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15 lessons learned from running an innovation competition to tackle plastic pollution in the ASEAN region



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Made from fossil fuels, plastics are direct and significant contributors to climate change

The petrochemical industry's demand for oil is expected to accelerate and account for over half of global growth in oil consumption by 2050, accounting for more than the sectors of aviation, shipping, and trucking combined (International Energy Agency, 2021). Emissions from plastics amounted to 1.8 billion metrics tons of CO₂ in 2015, and under a business-as-usual (BAU) scenario, these are anticipated to reach 15% of the global carbon budget by 2050 (Zheng and Suh, 2019). Single-use plastics in particular account for a third of all plastic produced annually, with some 98% being manufactured from fossil fuels (Charles, Kimman and Saran, 2021). These emissions come from all stages of the plastics value chain, from extraction, transportation, and refining of raw materials (coal, oil) to manufacturing, waste collection, recycling, and incineration (Shen et al., 2020). Globally, only 14% of plastics are recycled or 'decycled,' as plastics are mostly transformed into low-value materials before eventually being discarded either into landfills or the wider environment. Less than 2% of used plastics are actually recycled in a closed circuit (World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, 2016).

Plastic pollution is undermining sustainable development in the ASEAN region

The EPPIC project has been implemented in four ASEAN countries: Viet Nam, Thailand, Indonesia, and the Philippines. These coastal countries are, together with China, responsible for over 60% of marine plastic pollution globally (Jambeck et al., 2015).

Plastic pollution is undermining sustainable development and the achievement of the Sustainable Development Goals (SDGs) in the region. It affects first and foremost the poor; those who live near dumpsites and landfills; those who eke out a living by collecting, sorting, and reselling waste; and those whose livelihoods depend on healthy marine ecosystems, such as coastal communities. Plastic pollution affects marine, terrestrial, and freshwater ecosystems, and marine plastic pollution in particular costs up to US\$2.5 billion per year in lost marine ecosystem services (Beaumont et al., 2019). Plastics also leach hazardous chemicals into the environment, including some that threaten human health by disrupting the endocrine system.

Since women make up the majority of the waste collectors working in landfills, collection points, and small recycling depots, they face social stigmatisation, and are vulnerable to fluctuating prices, exploitation by waste aggregators and traders, health hazards, and injuries. Women living in coastal areas also rely on small-scale fisheries and may be exposed more directly to beach litter. In addition, their contributions to effective waste management systems are largely overlooked. At the same time, women are also champions in reducing plastic litter and have been driving behavioural change in their communities, by promoting innovation, responsible consumption, and the waste hierarchy.

Introduction

Funded by the Norwegian Agency for Development Cooperation (Norad) and implemented by the United Nations Development Programme (UNDP) in Viet Nam, the **Ending Plastic Pollution Innovation Challenge (EPPIC)** is a three-year project aiming to contribute to the reduction of plastic pollution in the coastal areas of Viet Nam, Thailand, Indonesia, and the Philippines.

Innovation competitions to tackle plastic pollution are emerging all the time. In fact, technological innovation is often portrayed as a silver bullet to many of the world's problems. While it is our opinion that innovation will indeed be required to tackle some of the most pressing issues of our time, we posit that it should instead be framed as one single element contributing to the overall alteration of the current system in order to achieve a sustainable impact and move towards a circular economy for plastics.

This Knowledge Brief highlights 15 lessons learned extracted from the EPPIC's experience in **running a competition that looked for scalable solutions to reduce plastic pollution** in the ASEAN region under the added uncertainty of the global COVID-19 pandemic.

Discover the EPPIC 2020 Finalists



1. [AYA](#)

AYA provides embedded tech solutions and high-quality reusable cups and food containers for canteens, food and drink vendors on campus to replace the use of disposables.



2. [CIRAC](#)

The CIRAC system turns aluminum laminated thermoplastic, focusing on snack and food packaging, into valuable products and materials, such as aluminum, diesel fuel and activated carbon.



3. [EcoTech](#)

EcoTech has developed a groundbreaking technology that turns many kinds of plastic waste into novel, high-value aerogel materials for billion-dollar markets.



4. [Galaxy Biotech](#)

Galaxy Biotech offers the Breathable Biobag, a biodegradable bag made from industrial cassava starch – a popular local species that grows well in harsh soil in the Highland and South-East regions of Viet Nam.



5. [Green Island Foundation of Thailand](#)

A self-starting waste management app that helps users, especially in groups, to customise their solid waste management according to individual or collective needs.



6. [Green Joy](#)

Green Joy is producing biodegradable and sustainable straws made in Viet Nam from the native grass species *Lepironia*.



