposure to merit-based recognition for the innovations of young scientists, thinkers and entrepreneurs. Our aim was also to serve as a force multiplier for expanding impact amongst young people who share our eagerness to pursue innovation and pragmatic solutions for Liberia's environmental and natural resource realities.

It has given us much joy to pursue meaningful partnerships, engage our full team and put our values and principles to work in service of others. We look forward to the evolution of ways in which our business continues to pay it forward for years to come.

Monique Cooper-Liverpool
Managing Partner, Petra Resources

Statement from the Project Lead



I had the opportunity to lead the Petra Environmental Research and Startup Challenge. This challenge came at an important moment in my professional life – a recent Geoscience graduate transitioning full-time into the education and entrepreneurial development sectors.

When Petra asked us to design a new model for its Pay it Forward Initiative, it dawned on our team that I would lead the project. Our CEO, Wain, was leading other projects, and I was thrown into the furnace: to represent the brand and strengthen the efficacy of our social impact consulting model.

Every project stage was a nerve-wracking experience for us—from engaging with the teams across TRIBE and Petra—to managing the project team and competition candidates—and delivering on the project performance indicators. We placed a premium on delivering and sustaining an excellent experience for all candidates: effective communications and support throughout the competition. I felt the true Pay it forward thrill every time I spent recruiting a mentor or interacting with the candidates, whether virtual or in-person.

This inaugural edition of Petra’s Pay It Forward initiative had one main goal: to spark innovation in the environmental and natural resources sectors. This audacious goal carried us through an extended learning, iteration, and delivery journey. In this report, we outline the challenges we encountered and the opportunities we can explore to inspire students and young people not only to use science in addressing environmental issues but also to integrate innovation in solving and sustaining the solutions.

After this odyssey, I can safely note that we need more of these initiatives to expose the environmental and natural resource sectors and provide opportunities for young people. This call to action is evidenced by our insights gathered from the project execution and the support we received from other stakeholders duly mentioned herein.

I would be remiss if I did not appreciate the team at Petra, who provided objective feedback and used a human-centered approach to making the evaluation process practical for the participants. My friends and team members at TRIBE ably assisted the project team and hosted the final pitch event. My project analyst, Moore Johnson, was instrumental at every project stage.

I remain grateful for the overwhelming support provided during the implementation.

As I packed my bags and departed for IE Business School in Madrid in Fall 2022 to pursue a Master’s in Management with a focus on Entrepreneurship and Innovation, I am deeply proud of the strides we are making at TRIBE to bring such initiatives to life.

Moreover, I am incredibly grateful for Petra and other organizations’ profound efforts to enhance entrepreneurship in Liberia. I hope this report will inspire more opportunities for young environmental enthusiasts and entrepreneurs in Liberia.

Upon return, my commitment is to continue building innovative models that will further strengthen and sustain these efforts.

A handwritten signature in orange ink, appearing to read 'Elvis M. D. Browne', with some stylized flourishes.

Elvis M. D. Browne
Project Manager



PETRA RESOURCES



ENVIRONMENTAL RESEARCH & STARTUP

CHALLENGE

Introduction

The Petra Environmental Research and Startup Challenge was organized under Petra's Pay It Forward Initiative to intentionally inspire young people's interest in using science and entrepreneurship to build innovative and sustainable environmental ventures. Candidates participated in rigorous recruitment, training, mentorship, and pitching to compete for merit-based non-equity capital investment. The competition challenged aspiring environmental entrepreneurs to create and maintain pragmatic solutions that support Liberia's sustainability agenda.

Petra's Pay It Forward Initiative is designed to promote and champion a new generation of thinkers in Liberia's environmental and natural resources

sectors. This initiative strengthens the company's commitment to providing top-notch services to its clients, investing, and ensuring young environmental practitioners create and sustain pragmatic solutions in the private sector.

First piloted in 2021, this year's project was organized as an inaugural initiative. The project was designed and conceptualized over a period of two weeks. Through a Call for Application and Press Release, the team officially launched the challenge on June 28, 2022. Over the next six weeks, candidates participated in a two-week recruitment, two info sessions, a three-day training, mentorship meetings, and rehearsals for the final pitching event on August 12, 2022.

