



# TIDE TURNER PLASTIC CHALLENGE

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## IMPACT REPORT 2021

## **Acknowledgement and Credits**

The **United Nations Environment Programme (UNEP)** is the leading environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an advocate for the global environment. The UNEP mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

**WWF India** is committed to creating and demonstrating practical solutions that help conserve India's ecosystems and rich biodiversity. Since 1969, WWF India has been working towards finding science-based and sustainable solutions to address challenges at the interface of development and conservation. Today, with over 70 offices across 20 states, WWF India's work spans across thematic areas including the conservation of key wildlife species and their habitats; management of rivers, wetlands and their ecosystems; climate change adaptation; driving sustainable solutions for business and agriculture; empowering local communities as stewards of conservation; combatting illegal wildlife trade and inspiring children and youth to take positive action for the environment through education and awareness programmes.

**Centre for Environment Education (CEE)** was established in 1984 as a Centre of Excellence of the Ministry of Environment and Forests, Government of India. As a national institution, CEE's mandate is to promote environmental awareness nationwide. CEE develops innovative programmes and educational material, and builds capacity in the field of Education for Sustainable Development (ESD). It is committed to ensure that Environmental Education (EE) leads to action for sustainable development. It undertakes field projects that demonstrate and validate the role education can play in sustainable development.

### **Acknowledgment**

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## I. BACKGROUND



Plastic entered our lives in the 1950s as a miracle substance and now, it is difficult to think of our world without it. Being multipurpose, affordable and easily available, it is now ubiquitous. It has become an integral part of our day-to-day life, with plastic products ranging from domestic articles to the very crucial COVID-19 protective gear. Plastic consumption has exponentially increased in the recent decades and has emerged as a global issue, mostly due to its improper disposal. Throughout history, humans have produced 9 billion tonnes of plastics, and nearly one-third of the plastic packaging we use ends up clogging our drains and polluting our natural environment. A huge amount of used plastic still exists, in our environment, and is bound to remain there for a long time. Yet, plastics continue to be an unavoidable part of our lives. The impact from plastic pollution is already being widely experienced across the world and, if the consumption is not cut down drastically, it will soon land mankind into a plastic pandemic.

Single-use plastics (SUPs), cause the biggest havoc to the environment. These items, mostly labelled '**disposable**', are non-recyclable due to their multi-layer, metallic pouches and thermoset plastics. Most of the usage of these plastics is due to the major changes in our lifestyles, like online delivery services, takeaways and eating out. Another major contributor to the rise of single-use plastics is community events, like professional gatherings, weddings and parties. These plastics are usually dumped into landfills and pollute the nearby land, eventually ending up in our oceans and rivers. Because they weight very little, wind currents carry them long distances, polluting both nearby and distant water bodies. Often, they block sewage systems, creating a conducive environment for pathogens and insects to grow. This is a leading cause of disease in various countries.

Every year, up to 13 million tonnes of plastic leak into our oceans, endangering our marine wildlife. That's the same as pouring an entire garbage truck of plastic into the ocean every minute. The Ellen MacArthur Foundation claims

that, by 2050, there will be more plastic in the oceans (by weight) than there are fish. In marine ecosystems, due to pressure and turbulence, this plastic waste disintegrates into tiny pieces called microplastic. Fishes and other marine animals confuse these fragmented bits of plastic with microplankton and consume them, causing painful deaths. Besides marine life, these microplastics reach and get consumed in different forms by birds, animals and even by humans, which causes severe health problems and threats to their lives.

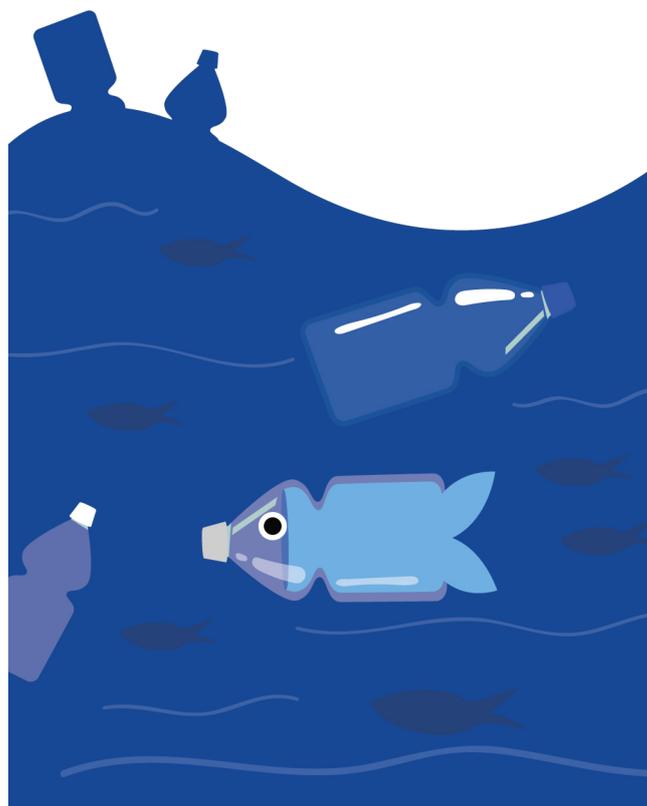
In India, home to more than a billion humans, plastic is consumed at an alarming rate. On one hand, plastic is fulfilling the demand for economic growth of the country but on the other, it is increasing the heights of landfills and the loads in the seas. According to a report published by **Central Pollution Control Board India in 2018, approximately 707 million metric tonnes of plastic products are manufactured every year, and about 80% of the plastics are used in the packaging sector.**

The consumption of plastic products in India has surged **over the past 50 years - from 15 million tonnes in double again over the next 20 years.** The growth rate of the Indian plastics industry is one of the highest in the world: plastics consumption is growing at 16% annually in the country. The cost of the huge plastic waste is paid by oceans, marine life, and the natural environment of the country.