7. [GreenPoints](#)

GreenPoints is a mobile application leveraging the power of gamification to make living green easier and more enjoyable.



8. [mGreen](#)

mGreen is a mobile app that educates people about waste segregation, rewards them for taking part in recycling activities, and connects residents with collectors and merchants at shops and stores.



9. [OceanKita BBN](#)

OceanKita BBN provides effective, easy-to-operate trawl-nets to collect plastic, which are then segregated and transformed into high-value objects such as plastic planks.



10. [P+usTreat](#)

P+usTreat takes care of plastic bottles from collection from the end customer to segregation and processes it into plastic flakes. Flakes are separated into three groups based on color – clear, clear-blue, and other colors.



11. [Refill Day](#)

Refill Day provides a convenient alternative to single-use plastic by refilling reusable containers with trusted products at our customers' homes, offices, restaurants or hotels.



12. [Seven Clean Seas](#)

Seven Clean Seas is an innovative plastic offsetting solution combined with ocean cleanup campaigns.



13. [TerraCycle Thai Foundation](#)

TerraCycle Thai Foundation provides river traps removing 1 – 2.5 tonnes of waste daily. They also aims to change public behavior, to prevent future dumping by including communities as part of the solution.



14. [VIFEP](#)

VIFEP provides a mini plastic squeezing machine and a mobile app for local fishermen to collect and convert plastic waste into necessary supplies for fishing activities.

1. Design and scope the issues to target specific and local needs

Practitioners need to start by asking themselves: *is the innovation needed and wanted in the first place?* The design of this competition took a slightly different approach from traditional contests where the search for innovations guides the challenge. Instead, this challenge responded first and foremost to the plastic pollution issues identified in the target localities by the baseline studies, and to the local needs and perceptions that surfaced during the consultations conducted prior to the launch of the competition. By taking the time to frame our strategic challenge, we learned, for instance, that plastic pollution in Ha Long City comes not only from rising tourism levels but also from intensive aquaculture development.

“Plastic waste has become one of the greatest challenges for humankind, especially those who live in coastal areas like Samui or Ha Long Bay. We need a concerted effort to address this global issue and innovative solutions which have been fitted to local contexts. We are paying the price for our irresponsible actions.

Ms. SUPINYA SRITHONGKUL
Advisor to the Mayor – Koh Samui Municipality

As a first step, the project conducted detailed baseline assessments that explored the root causes of plastic pollution in order to gain a better understanding of the current situation in each project site. The assessment work involved examining the types and quantities of plastics produced/consumed, the key actors, the existing recycling facilities, and the waste management system for plastics, all of which contributed to informing the ultimate design of the challenge.

As a second step, local consultations were carried out with key stakeholders (e.g., Farmers’ Unions, Women’s Unions, local CSOs, local government officers, heads of local communities in Ha Long Bay, and the office of the mayor in Koh Samui Municipality) in order to present the results of the studies and collectively identify the most pressing local problem(s) to be tackled (e.g., which sub-sector, which type of plastic, etc.). This helped us to challenge our own (internal) working assumptions and bring additional plastic pollution issues to the surface that had not occurred to us ourselves.

This second step was important and valuable, as it allowed for greater engagement, ownership, and buy-in from local actors at two levels: firstly, in terms of framing the specific problem to be tackled, and secondly, in terms of needing to tackle the plastic problem with innovative approaches and solutions. This was an essential design feature of the competition and one that will hopefully contribute to triggering transformative change. Looking to the future, the baseline assessments completed for Ha Long Bay and Koh Samui will provide a useful basis for learning as well as insight and guidance for other localities interested in carrying out similar work.

Lessons Learned: Pre-challenge

1. Design and scope the issues to target specific and local needs
2. Anchor the competition in policy frameworks to build traction and foster uptake
3. Scout for innovations globally, pilot them locally
4. Design the competition to deliver additional programmatic outcomes

2. Anchor the competition in policy frameworks to build traction and foster uptake

Plastic pollution is a complex and multifaceted issue that spans a wide range of fields, including engineering, politics, economics, trade, and biodiversity conservation. As such, an innovation competition alone cannot presume to solve the issues of some of the world's top producers of plastic waste, hence the competition should not be looked at in isolation; rather, it should be understood as serving a larger objective, including current and emerging policy frameworks, and be embedded into a system encompassing various interventions that are together geared towards the circular economy of plastics. Furthermore, this issue is global in nature, and cannot be solved by any one country alone. An effective, dedicated global governance response is needed to address existing gaps and promote coherence, coordination, and effective prioritisation of our efforts.

At the global level, the EPPIC is guided by the long-term ambition of eliminating all discharge of plastic litter into the oceans, as agreed by the [United Nations Environment Assembly Resolution 3/7](#) (Marine Litter and Microplastics) and [SDG Goal 14.1](#): "by 2025, to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution."