Purpose

The team assessed the project based on the potential impact and feasibility and the possibility of organizing a yearly environmental research and startup challenge. The inaugural Petra Environmental Research and Startup Challenge sought to meet the following objectives:

- 1. Sectoral exposure and innovation.** To expose environmental entrepreneurs to the environmental sector and inspire them to create and sustain vibrant environmental ventures.
- 2. Entrepreneurial development.** To support entrepreneurs to think more formally about their business models and customers and help them rethink/restructure their existing business, sales, and revenue models beyond their current stages.
- 3. Capital.** To provide non-equity and non-payable grants to subsidize environmental entrepreneurs' operational costs and reduce their immediate financial burden.
- 4. Capacity.** To develop young environmental entrepreneurs' ability through capacity training that focuses on formalizing their business models and building a more strategic sales and marketing approach.

Design and Execution

The project design comprised an execution strategy consisting of recruitment, training, mentorship and the final pitch event. Each stage was a rewarding learning experience for the team and the insights gathered enhanced the next stage.

Recruitment

To recruit the best fitted candidates for the competition, the following criteria were developed for interested candidates to meet at least three:

- 1. Knowledge.** Have knowledge of the environmental sector or an appreciable understanding of the scientific idea or project impact on the environment.

“During [the inception of] my internship period with TRIBE, [we] signed a partnership with Petra Resources. I was elated to work as the Project Analyst. Across the design, implementation and reporting [of the project], this process has created a broader range of learning and experiences for me. I believe I will leverage the skills and experiences beyond the project.”



Moore L. Johnson

Program Intern, TRIBE
Junior Student, African Leadership
University, Rwanda

- 2. Experience.** Have experience running a business or working in the entrepreneurial or environmental ecosystem.
- 3. Education.** College students with proof of study at a recognized college or university.
- 4. Team.** Have a team of at least two people or propose a team that will commit to the project.

The call for application requested applicants to apply through three categories:

- 1. Idea ready to be piloted.** Students and aspiring entrepreneurs were challenged to think out of the box and propose evidence-based scientific solutions to an environmental problem.
- 2. Proof of Concept.** Entrepreneurs were challenged to present a proof of concept for a project that they have implemented and provide a need for support.
- 3. Current / ongoing venture.** Entrepreneurs were challenged to test the viability of their business model and present a new model or solution to a given environmental problem.

Application

Candidates participated in two rounds of application. In round one, entrepreneurs submitted a 90-second video pitch and completed a personal information form about the entrepreneur and business or scientific proposal. The recruitment team organized a public information session for interested candidates. Additionally, the project team shared the call for application with stakeholders through TRIBE and Petra Resources' social and multimedia networks. Round two immediately followed the initial review and selection process, requiring a more in-depth submission of the proposed idea or venture.

Review and Selection

TRIBE and Petra's five-person recruitment team reviewed the 32 video pitches and selected the top 15 applications based on defined criteria and structured evaluation metrics that assessed the nature and depth of each candidate's problem statement and the efficacy of the proposed solution model.

The project team invited fifteen candidates to participate in the technical and business assessment evaluation. TRIBE's five-person recruitment team received 13 applications and selected the top 10 as semi-finalists. The technical and business assessments evaluated the candidates' technical understanding of the proposed project, business model, product, customer, and growth potential.

The semi-finalists participated in training and demo-pitch sessions. Following the training, all semi-finalists competed in a demo pitch session to demonstrate their growth, understanding, and preparedness for the final event. Five finalists were selected based on the aggregate scores from round two and the demo pitches.

At every stage, applicants who did not progress to the next stage received personal feedback on their application. Each candidate received a scorecard detailing how the team evaluated their application, the score for each section, and the rationale behind the rating. Evaluators provided comments and feedback on what they did right and recommended areas for improvement.

Training

All ten semi-finalists participated in a three-day intensive training at the Orange Digital Center. The various training sessions covered:

- 1. Environmental Innovation.** Semi-finalists gained in-depth insights into the environment and discussed cutting-edge innovations in the environmental ecosystem. Case studies were provided and discussed to enhance candidates' creativity and broaden their perspectives about their proposed scientific and business ideas.
- 2. Project Management.** Semi-finalists were introduced to some basic concepts and practices of project management and used the knowledge gained to augment their project management models.
- 3. Entrepreneurship and Business Development.** Learning through a practical approach, semi-finalists gained insights into the basics of entrepreneurship and learned some business development essentials to develop their projects.
- 4. Marketing and Pitching.** Semi-finalists were introduced to effective storytelling and business pitch frameworks to create compelling pitch decks for their ventures. Additionally, they participated in demo pitches and storytelling exercises.