Recycling plastic waste has garnered a lot of interest in the last few years. While this can definitely aid the management process, it is not a viable solution to the enormity of the plastic waste problem. Recycling is a complex process involving contributions from the whole supply chain, the support of governance, institutions, organisations and every individual on this planet. Many countries, like ours, have not yet developed the infrastructure and management strategies to recycle all plastic waste. This is why **only 9% of all the plastic waste ever produced has been recycled.** Much of the rest of the plastic cannot be recycled and exists today.

Given the recent developments in eco-friendly alternatives, it is now possible to replace single-use plastics with sustainable alternatives and minimise plastic consumption. Refusal and replacement are the most appreciated solutions when it comes to such plastics. The Government of India declared The Plastic Waste (Management and Handling) Rules, 2011 as its regulatory policy to minimise waste generation as well as ensure sustainable and better management of plastic waste. Despite the guidelines and rules in place, stakeholders, especially consumers, play the most vital role in reducing plastic pollution. Changes in the way we use plastic require the joint efforts of people and organisations. Plastic pollution is a major threat to the coming generations and thus the youth, one of the most significant agents of change, has the vast potential to lead our fight against plastics.

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our marine wildlife.



## II. THE TIDE TURNER PLASTIC CHALLENGE



Focusing on the role of young people as leaders in the fight against plastic pollution, the **United Nations Environment Program (UNEP)** introduced a global campaign called the Tide Turners Plastic Challenge was to educate young people about the dangers of single-use plastic, equip them with basic understanding of advocacy, and motivate them to put their knowledge into action in their communities.

As UNEP says, the youth of today are going to form the society of tomorrow and are aware of the environmental impacts of our modern lifestyles and want to make a difference. Only if we empower the young generation through knowledge and skills, can we aspire to create a vibrant and sustainable future for our planet and humanity.

The UNEP has been working with the organizations such as Scouts, the Girl Guides and Junior Achievement across various African countries and the Caribbean and with WWF and CEE in India, with the aim of mobilising thousands of young people to participate in the fight against plastic pollution and marine litter.

On one hand, the Tide Turners Challenge focuses on awareness about plastic consumption and on the other hand, it opens an entry point towards green advocacy for young people.

### The broad perspective of the campaign was



To build knowledge and understanding about single-use plastic in public



To promote actions by individuals and communities to facilitate change



To influence local stakeholders through advocacy of sustainable practices

**The challenge was designed to exhibit the following learning outcomes:**

- Understand how plastic pollution is threatening life in water and on land;
- Understand how the global community is tackling the issue;
- Act to reduce your personal use of single-use or disposable plastics;
- Inspire your friends, family, school/college, and community to refuse, reduce, reuse and recycle single-use or disposable plastics;
- Take the lead on a wider scale to create lasting change in your region with regard to the use of single-use plastics, marine litter and microplastics.



## **III. PROGRAM IMPLEMENTATION IN INDIA**

In India, the campaign is being implemented by **World Wide Fund for Nature India (WWF India)** and **Centre for Environment Education (CEE)** and the campaign has now completed three phases of outreach, education and leadership, and, in 2019-2021, the challenge reached out to 331,804 youth. **Million Sparks Foundation** partnered the challenge during its second phase. During the third phase, the challenge was rolled out in the eco clubs of India with the support of the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

The participants were school and college students, and facilitators such as teachers and eco clubs - all between **11 and 35 years of age**. The Tide Turners Challenge consisted of activities in three levels :

### **LEVEL**

**1**

#### **Entry level:**

Entry-level activities were designed to get participants thinking about their own consumption by enhancing their knowledge about the issues with single-use plastics. Further, the activities were to inspire them to take simple actions and lifestyle changes to reduce single-use plastic from their day-to-day lives.

**2**

#### **Leader level:**

In the second level, the participants dived deeper to explore, investigate, and take action towards reducing single-use plastic consumption and its management within their homes, neighborhoods and communities.

**3**

#### **Champion level:**

In the final level, the participants would scale up efforts to make a greater impact. Activities in this stage included promoting sustainable consumption and production by influencing consumers and businesses, educating others and continuing their advocacy efforts by creating educational assets like videos, comics, storybooks and GIFs.

All participants were provided with a programme toolkit, which carried introductory information about the harmful effects of single-use plastic with practical examples, statistical data, facts and infographics. This toolkit also carried the challenge activities of all three levels, which the youth needed to perform in order to complete the challenge.

The challenge toolkit was made available in nine languages: English, Hindi, Marathi, Tamil, Telugu, Bengali, Kannada, Gujarati and Malayalam. Each level of the challenge was rewarding for the youth. Every participant received an e-certificate after completing all the activities of a level, and a badge after completing the Champion level. A national summit was held to recognise those who emerged as champions after completing all the three challenge levels. Some of the success stories were featured on various platforms.