At the ASEAN level, the EPPIC was designed to respond to the targets of cross-country cooperation outlined in the *Bangkok Declaration on Combating Marine Debris* and the *ASEAN Framework of Action on Marine Debris*. Therefore, the project was able to engage with government counterparts in four target countries: the Viet Nam Administration of Seas and Islands under the Ministry of Environment and Natural Resources; the Greenhouse Gases Management Organization at the Ministry of Environment and Natural Resources in Thailand; Solid Waste, Hazardous Waste, and Hazardous Substances Management at the Ministry of Environment and Forestry in Indonesia; and the the Department of Environment and Natural Resources in the Philippines.

In Viet Nam, the EPPIC is a component of UNDP's portfolio comprising the formulation of the more stringent environmental and industrial policies that form the backbone of the transition to sustainability. For instance, Viet Nam's first *National Action Plan on the Management of Marine Plastic Litter (NAP)* sets ambitious targets for 2030, including securing a reduction in marine plastic litter of 75%; collecting 100% of abandoned, lost, or discarded fishing gear; and preventing the use of single-use plastics and non-biodegradable plastic bags in 100% of coastal tourism areas.

“The EPPIC responded to two essential tasks mentioned in the NAP on Marine Plastic Litter (Decision 1746/QD-TTg): (i) public awareness-raising to promote behavioural change regarding the use of plastic, and (ii) new ASEAN initiatives and increased international collaboration in addressing the problem of marine plastic pollution.

Mr. TA DINH THI
Director-General – Viet Nam Administration of Seas and Islands

The EPPIC also informs and learns from the [Deep Demonstrations process in Viet Nam](#). The objective of which is to understand the systems implications of a transition to a circular economy in order to design dynamic interventions that are better aligned with the complex and interconnected development challenge we face today.

In our work under the EPPIC, we have therefore attached importance to shedding light on the innovations and ensuring that these are under scrutiny and on the government's radar to contribute to the higher-level policy objectives outlined in the above-mentioned frameworks. Innovators' insights are invaluable to help create policies that respond to the needs of industries and companies that promote responsible business practices to achieve the SDGs. The EPPIC teams regularly attend business forums, working groups, and conferences to share their experience as grassroots innovators both in the plastics sector and in the circular economy more broadly.

Moreover, by entering the circular economy for plastics with an innovation lens, we have seen a cascade of complementary interventions that have been sparked by the EPPIC, such as the establishment of the first incubator dedicated to accelerating circular economy innovations, the [Da Nang Circular Economy Hub](#) (Viet Nam).

3. Scout for innovations globally, pilot them locally

The rationale for focusing on two project sites that were co-identified with local governments (Ha Long Bay in Viet Nam/Koh Samui in Thailand during Phase I, and Lombok Island in Indonesia/Samal Island in the Philippines during Phase II) was to experiment within predefined areas, test the EPPIC solutions in these localities, extract the key lessons, and develop strategies for scaling up across the wider ASEAN region. The project sites were chosen based on their coastal locations, political leadership and interest, the availability of data, and local regulations.

This approach is not without risk. It has, for example, proven challenging for some EPPIC finalists to implement their solutions in these localities because some of the selected innovations face regulatory, financial, or capacity constraints. For instance, [OceanKita BBN](#), which attaches trawl nets to boats to collect marine plastic, cannot operate such trawls in Vietnamese waters because the port authorities have strict regulations against boats carrying additional equipment on the water.

On the other hand, imposing a scope and spatial boundary has allowed other EPPIC finalists to refine or adapt their innovations or to propose tailor-made products and services that fully respond to the needs of these localities. For example, [Galaxy Biotech](#), which typically sells its main products (biodegradable, breathable plastic bags) to firms exporting vegetables, has tailored these products to fit the needs of the fishery industry in Ha Long. Not only is this innovation's refinement to fit the Ha Long context interesting, but it also has value for Galaxy Biotech as it builds its capability to quickly adapt key products and potentially open up a new market segment across the ASEAN region.

4. Design the competition to deliver additional programmatic outcomes

The competition should not be an end in itself. Instead, it should seek to build the capacity and capabilities of the local innovation ecosystem, raise citizens' awareness on the issue of plastic pollution, provide a blueprint for financing circular innovations, etc., and be designed with these additional objectives in mind.