Facilitators



ENVIRONMENTAL INNOVATION

Samuel Kpator



RE-Novate Facilitator,
TRIBE



Joshua Alston
RE-Novate Facilitator,
TRIBE



PROJECT MANAGEMENT



Ahmed Konneh
Co-founder, SMART Liberia



MARKET RESEARCH



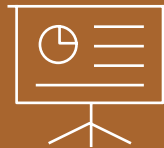
Solomon G. Mahn
Director of Programs, TRIBE



BUSINESS DEVELOPMENT



Gerald Hodges
Co-founder & COO,
Munchies



MARKETING AND PITCHING



Wainright Acquoi
CEO, TRIBE

“The Petra Environmental Research and Startup Challenge is one of the many ways we can identify and support young Liberians wishing to work and initiate change in [the environmental] sector.”



Solomon Mahn
Market Research Facilitator

Follow-up training

After the three-day intensive training sessions conducted at the Orange Digital Center, the finalists participated in three days of follow-up feedback and rehearsal sessions to strengthen their business model, enhance their pitch decks and rehearse for the final pitch event.

Mentorship

All the finalists were assigned a mentor. The mentors had one-one-one meetings with the finalists and provided feedback on their pitch decks and presentations. Following the final pitch event, the project team engaged and monitored the finalists' ventures. Mentors were also engaged to provide additional feedback and support to each finalist in their effort to refine their ventures and position them for growth.

"The best part about mentoring the participants was how they grasped the opportunity to shape their ideas and create themselves in the process."



Vivian Musa

MENTORS



Satta Wahab
CEO, Naz Naturals



Chris Jones
CEO, Ezee Market



Ahmed Konneh
Co-founder, SMART
Liberia



Vivian Musa
2022 Mandela Washington
Fellow and Engineer



Lucia Paye-Layleh
Environmental Practitioner
and Researcher



The pitch competition

After a three-stage rigorous selection process, four of the finalists pitched their business ideas at the investment pitch event on August 12, 2022¹. The pitch event, held at SMART Liberia ChangeMakers Village, convened partners, participants and a rich panel of judges from the environment and international development sectors.

The Winners

Eco-Feul, led by Victor VS Willie, won the first prize of USD 850. Green-Trail led, by Ishmeal Coah, won the second place prize of USD 400². Waste Brabee Incorporated, led by Pewu Willie, won the student innovation prize of USD 150.

THE WINNERS

1



Victor V.S. Willie
Eco-Fuel Liberia

2



Ishmeal Coah
Green-Trail

STUDENT
INNOVATION
Prize



Pewu Willie
Waste Brabee, Inc

1 Queenetta Princess Johnson and her team at Liberia Institute for Environmental Stability, withdrew from the pitch event due to health issues.

2 The second place prize was donated by the Head Judge, James Mulbah (CEO of Green Cities) at the final pitch event.

The Finalists



Ishmeal Caoh
Founder, Green-Trail

Ishmeal Caoh leads Green-Trail, an environmental project seeking to reduce plastic waste in Liberia. He studies Biology and Chemistry at the United Methodist University.

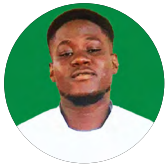
For many years, Ishmeal has volunteered for change and has witnessed the devastating effects of plastics on the environment and wants to create the change he wants to see with Green-Trail.



Victor V.S. Willie
CEO, Eco-Fuel Liberia

Victor V. S. Willie is the Founder and Proprietor of Eco-Fuel Liberia, a waste-to-energy company converting waste of all kinds to an environmentally friendly product as an alternative to the conventional wood-based charcoal used by over 95% of Liberians for cooking.

Victor has five years of experience in the nonprofit and voluntary sectors, and is a sustainable charcoal production expert. He is a 2021 Finalist of the Africa Green Grant Award and a 2020 Africa Changemaker Fellow.



Pewu Willie
CEO, Waste Brabee, Inc.

Pewu Willie is the co-founder and CEO of Waste Brabee Inc. A senior student majoring in Environmental Science at the Stella Maris Polytechnic University, Pewu is passionate about environmental protection and creating solutions to environmental problems.

Currently, he serves as Country Coordinator for the Foundation for Climate Restoration - Liberia and as Executive Director for Child Care.