## PHASE 1 (July 2019–November 2019)



During the pilot phase of the campaign, **2493 participants** were shortlisted and trained to mobilise and engage their peers to take the challenge. This pilot initiative reached out to 48,859 youth and 2493 leaders in 250 schools and colleges across 14 cities in 8 states.

Even during the short period of this phase, the young leaders demonstrated on-ground handprint actions, cleanliness drives, waste segregation initiatives, awareness campaigns, and individual pledges to reduce plastic pollution. They were also able to share their experiences on the occasion of Gandhi Jayanti, as part of the government's Swachhata week, meet the Prime Minister of India, and have a print and digital media engagement. The pilot phase ended with a felicitation ceremony to award the best champions.

## PHASE 2 (January 2020–June 2020)



In phase 2, the Tide Turners Plastic Challenge transformed into a digital programme, engaging **126,236 youth** across India. Owing to the COVID-19 pandemic in 2020, CEE and WWF India joined hands with the Million Sparks Foundation to transform the campaign, which was originally developed for face-to-face activities, into a digital challenge. In this new form, the campaign engaged with **over 40 institutional partners** and **3000 schools** and colleges from 28 states and union territories, through 75 interactive webinars conducted in 12 different languages. About **15,000 Scouts from various states of India** also participated in the challenge. A National Youth Summit was conducted on June 30, 2020, which saw a participation of 1900 youth and international environmentalists who encouraged participants on their journeys as plastic warriors.

In the two consecutive years - 2019 and 2020 - the campaign reached out to a total of **175,095 youth**.

## PHASE 3 (January 2021–June 2021)



The third phase of the Tide Turners Plastic Challenge was launched in November 2020 and rolled out in January 2021. The participation was open to youth from schools, colleges, organisations, youth networks and professionals between **11-35 years of age**. This phase also saw the launch of the eco club model, where the MoEFCC engaged its **National Green Corps' eco clubs** from across India to take up the challenge.

The challenge was entirely conducted online on [www.tide-turners.org](http://www.tide-turners.org), with activities designed to be completed at home or in its vicinity. In this phase, the challenge reached **156,998 youth** and **1049 eco clubs**. 11 workshops with **2029 educators** and **80 webinars** were conducted to train 14,862 youth. The toolkit was modified to suit the digital nature of the challenge, and customised content as well as reporting formats

were made for eco clubs and groups. The activities included self-assessments, plastic audits at home, waste segregation and recycling, evaluation of single-use plastic items, and digital awareness campaigns. The champions who completed the challenge were awarded badges and e-certificates, and were recognized at the National Youth Summit 2021.

While the first two phases encouraged participation at an individual level, in this phase participants could opt to enter as individuals or groups. The group model emerged from the fact that joint efforts to influence community-level plastic habits had been more effective. The group participation was incentivised by offering gold, silver and bronze certification to the coordinators based on the evaluation criteria. The **top 20 eco clubs** of India were also awarded with sustainable solutions for composting their waste, in recognition of their phenomenal participation in the midst of a pandemic.

## IV. OBJECTIVES OF THE IMPACT STUDY



The aim of this study is to understand the efficacy of the Tide Turner Challenge in both individual participants as well as eco clubs that were a part of the programme. This evaluation study is a qualitative descriptive study that was conducted at the end of the programme through an online survey and interviews.

**While it doesn't fall under the ambit of traditional impact evaluation studies, it allows us to reflect on the following aspects of the program:**

- The level of awareness and knowledge of single-use plastics
- Whether the attitude towards the consumption of single-use plastics is in accordance with the goal of the programme
- The impact of community-level leadership and additional skill-building
- The indirect impact on members of the community as a result of community-based activities
- The scope for improvement in future programmes, especially regarding the effectiveness of a digital medium.

The study is divided into two parts - survey analyses of the youth challenge, and qualitative case studies of the top performers and eco clubs. Our judgement is based on the outcomes regarding level of knowledge, changes in behaviour, additional skill development, community impact, and overall feedback on the programme.

## V. METHODOLOGY AND DATA COLLECTION

### 1. SURVEY ANALYSIS

The evaluation of the Tide Turner Challenge is a descriptive study of the data collected from over **700 participants**. It explores the responses to different qualitative variables about the framework and the efficacy of the programme. Descriptive studies have been used extensively, across fields, as the basis of both qualitative and quantitative studies. They allow us to better understand overarching themes and patterns from a larger sample, than a rigorous interview-based analysis would. Often, descriptive studies are used to represent the first scientifically-backed research in new areas of inquiry, upon which subsequent empirical studies are based. The same is true for this evaluation study. A robust descriptive report is based on clear, specific and measured responses to an action, to understand the development in the behaviour and practices (Proches). This study was conducted at the end of the programme. As no baseline or opinion survey had been conducted before the programme, it is purely a description of self-reported knowledge, behaviour and practices.

This study aims to better understand how the programme, directly and indirectly, shaped the participant's perspective towards plastic consumption and its consequences. For this purpose, the participants were sent an online survey form via Google Forms. There were two different surveys floated for this study.

#### I. Champion-level Participant Survey

This survey was released to only champion-level participants, i.e., those who had successfully completed all three levels of the challenge, so that they would be sufficiently aware of the programme and had invested enough time to show measurable progress. The questions for the survey were based on the **KAP evaluation survey**. According to **the WHO memo7, a KAP survey** usually collects information on the knowledge (what is known), attitudes (what is thought), and practices (what is done) about general and/or specific topics. This comprehensive survey allowed us to understand the demographic distribution of the participants and provide us insight into their knowledge regarding single-use plastics, behaviours and practices post the programme, outreach efforts, and feedback regarding the program. The survey questions were drawn from the material of the course, commonly-observed practices, and indicators of importance to the stakeholders. The survey was sent to 6200 participants, on June 22, 2021, via email and the official website.