As an illustration: the EPPIC incubator, [Vietnam Silicon Valley Foundation \(VSVF\)](#), has gained valuable technical expertise, expanded its capacity to designing programmes on the circular economy, and will soon be rolling out another incubation programme to tackle waste in Ho Chi Minh City. By co-designing the incubation programme with VSVF, the EPPIC sought to redistribute knowledge and develop a network of experts related to the circular economy and waste/plastic management. The journalists and media who have echoed our message throughout the implementation of the competition have also contributed to changing the behaviour and mindsets needed for the transition to a circular economy. This network of actors will continue to operate well beyond the scope of the competition. By generating interest from communities, building capabilities, and fostering a network of champions, partners, and innovators, the competition has already achieved its target, in addition to changing mindsets by emphasizing the need for a rapid transition towards a circular economy.



5. Let go of any pre-conceived notions of innovation or innovators

“ Since I've been working in academia for decades, I've learned a lot about business thinking and building start-ups by participating in this incubation programme. I've also had the chance to meet and work with many competent young professionals through their supervising, coaching, and mentoring.

Ms. CAO LE QUYEN

Deputy Director – Viet Nam Institute of Fisheries Economics and Planning (VIFEP)

The first phase of the EPPIC, which set a target of 70 applications, ultimately received 159 innovations from six countries. Purposely open only to citizens from ASEAN member states, the EPPIC is an attempt to accelerate innovations from—and democratise the innovation process for—those who are most affected by the target issues, mobilising the principles of human-centred design. We did not begin with any assumptions of what innovation might look like, which led us to actively look for unusual applicants. As a result, we received applications from innovators as varied as government-led research institutes, a Singapore-based ship engineering company, a climber-turned-environmental-activist, and a group of 12-year-old students.

In Viet Nam and Thailand, the topics of plastic pollution and the circular economy are relatively new and not yet well known, and therefore the social impact business ecosystem is still at a very nascent stage. In addition, innovators, start-ups, research centres, and NGOs all have numerous other competing priorities and constraints. For example, they may be focused on fundraising to scale up their solutions, their human resources may be limited, they may not speak English, or they may be operating entirely outside of the competition and innovation ecosystems. Alternately, other similar innovation challenges in the country may also be running at the same time.

To account for these constraints, the EPPIC project took a proactive approach to ensure that the call received a sufficient number of high-quality applications. We mobilised the database of UNDP-related projects in relevant areas, such as youth for innovation or social business, in order to actively promote the challenge to these target groups. Furthermore, the project team reached out directly to hundreds of potential applicants to explain the rationale of the EPPIC and to encourage them to apply. We also collaborated with communications agencies to raise awareness of the challenge. By doing so, not only did the project increase its visibility and attract more applicants, but it also contributed to mainstreaming the need for engaging in collective action to tackle the root causes.

Lessons Learned: During the Challenge

5. Let go of any pre-conceived notions of innovation or innovators
6. Support promising innovators to overcome barriers to application
7. Engage a multicultural and multidisciplinary judging panel

6. Support promising innovators to overcome barriers to application

When it comes to competitions touching on new topics, prospective candidates may need help to apply. Language barriers or digital literacy should not be obstacles preventing interested innovators from applying. Since we called for innovations from the ASEAN region, the website and application sections were available in three languages (English, Vietnamese, and Thai) to facilitate the application process. Over the course of the application period, the EPPIC also hosted three livestreamed Q&A sessions on the Facebook pages to respond to any questions applicants might have had about the conditions related to the application, the target plastic problem, the incubation programme, etc. We also limited the number of questions in the application to seven, and only required a CV and pitch deck from prospective teams.

Even if a comprehensive support package is offered to applicants, there will inevitably be some disappointment when promising submissions have to be rejected on grounds of ineligibility. As an example, we received a promising application that seemed to perfectly meet Koh Samui's needs: biodegradable drink straws made from coconut palm leaves (which are abundant on Samui Island), a proposal received from an Indian team. Unfortunately, none of the team members were from an ASEAN member state, and in consequence the team was not eligible for the competition. In this case, the deputy mayor of Koh Samui asked the EPPIC organisers to look into the application in detail regardless. The island may still contact the team separately, since even though they did not qualify for the challenge, their solution was still a promising way to tackle plastic waste.

“The EPPIC helped us to approach our ideas with a business mindset and SDG alignment, as well as to look at our activities in a new way. For an NGO like ours, we look at the problems we are dealing with and the new ways we can tackle them on a long-term basis, rather than just on a daily basis. This is very important in developing and expanding our initiatives. The EPPIC has facilitated that and shone a light on the external support that is out there and ready to help us.

Mr. PANIPOL APICHITSAKUL
Administrator – Green Island Foundation of Thailand

7. Engage a multicultural and multidisciplinary judging panel

For the first round, the EPPIC selection panel included members from UNDP Viet Nam and UNDP Thailand; experts in waste management, circular economy, innovation, and start-ups; and members of the incubator VSVF, who brought their expertise in business development. After the first round of selections, the experts gathered over the course of one day to discuss and assess the top 30 solutions and reach a consensus on the top 14 finalists.