Victory Oguntimehin
CEO, MAVEL Solid Waste Recycling Company

Victory Oguntimehin is the co-founder and CEO of MAVEL Solid Waste Recycling Company. A junior student at the ELWA Academy, Victory is a RE-Novate Fellow passionate about building innovative businesses that create social and environmental impact.³

Victory is determined to refine her entrepreneurial skills and build sustainable entrepreneurial solutions.



Queenette Princess Johnson
Team Lead, Liberia Institute for Environmental Stability

Queenette Johnson leads the Liberia Institute for Environmental Stability. She holds a Master's Degree in Climate Change, Biodiversity and Sustainable Agriculture from the University of Felix Houphouet-Boigny in Côte d'Ivoire.

³ Victory has been promoted to the 12th Grade. She is completing an internship at J-Palm Liberia as part of her RE-Novate Fellowship.

Judges

The panel of judges consisted of environment practitioners and development experts with diverse experience in law, environmental innovation and economics⁴.



James Mulbah
Chief Executive Officer,
Green Cities



Janet Ngegla, PhD
Environmental Specialist,
World Bank



Paul Oliver
Economist, USAID



Urias S. Goll
Deputy Chief of Party, USAID
Conservation Works Activity

Resilience, learning and capital: A formula that works

Looking back at his startup journey in 2018, the first winner of the Petra Environmental Research and Startup Challenge, Victor Willie has been resilient about his vision of reducing waste and minimizing deforestation by producing charcoal from all kinds of organic solid wastes. Victor began with makeshift operations in unfinished houses. His company, Eco-Fuel, produced five to 75 pieces of charcoal per day, serving up to five homes with locally crafted equipment. Victor has won grants from the Pollination Project, SMART Liberia, The Tony Elumelu Foundation, and Orange Social Venture Prize, which helped Eco-Fuel acquire additional machines to increase its output from five to 10 bags of charcoal briquettes per day

“When we started our business, we were producing five to 75 pieces of charcoal briquettes per day using hand and equipment made by local artisans. With this output, we served five homes and they became our first customers. In 2021, we increased our output to five bags of charcoal briquettes per day and with this grant we plan on increasing our output to 10 bags of briquette per day.” – Victor Willie

Victor was consistent at every stage of the evaluation process with an ambitious plan to increase production and foster marketing initiatives. With the \$850 grant from Petra, Victor intends to enhance the company’s marketing, increase operating output to ten bags of charcoal briquettes per day and build a pyrolysis system to convert the plastic waste to diesel fuel to reduce the cost of production for the charcoal and make sales from byproducts.

For Ishmael Coah, the second-place winner, the competition took him out of his comfort zone and allowed him to structure his project into a proper business model. With the \$400 grant, Ishmael plans to register his business and implement waste management and segregation school outreach in Sinkor, Monrovia. He further stressed that a considerable chunk of the funds would go towards producing the tote bags made from plastic waste.

⁴ The two female judges who were invited were unable to participate due to illness and competing work priorities, respectively.

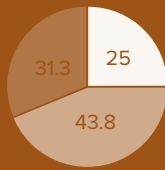


Sustainability

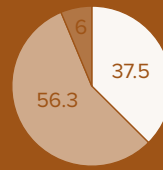
Entrepreneurs need continuous learning, funding, and a community of support to succeed. Every competition stage was designed to nurture a network of environmental innovators. The project team created a WhatsApp group chat for all the semi-finalists with the sole intention of communicating and inspiring collaboration and growth. TRIBE and Petra will share learning resources and expose the entrepreneurs to the environment and social impact ecosystem and its opportunities. However, more investments are needed to foster and sustain these efforts.

Pitch event participants' feedback

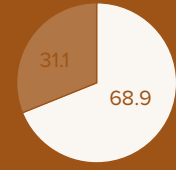
We asked our diverse audience what they thought about the pitch event and captured their feedback⁵.



Overall, 25% reported that the event was excellent while 43.8% and 31.3% reported very good and good, respectively.



37.5% of the audience were very satisfied. 56.3% were satisfied and 6.3% reported to be neutral about their satisfaction.



68.9% of the participants of the event would recommend TRIBE as a project design and implementing partner.