At the end of three weeks, 597 responses were registered. According to a report, the average response rate for free online surveys is usually between 5-20%, rarely crossing 30% (Lindemann). While the sample in the survey stands at 10%, according to our calculations, it has a sampling confidence level of 95% and a margin error of 5% (Kadam et al). A smaller margin error ensures we can have higher confidence that the poll result actually represents the results of surveying the entire population. Hence, from this survey, we can deduce invaluable insight into how the programme was received and how it affected the participants. Additionally, the survey questions are provided in the Annexure.



## II. Entry-level Participant Survey

A shorter online survey was released to all level-1 participants to understand the challenges they faced, and how the module could be modified to increase retention in future. Administered similarly, the survey was released to 10,914 participants and 261 responses were received after a three-week period. While this is quite a small sample set, it matched our expected response rate.

These participants included everyone at level 1, even a significant number of participants who didn't move forward or initiate the challenge. The survey questions are provided in the Annexure.

## 2. INTERVIEW ANALYSIS

We recognise that capturing a change in behaviour and attitudes can be quite challenging, especially in self-reported surveys where experimental demand effects are high. Hence, to showcase the impact the programme had on its participants, a case-study analysis of the top-performing participants and eco clubs was performed.

This qualitative analysis attempts to capture the influence of the programme on the lessons that the participants learnt, the innovative thinking it inculcated, and the experience of the digital platform, among others. The interviews attempted to bring out the personal stories of the champions and the changes they were able to bring to their institutions and communities.

### I. Youth Champions

The team selected the top ten performers, and enquired about their experiences and journeys of the Tide Turner Challenge. 10 participants were interviewed over video calls, following which, transcripts were developed and themes were evaluated. The interviews, recorded with the participants' consent, were guided by the following five-question framework, designed to help reveal a distinct set of champion engagement archetypes:

- **Lessons learnt:** one big lesson the champion learnt
- **Changes in attitudes and behaviours:** the factors that inspired behaviour change and response from the community
- **Innovative solutions and actions taken:** the participants' engagement/ actions/solutions during the challenge
- **Challenges:** the unexpected challenges faced by the participants, and how they overcame them
- **Potential activities for phase 4:** the champions' expectations from future challenge activities

### ENTRY-LEVEL SURVEY OBSERVATIONS

10,914  
participants

NO. OF SURVEY RELEASED

261  
response

NO. OF SURVEY RESPONSE

“ *The interviews attempted to bring out a personal story of the champions and the change they were able to bring in their institutions and communities.* ”

## II. Eco Clubs

The groups and eco clubs, unlike individuals, had different experiences in terms of logistics and impact. To capture that, a different set of interview questions was designed, catering to the nuances of the workings of a bigger group. 18 of the top-performing eco clubs were recognised by the team. The facilitators and coordinators of the eco clubs were interviewed to share their outcomes from the challenge. The collective responses from these interviews were divided into different themes and have been used for qualitative analysis of the evaluation report.

A different questionnaire was designed to assess the efficacy of the challenge in bringing up the learnings about single-use plastic, and the overall response of student groups. The interviews were divided into the following broad categories:

- **Lessons learnt:** one major learning of the group from the experience, and the ways in which it is being inculcated
- **Value additions in existing model and new approaches:** Improvement in the functioning of the eco clubs and the involvement of teachers
- **Student involvement:** the change in the level of involvement in the activities of the programme, as compared to usual eco club activities, of members those directly and indirectly involved
- **Innovations and collective action:** the response to community outreach efforts, impact on the institution, and the innovative projects the team undertook
- **Major challenges:** challenges faced in adapting to the digital program, logistical issues and how they were managed
- **Feedback on the program:** The ease of reporting mechanisms, fulfilment of resource requirements, and additional resources that could provide support



## VI. CHAMPION LEVEL FINDINGS

**Table 1** depicts the demographic details of the level 3 participants of the Tide Turner Challenge. From a total of **597 responses**, there is an equal level of participation amongst males and females. Further, the candidates of this challenge are divided into three broad categories :

- **School students**
- **College students**
- **Young professionals**

This information was useful to gauge the impact of the program over multiple age groups. A majority of the participants were school and college students.

INDICATOR	% OF RESPONSE
<b>GENDER</b>	
Female	48.9
Male	50.7
Prefer not to say	0.4
<b>BACKGROUND</b>	
School student	41.5
College student	39.5
Young professionals	19.0

**TABLE 1**

### Program feedback

The participants were asked a few feedback questions.