For the EPPIC Final, we then invited a very diverse panel of jury members combining international and national experts who brought a broad range of technical expertise and practical knowledge. The EPPIC was honoured to count among its judges representatives from the Ellen MacArthur Foundation (a leading think tank on the circular economy), Circular Capital (a leading impact investment fund on tackling plastics in the ASEAN region), and Norad (a leading development partner in the fight against marine litter), who participated alongside representatives from Ha Long City and Koh Samui and the Head of the Regional Innovation Centre at UNDP Bangkok Regional Hub.

Beyond their important roles during the final, the jury members helped to raise awareness of the challenge within their networks, delivered technical training to the finalists during the incubation period, and have since continued to support the expansion of some of the innovations in the project sites. The engagement and commitment of influential, high-level jury members has contributed considerably to the setup of a supportive ecosystem that will be critical to scaling up the solutions.



8. Design a portfolio of complementary innovative solutions, expertise, and skill sets to reduce plastic pollution in target localities

UNDP has been promoting a [‘portfolio approach’](#) to tackle complex problems, recognising that siloed interventions are an outdated, inadequate approach when it comes to addressing the ever-changing, multi-sectoral, multi-country challenges that we face today, such as climate change, plastic pollution, or global pandemics. Throughout the selection process, we placed significant emphasis on the overall result that would be achieved by the sum of all innovations taken together, since no one answer, or single-point solution is able to solve what is in reality one of the most pressing and complicated issues of our time. We also argue that tackling plastic pollution will require innovations that unblock downstream and upstream bottlenecks simultaneously.

During the inception phase of this project, we designed and planned activities to uncover the inherent interconnections among the finalists’ solutions. While there were some obvious linkages embedded in our portfolio of innovations, the incubation and impact acceleration programme also strove to uncover unanticipated cooperation that could be revealed only at the implementation phase (during the field trips or the demo days, for instance).

“It was important that the EPPIC strove to include a portfolio logic in the challenge design from its very inception. It helped to broaden the base of the submissions and inform the judging process. Overall, it reminded everyone that a complex issue like plastic pollution can only be tackled by addressing multiple levers of change.

Mr. GIULIO QUAGGIOTTO
Head – UNDP Strategic Innovation Unit

We therefore actively looked for, and selected, a portfolio of solutions that could work together through the services or products they bring to the market and to the specific project target sites. For example, [VIFEP](#), which markets a plastic-compressing machine that is placed on fishery boats, has set up a collaboration with [mGreen](#), a platform connecting waste sources and waste buyers, so that the output of the former becomes the input of the latter. The EPPIC finalists are a testimony to the rich breadth of this portfolio, which includes alternative materials, upcycling technologies, mobile apps, education campaigns, bio-fences, re-use mechanisms, plastic offsetting, marketplaces, and more. This also means supporting the local implementation not only of the winning solutions, but also of all finalists, since the partnerships between them will result in a transformative impact and accelerate the transition to a circular economy for plastics.

Lessons Learned: Incubation Programme

8. Design a portfolio of complementary innovative solutions, expertise, and skill sets to reduce plastic pollution in target localities
9. Implement a 2-phase incubation programme for the portfolio of finalists
10. Select the right incubator
11. Foster inclusive innovation and social impact
12. Ensure agility and ability of the project to adapt to new realities

9. Implement a 2-phase incubation programme for the portfolio of finalists

Building on UNDP’s experience from the [SDG Challenge](#) and [Youth Co:Lab](#), we crafted a strategic approach where we would select the EPPIC winners in two phases. Rather than selecting the winners based only on their applications, we decided to give the opportunity to a larger number of teams to build their capacity before they joined the final in which the top winners would be selected by the judges. We first selected a cohort of 14 prospective finalists who were enrolled in a three-month incubation programme, then hosted the EPPIC Final Pitching Competition to decide on the four winners who would join a 9-month impact acceleration programme.

“The programme helped me to better understand the gap that was and is still there. It is also always very instructive to see how the impact of our model is perceived. It can be quite different from what we expect, which proves that we need to continue working on communication and also implies that we should work on our strategy and business model first (which was done during the programme). The programme gave us a number of toolboxes to help us improve our business. So, the aim has been reached. It is time now to learn how to use the tools.