Reflection, Learning and Outcomes

Reflecting on the project promise:

1. Sectoral exposure and innovation

By thinking more formally about their business ideas, interacting with peer entrepreneurs, participating in training sessions, and engaging with stakeholders in the environmental sector, the participants got more exposure to the environment, with the possibility of leveraging additional opportunities for their career and venture development.

2. Capacity and capital

A USD 1,000 cash prize, divided into USD 850 and USD 150, was granted to the first winner and the winner of the student innovation prize, respectively. James Mulbah, CEO of Green Cities and a judge at the competition, donated USD 400 to the second prize winner. In addition to the cash prizes, the participants participated in several learning initiatives to develop their business models and transform personally.

3. Entrepreneurial development

With our experienced facilitators, all applicants explored the different concepts of entrepreneurial development. We watched the participants' confidence levels grow at every challenge stage. 100% of the participants felt they learned valuable lessons for their ventures and themselves.

Monitoring, Evaluation and Learning

The project team worked collaboratively with Petra Resources to design every stage of the challenge. This involved pre-partnership meetings, a project concept plan, and a working session with the Petra team to discuss the preliminary concept design and develop a detailed conceptualization plan. At every stage, the project team received supervisory support and learned from the feedback. The project team members outlined learning objectives and indicators to measure and communicate output. Overall, the team reported a rewarding experience leading every aspect of the project.

The project team developed a detailed evaluation plan for every stage of the candidates' selection process. The team further conducted surveys to document the participants' experience: learnings, frustrations, and recommendations. In the next section, we summarize the data gathered from the evaluation and share insights from our experience with the project execution.

⁵ Even though most of the participants were satisfied with the event, some of the participants commented on the technical issues that they experienced during the event to include break-in with the microphone and the PA system.

Participants' Insights

We asked our the finalists to share their learning experience with us:

Did you learn something new that will be valuable or beneficial to you or your venture?

Yes
100

"My teammates and I would like to commend TRIBE and Petra Resources for such a great opportunity. It was enlightening to be among young entrepreneurs like [ourselves]. The facilitators were experts in their delivery. Looking forward to more opportunities."

Beyond the Petra Challenge, will you be pursuing your venture or idea?



80%
YES



20%
MAYBE

"What I liked most about the competition were the selection process and how participants were vetted."

Overall, how satisfied are you with the competition?



40%
Very satisfied



60%
satisfied

"What I like most about the competition are the process, the stages and learning curve."

How did you hear about the competition?



40%
Facebook



20%
LinkedIn

20%
A friend social media

20%
Someone referred me



Key Challenges and Limitations

Sector focus

Unlike previous projects we have implemented, the Petra Environmental Research and Startup Challenge was restricted to one sector and limited the pool of applicants. Although the competition was open to entrepreneurs from the ideation stage, some of the applications' quality was extremely poor. Additional efforts are needed to expose scientists and environmental enthusiasts to innovation to creatively express their ideas to address pressing issues in the environmental sector. This challenge and limitation also offered great insights into planning future initiatives.

Training

The team planned each training session for one hour and thirty minutes. However, all facilitators agreed they needed additional time to deliver their lessons fully. As reported in previous sections, we had follow-up training sessions to prepare the finalists for the pitch event. These activities were not previously outlined in the program design, which extended the project team's workload and cost the finalists a level of inconvenience as it took away crucial time from their other commitments.

The evaluation process

We spent incredible hours designing and reviewing the evaluation with team members at Petra Resources. While it was a wonderful experience, we faced difficulties communicating and developing the evaluation metrics across the applicant pool, given the diversity from ideation to scale, with the majority of applicants in the ideation stage. The team, however, tailored a workable evaluation system to practically assess the candidates' technical understanding and overall business model.

Marketing and engagement with stakeholders

As we rolled out the application, we realized we needed more partners to extend the application's reach. School engagements would have worked more effectively at inspiring and exposing college students to the challenge. Even though the team placed posters at university campuses, info sessions and direct engagements with the science and engineering colleges would have been more effective.

Recommendations

Relevant and intentional training

Liberia’s environmental sector is growing, and it needs special attention. To continuously promote innovation in the environmental ecosystem, relevant technical and soft skills training is required to support these initiatives. By building incubators and hosting intentional short-term training, students, entrepreneurs, and young professionals will gain more exposure to the sector and explore increased opportunities.