**FIGURE 1- Responses regarding the most Impactful task**

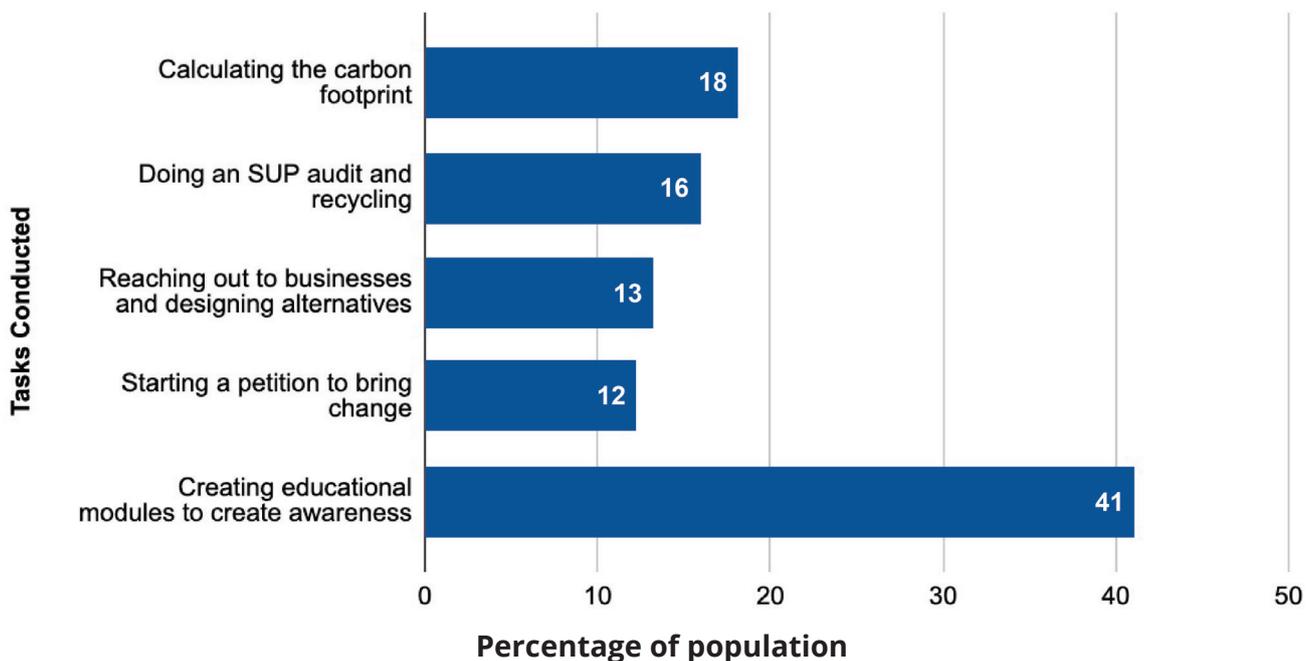


Figure 1 depicts that, for a large majority of participants, creating awareness through educational modules and videos was the most rewarding, followed by calculations pertaining to carbon footprint, which inspired them to re-evaluate their current consumption. For 16% of the participants, doing an SUP audit and practising recycling was most impactful, and for 13%, it was reaching out to businesses about their products, and designing an alternative