Mr. NICOLA BERNIER
Sustenea’s Co-founder and Director – OceanKita BBN

Delivering a three-month incubation training programme generated multiple benefits. It allowed the project to:

- (i) Build the capacities of a higher number of teams during an intensive training;
- (ii) Enable the teams to discover in greater detail the specific plastic issues in the target EPPIC localities;
- (iii) Provide time and expert advice for the teams to revise, refine, or revisit their ideas and validate their models;
- (iv) Mitigate the risks of selecting a team that does not have the capacity to receive and spend the grant in a sound manner;
- (v) Foster cross-collaboration among teams to tackle plastic pollution issues through partnerships;
- (vi) Provide a space for connections, meetings, demo days, and other networking experiences to all 14 teams; and
- (vii) Help all finalist teams to gain the legitimacy, validation, and confidence that comes with having been selected for a UNDP-funded challenge, even if they did not win.

10. Select the right incubator

UNDP’s traditional incubation partners have tended to be mostly NGOs that work with social businesses, and such partners often lack the business development network and expertise necessary for scaling up innovative solutions. To address this challenge, we made a bold decision to choose a business incubator with a strong record of supporting many start-ups to grow and raise funding, but that lacked expertise in the circular economy, which UNDP then was able to supplement with our impact measurement and management framework (developed by [UNDP ImpactAIM](#)), technical skills, and expertise in the circular economy and waste management in order to provide the most comprehensive incubation programme for the EPPIC finalists. While the comprehensive nature of this incubation programme generated additional work demands for the EPPIC teams, the incubation partner was eager to learn and adopt the new impact angle into their existing programme. Hence, we were able to create one of the very first successful impact incubation programmes in Viet Nam, and a model that can be scaled up and spread out across the innovation ecosystem.

The incubator should be able to work well with local teams, have a rich network of local stakeholders and partners, speak excellent English, and able to demonstrate a professional and international working style to accommodate teams coming from other countries. For instance, at the onset of the incubation programme, we found out that the incubator's communication approach was working well with Vietnamese teams but was not adapted to the Thai teams. Cultural and language differences are therefore critical to consider when implementing incubation programme training across different nationalities.

“As the EPPIC 2020 incubator, VSVF takes pride in actively supporting the portfolio of finalists at all different stages, which has helped us to expand our start-up portfolio and enhance our capacity for impact investment. We also learned about the circular economy and plastic waste pollution and established fruitful collaborations with local and international partners such as UNDP, ImpactAIM, MCD Viet Nam, and representatives from Quang Ninh Government.

Mr. HUY PHAM
Accelerator Program Manager – Vietnam Silicon Valley Foundation (VSVF)

Lastly, it is critical to design a training programme that is able to respond to the needs of all types of teams, who are all at different stages of development and hence require very distinct kinds of skills. This was done through one-on-one weekly meetings with the coordinators, pre- and post-surveys, and regular feedback loops. The EPPIC further acknowledges that there are multiple ways through which teams gain new skills, build confidence, and iterate their initial proposed innovations. As such, to account for these multiple ways, the incubation programme combined a range of engagement and support actions that included field visits, one-on-one mentoring sessions, demo days, webinars, etc.

11. Foster inclusive innovation and social impact

“EPPIC is an excellent programme for a social startup-like Green Joy to learn, gain new knowledge and skills, exchange ideas, network, and meet peers, experts, mentors, and NGOs in the ecosystem to reduce plastic waste from upstream to downstream in Viet Nam and across ASEAN. The training related to the SDGs, circular economy, and impact measurement has been very helpful - it helped us to calculate the amount of plastic waste reduced, and this method is not being taught at any schools or in any other incubation programme.

Ms. VO NGUYEN
Founder – Green Joy

At UNDP, we believe [that innovations should be inclusive and contribute to reducing inequalities](#) through engaging with, and benefiting, women, persons with disabilities, ethnic minorities, and other vulnerable groups so as to ‘leave no one behind’. Running an inclusive innovation competition also means ensuring that the challenge is accessible to all, including translation into all of the key national languages (see Lesson #5), as well as ensuring that NGOs and mass organisations operating in the project sites are involved closely in the process and encouraged to apply.

Three key goals of the incubation programme were to strengthen the social and environmental impacts of the innovations, to create business models and go-to-market strategies, and to connect with potential investors and partners. The first goal directly ensured that the incubated business models would also contribute to increased inclusivity, while mitigating any potential risks on vulnerable groups. Training included sessions on impact measurement, SDG management, business-SDG alignment, circular economy, and methodology for the prevention or reduction of plastic waste through implementing the innovations.

[Greenjoy](#), [Galaxy Biotech](#), and [Refill Day](#) have all found a common partner to work with, the Quang Ninh Women's Union. Through this collaboration, they create jobs for and help to increase the living standards of many poor local women. In particular, some of the local female merchants agreed to help sell the teams' products in Ha Long markets and also became focal points to help educate the vendors in the market about their new products. [CIRAC](#) partners with Gold Bin, an active local NGO in Koh Samui, to work with men, women, retired teachers, and youth to collect plastic waste and test their newly designed equipment. Designing inclusive partnerships with local communities not only serves as a platform for deploying innovative ideas on the ground, but also provides economic opportunities for local people as the innovation get implemented and scaled up.