Expand and leverage strategic partnerships

As evidenced by insights documented in this report, additional engagements are needed to expand the scope and reach of this initiative and initiatives of similar nature. Leveraging strategic partnerships with schools and environmental NGOs to conduct campus-based competitions and training will enlarge the application pool, thus attracting quality projects and creating long-term meaningful and measurable impact.

Continuous mentorship and support

Eighty percent of the Petra Environmental Research and Startup Challenge participants are starters with limited to no business training before the competition. Through mentorship and ecosystem sector support, the funding partner will be able to monitor the young entrepreneurs’ ventures and support their growth and business development.





operly

Q&A: WiFi Account
The password for your phone
Registration: [unclear]
[unclear] [unclear]
[unclear] [unclear]
[unclear] [unclear]
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[unclear] [unclear]

Assessing the impact; evaluating the potential

Five months following the final pitch event, TRIBE consultants conducted a post-investment evaluation of the winners to assess the impact of the funding and the level of growth each venture has experienced. The evaluation results reflect the efforts of young Liberian entrepreneurs to grow their ventures while highlighting the insurmountable challenges that prevent local entrepreneurial growth and scale in the absence of holistic entrepreneurial ecosystem support.

CASE STUDY 1

Venture: **Eco-Fuel**

CEO: Victor Willie

Background

Eco-Fuel won first place at the inaugural Petra Environmental Research and Startup Challenge and received USD 850 in non-payable, non-equity seed investment. The company sought to improve its marketing and sales and expand production under the Petra investment.

The team directed the investment at two principal activities:

1. Turning Waste of all Kinds Into Charcoal to be Used as Cooking Fuel in Liberia
2. Mini Pyrolysis System

Cooking Fuel. The cooking fuel activity sought to enhance Eco-Fuel’s operational efficiency and boost sales through a robust marketing initiative, as learned through the training activities. Over the next three months, Eco-Fuel reached over 15,000 people via social media engagements and participated in two widely listened-to radio talk shows. These activities led to the company winning 20 new customers.

Mini Pyrolysis System. The pyrolysis system sought to increase the production of charcoal from five to 10 bags of charcoal briquettes daily. At a 75% completion rate, the project halted due to a burglary at the factory.

Challenges. Eco-Fuel suffered two major challenges: burglary and poor production quality. The burglary delayed the completion of the mini pyrolysis system, which, met with heavy downpours of rain over many days, affected the production facility. The burglars took valuable items, including breaking the electricity supply to the charcoal production machine. Due to poor maintenance caused by limited financial resources, the production machine suffered multiple breakdowns and lacked proper repairs.

Next Steps. Eco-Fuel is seeking **USD 5,000** in investment to purchase a new machine, hire additional qualified staff and set up security at the factory to prevent future occurrences. A new machine and additional qualified staff will increase production by 80% and enhance operational efficiency while meeting customers’ demands.



CASE STUDY 2

Venture: **GreenTrail**

CEO: Ishmeal Caoh

Background

GreenTrail won second place at the inaugural Petra Environmental Research and Startup Challenge and received USD 400 in non-payable, non-equity seed investment. The project sought to register as a full-time legal venture, build school partnerships for waste collection, and procure a machine to produce tote bags from plastic waste.

The team directed the investment at three main activities:

1. Register with the Liberian Business Registry
2. Conduct waste management and segregation outreach in high schools
3. Launch the production of tote bags from plastic wastes

Registration. GreenTrail's business registration is still ongoing due to delays and bureaucracies at the Liberia Business Registry.

Outreach. GreenTrail conducted three outreach workshops for 25 primary school students and exposed them to recycling and waste separation. Students learned to separate and dispose of waste. By consistently conducting waste separation and with partnerships with each school benefiting from the outreach workshops, GreenTrail intends to expand its waste segregation and collection program to the schools – to use the plastic waste to produce tote bags.

Production. Due to insufficiency in the Petra seed award and unsuccessful fundraising efforts, GreenTrail could not procure the machine to expand its production.

Challenges. GreenTrail suffered major challenges, including a lack of funds to procure machines, launch, and expand; hence, their efforts mainly went towards outreach workshops to generate school partnerships.

Next Steps. GreenTrail is setting up as a full-time waste recycling and management company. The developing company is seeking **USD 2,500** in investment, with a potential lead investor, to fully set up, procure machines, and set up a team to begin full-scale operations.

TRIBE will continue to engage each entrepreneur and venture to provide supplemental support to their initiatives over the next year.



PETRA RESOURCES