FIGURE 2 - Response regarding issues faced during the programme

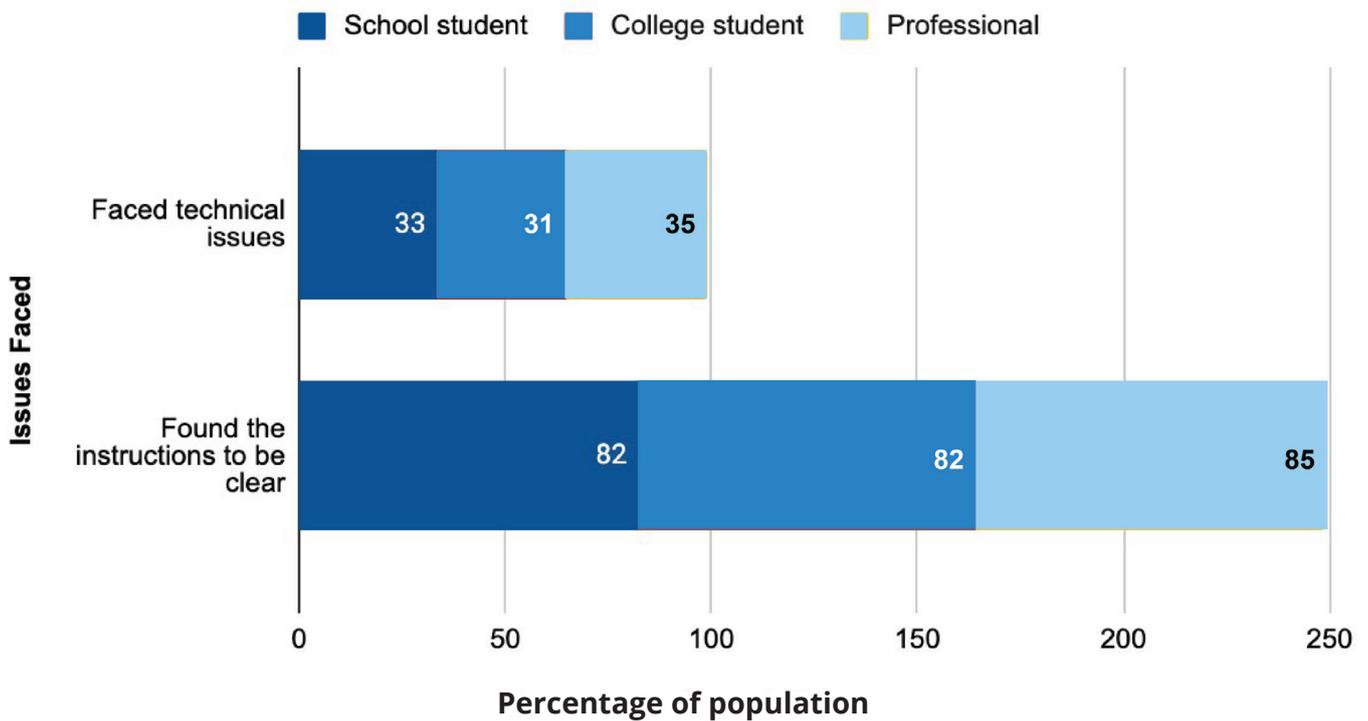
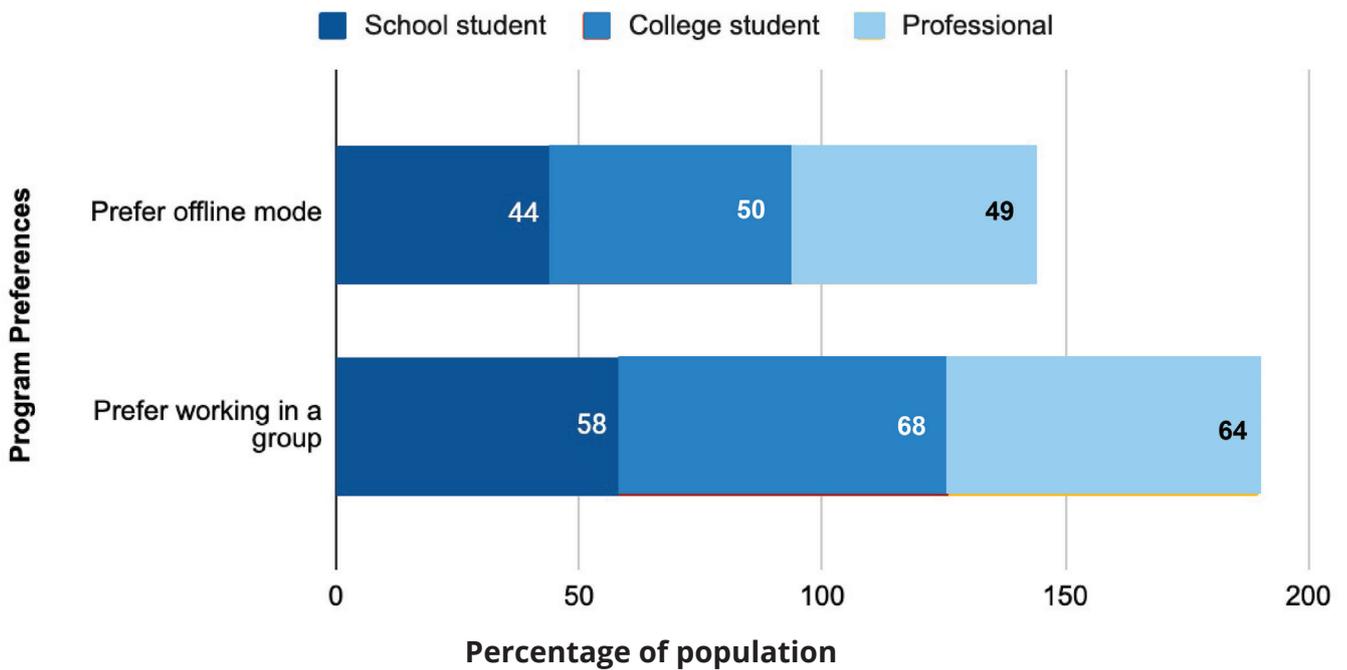


Figure 2 shows that about **30% of participants** from each age category reported having faced technical difficulties. This is a point of concern, and providing technical assistance through an interactive bot or a comprehensive FAQ page in future programmes could allow for increased retention. In terms of clarity regarding the instructions, over **80% of the respondents** could follow the challenges, but to further increase the quality and clarity of the programme, the instructions could be made more elaborate and examples could be incorporated.

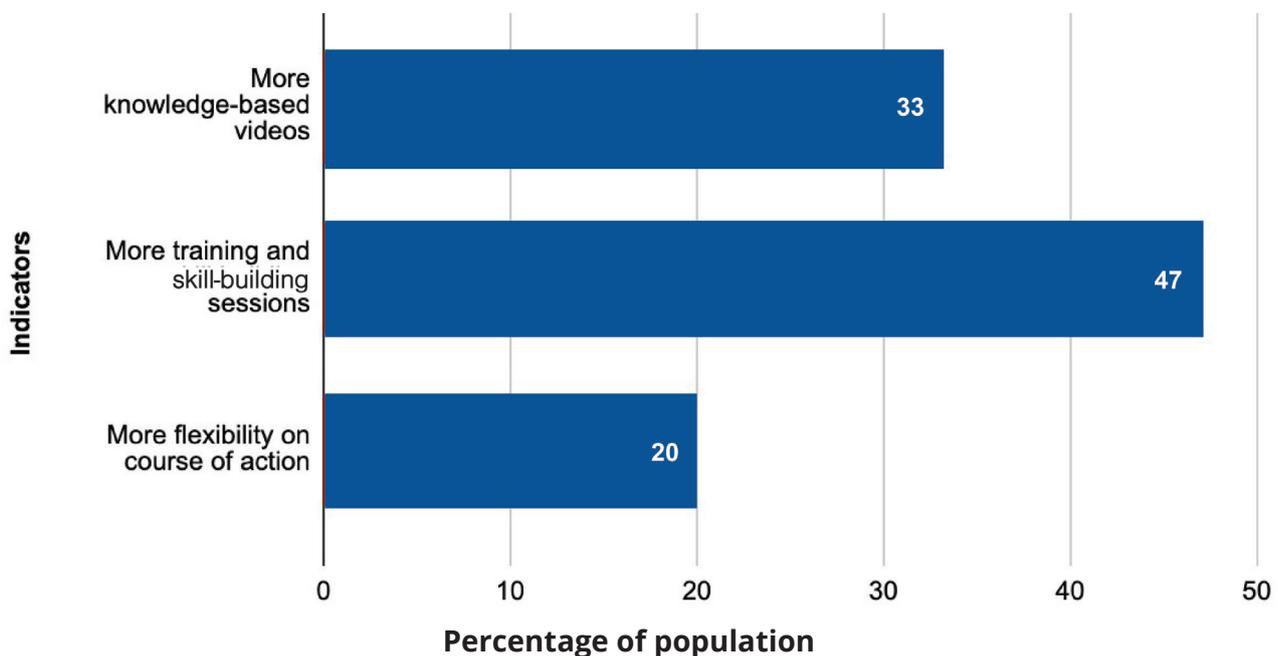
**FIGURE 3 - Responses on preferences regarding the programme**