12. Ensure agility and ability of the project to adapt to new realities

The inception activities of this programme took place between January and May 2020, right at the start of the global pandemic. The project was launched in Ha Long on World Ocean Day (8 June 2020) and we opened the call for applicants that month. Due to COVID-19 travel restrictions, all communication and engagement activities were transitioned to an online format. Even so, the EPPIC reached more than double its initial target of 70 applications.

Since the borders of Viet Nam and Thailand were closed, the incubation of the EPPIC also took place entirely online, which required a rapid shift of the programme (including altering the engagement activities and technical training and postponing the field trips). In times of uncertainty, it is critical for projects to be agile. This means considering potential risks, developing mitigation strategies, empowering project teams, cultivating creativity, adaptation, and flexibility, and constantly re-imagining new ways of running innovation competitions, incubation programmes or final pitches. In the case of the EPPIC, we made efforts to create a sense of excitement and a portfolio spirit between teams that might never meet in person by setting up high-quality training videos, playing games, and using Slack for quick communication among teams and with the incubator.

The EPPIC taught us that running a competition during COVID-19 was not only possible, but also even brought benefits that we had not foreseen, such as the possibility of engaging high-level experts from other countries, reducing travel-related costs and emissions, and increasing our capabilities in running digital events across multiple countries and time zones with confidence.



13. Consider the Final Pitching Competition as chance for teams to learn, network, and gain visibility

The Final Pitching Competition is a delicate balancing exercise since the time for contestants' pitches is deliberately limited but must also allow them to communicate enough about their innovation to enable the jury to make a well-informed decision. In our case, the project also dealt with multiple time differences, with teams pitching from four different countries and a hybrid format necessitated by COVID-19 restrictions. The project prepared and shared a [booklet](#) in advance introducing in detail each team's innovation, impact, business plan, financial needs, etc. This was very helpful for the jury to start ranking the finalists prior to the pitching competition. The time allocated for each Q&A (seven minutes) was deemed too short by all.

In the future, we could consider holding the final over the course of two days to give more time for discussion between the jury and the teams. This would also allow for a feedback loop and tailored advice that would be extremely useful for the participants. We also need to ensure that the IT system is ready for the online pitching, including the sound system, internet strength, and bandwidth. Online applications such as Zoom allow the event organiser to set up separate channel(s) for simultaneous interpretation to accommodate international attendees.

Representatives from local governments, NGOs and CSOs, development partners, and potential investors also attended the EPPIC final to learn about the top innovations. This represented a formidable opportunity for the teams to continue enhancing their networks and strengthening their support ecosystem (Lesson #11).

Lessons Learned: Acceleration Programme and Exit Strategy

- 13. Consider the Final Pitching Competition as chance for teams to learn, network, and gain visibility
- 14. Design a locally focused ecosystem for supporting innovation in the target localities
- 15. De-risk the innovations and collaborate with the investment ecosystem



14. Design a locally focused ecosystem for supporting innovation in the target localities

The plastic crisis cannot solely be framed as a result of poor waste management, nor does it result only from over-consumption. This project tried to expand the conceptual frame away from the linear take-make-waste model, with the objective of a transition towards a circular economy for plastics in which all actors must play a role to create a dynamic ecosystem of support. As such, we strove to embed the innovations in the local context and ensure that the EPPIC's 'champions' were ready to take these principles forward regardless of whether they placed in the top four or not. Some of the main reasons put forward for innovations to fail is the lack of support after the competition and awards ceremony end.

Underpinning the design of this challenge was the ambition to address specific regional and local plastic pollution problems. We therefore worked to ensure that the support provided by the competition was directed towards both the localities (in setting up an enabling environment that would be conducive to the uptake of innovations) and the contestant teams (in scaling up their innovations).

The EPPIC was designed as a catalyst for the finalists and winning teams to receive incremental technical and financial support to implement their innovations, develop new partnerships, and deliver sustainable solutions to tackle the growing issue of plastic pollution in the region. To ensure a sustainable support ecosystem, a number of entry points are available: inclusion in the jury panel of local and national judges from both Viet Nam and Thailand, field trips to network with local governments, NGOs, and businesses, strong linkages with other UNDP initiatives and plastic projects, online and offline demo days, receiving training from renowned circular economy and impact investors, etc. This network of actors will thus continue to operate beyond the duration of the competition and continue to contribute to improved sustainability prospects.