As seen in figure 3, **47% of the participants**, and **44% of school students**, preferred an offline mode of the programme as it would allow for activities that involved the community. So while the online programs allow for higher and more flexible participation, more optional offline activities could be included in the future.

**63% of the participants** were of the opinion that working in a group would have yielded better results, as it would allow for increased accountability, enthusiasm and synergy. It could also lead to increased experiential learning.

**FIGURE 4 - Responses to improvement in course structure**



Finally, the feedback survey addressed the question of amassing public interest for the programme. **Figure 4** shows that **50% of the respondents** felt that more training and skill-building sessions would do the trick. One-third of the population felt that the programme could benefit with more knowledge-based videos, while a few participants would have liked a flexible course of action. This was especially true for young professionals, for whom time constraint is a major hindrance.

### Knowledge Questions

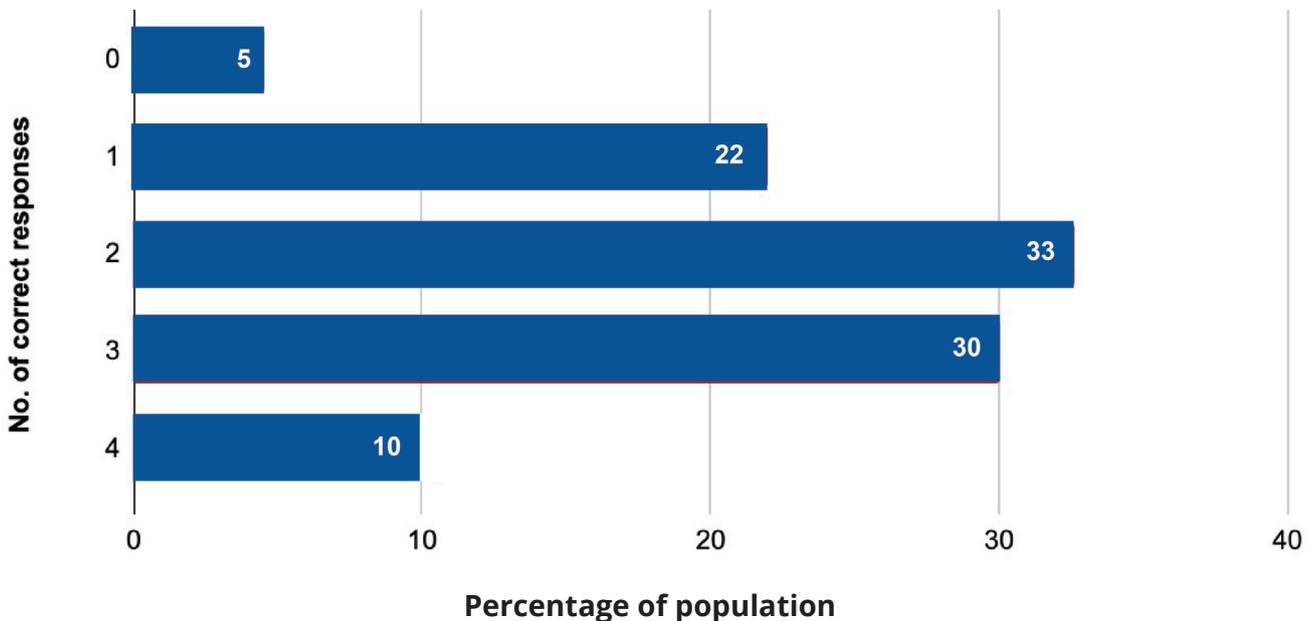
It was imperative to assess the knowledge of plastic pollution awareness that the participants had retained. Four questions related to the information mentioned in the modules were asked, both in the form of videos and text, to gauge their understanding of SUPs.

While, on average, the respondents of this challenge are well-versed with basic knowledge pertaining to plastic pollution, stress needs to be put on strengthening the understanding of decomposition and recyclable materials, and distinguishing between materials that can be recycled and those that can't.