In addition, the winning teams are also strongly encouraged and supported to maintain their connections and networks as much as possible, since a delay in the project's start may compromise the tight network and connections with key stakeholders that are created during the very first phase of the EPPIC programme. This network will help the teams to cultivate the exchange of ideas and build the meaningful relationships that constitute the core of what an aspiring entrepreneur or an established NGO needs.

15. De-risk the innovations and collaborate with the investment ecosystem

Catalysing finance will be critical to the transition to a circular economy for plastics. Fortunately, the issue is rapidly gaining momentum, and is now triggering the new sources of funding necessary to ensure the rapid uptake of solutions. UNDP is not an impact investor per se, and neither should it be; rather, with the EPPIC, UNDP aims to demonstrate that investing in both upstream and downstream solutions that prevent and reduce plastic pollution is a commendable and worthwhile investment. It not only supports the burgeoning impact investing ecosystem in ASEAN member states, but it also tackles the root causes of several major development challenges (air and water pollution, climate change, and biodiversity loss) while contributing to the achievement of the SDGs.

The EPPIC team has done a great job in identifying, incubating, and piloting promising solutions to the plastic pollution crisis. By sourcing and de-risking innovations, EPPIC is preparing the grounds for investors like us who are looking for investable solutions that have the potential to scale.

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With the EPPIC, we intend to de-risk these investments by training, supporting, and incubating some of the most promising and innovative solutions in the region. While the EPPIC has provided US\$18,000 in seed funding to each of the four winning teams, this is only the beginning. In order to improve these companies' prospects for accessing follow-on financing, we strove to connect them with impact investors, venture capitalists, and other potential financing sources.

The development of an exit strategy for high-potential teams is another key factor to consider in order to secure necessary resources for their development after the project's end. Given the lack of professional impact investors in Viet Nam, we also targeted an unusual potential source of funding: the Government of Viet Nam. Once they learned that some provincial municipalities had recently included 'impact' as one criterion for funding start-up projects, the incubator actively reached out to municipal governments and helped teams to prepare funding proposals. As of now, four EPPIC teams are in the final round of funding applications for the provincial governments of Ho Chi Minh City, Vinh Phuc, and Nghe An.



References

- Beaumont, N., Aanesen, M., Austen, M., Börger, T., Clark, J., Cole, M., Hooper, T., Lindeque, P., Pascoe, C. and Wyles, K. (2019) 'Global ecological, social and economic impacts of marine plastic', *Marine Pollution Bulletin*, 142 [online]. DOI: 10.1016/j.marpolbul.2019.03.022
- Charles, D., Kimman, L. and Saran, N. (2021) *The plastic waste markers index: Revealing the source of single-use plastics crisis* [online]. Available at: <https://www.circularonline.co.uk/wp-content/uploads/2021/05/Plastic-Waste-Makers-Index-Minderoo-FINAL-compressed-1.pdf> (Accessed: 15 July 2021)
- International Energy Agency (IEA). (2021) *Oil 2021: Analysis and forecast to 2026* [online]. Available at: <https://www.iea.org/reports/oil-2021> (Accessed: 15 July 2021)
- Jambeck, J., Geyer, R., Wilcox, C., Siegler, T., Perryman, M., Andrady, A., Narayan, R. and Law, K. (2015) 'Plastic waste inputs from land into the ocean', *Science*, 347(6223) [online]. DOI: 10.1126/science.1260352
- Shen, M., Huang, W., Chen, M., Song, B., Zeng, G. and Zhang, Y. (2020) '(Micro)plastic crisis: Un-ignorable contribution to global greenhouse gas emissions and climate change', *Journal of Cleaner Production*, 254 [online]. DOI: 10.1016/j.jclepro.2020.120138
- World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company. (2016) *The New Plastics Economy: Rethinking the future of plastics* [online]. Available at: <https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics> (Accessed: 15 July 2021)
- Zheng, J. and Suh, S. (2019) 'Strategies to reduce the global carbon footprint of plastics', *Nature Climate Change*, 9(5) [online]. DOI: 10.1038/s41558-019-0459-z

Conclusion

Developing solutions for a plastic-free world requires creativity, ambition, a strong network of partners, and an environment conducive to the development and growth of transformative solutions. It can bring real and significant benefits for local stakeholders in terms of bottom-up, customised, and affordable solutions that build local empowerment, confidence, and a belief in their own capability to find local and sustainable solutions.

UNDP will continue to support the EPPIC innovators to fine-tune, implement, and scale up their innovations in Ha Long Bay, Koh Samui, and across ASEAN member states. Phase II of the Ending Plastic Pollution Challenge is presently underway to tackle the issue of plastic pollution in Mandalika, Lombok Island (Indonesia) and Samal Island (Philippines).

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