QUESTIONS	% OF RESPONSE
Does plastic pollution remain localized to an area?	55.3
How many years does it take for plastic bottles to decompose?	46.9
Which of these contains hidden plastic?	79.7
Which type of plastic can not be recycled?	38.7

TABLE 2

FIGURE 5 - Correct Responses to Knowledge Questions

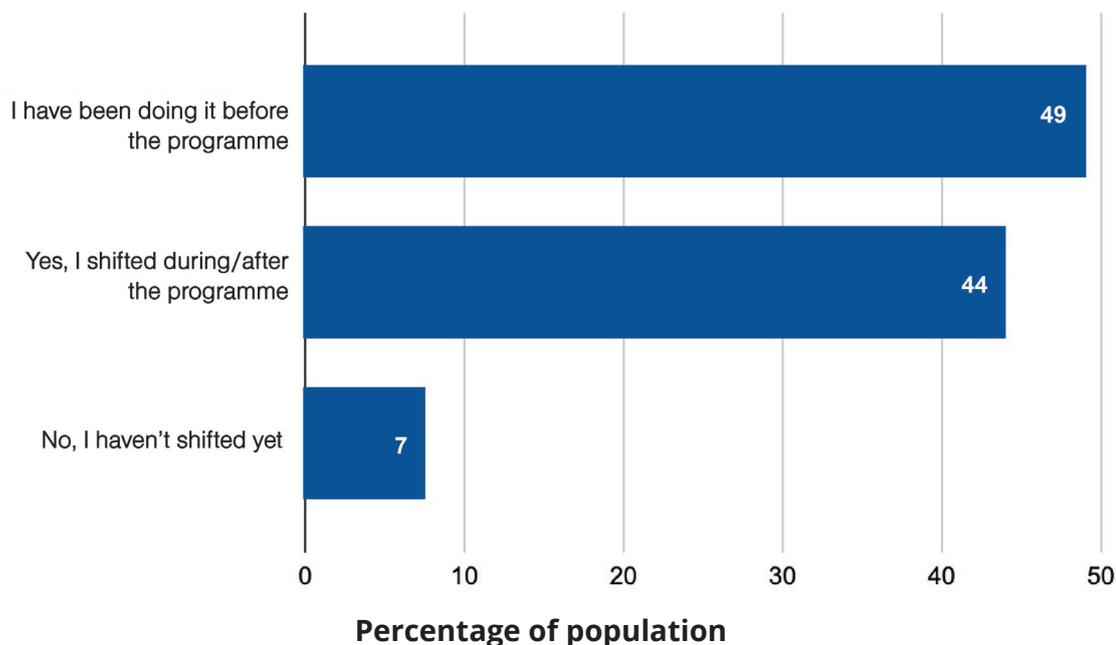


It can be seen from the figure above that **90% of the population** could score up to three correct answers, with the majority getting at least 2 answers correct. Moreover, only **5% of the participants** got all the answers wrong. This shows that while participants were able to retain facts, there is scope for improvement which can be catered to with quizzes, short video recaps and more audio-visual tools.

## Practices and Attitudes

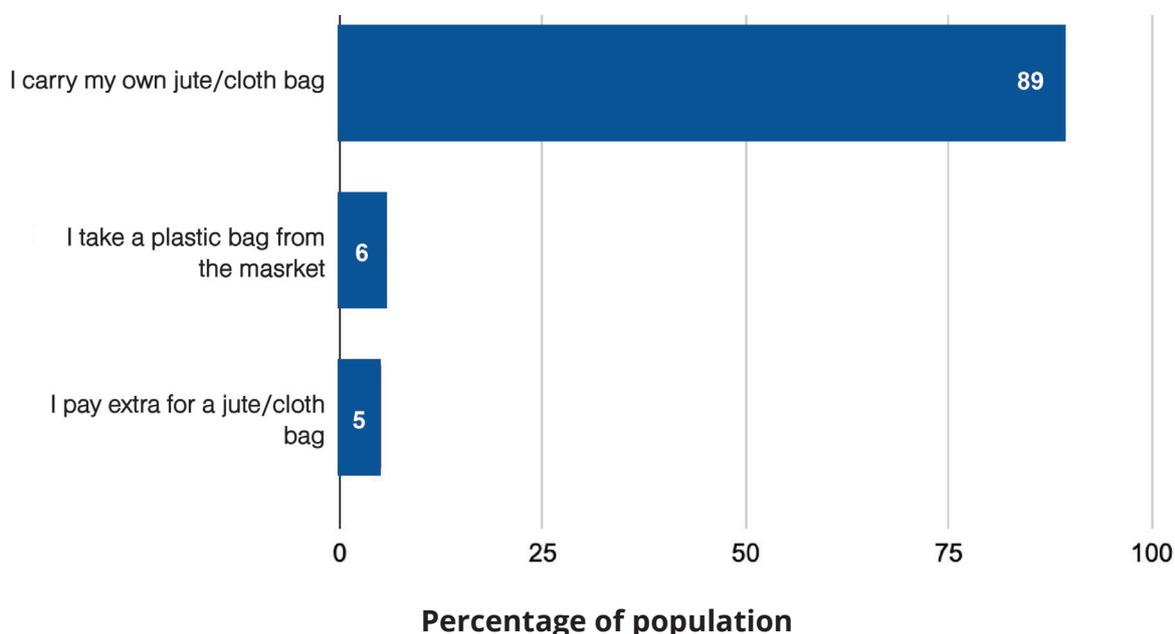
In this domain, we collected data across five practices to review how the programme inspired participants to change their day-to-day lifestyles

**FIGURE 6 - Responses to practising waste segregation**



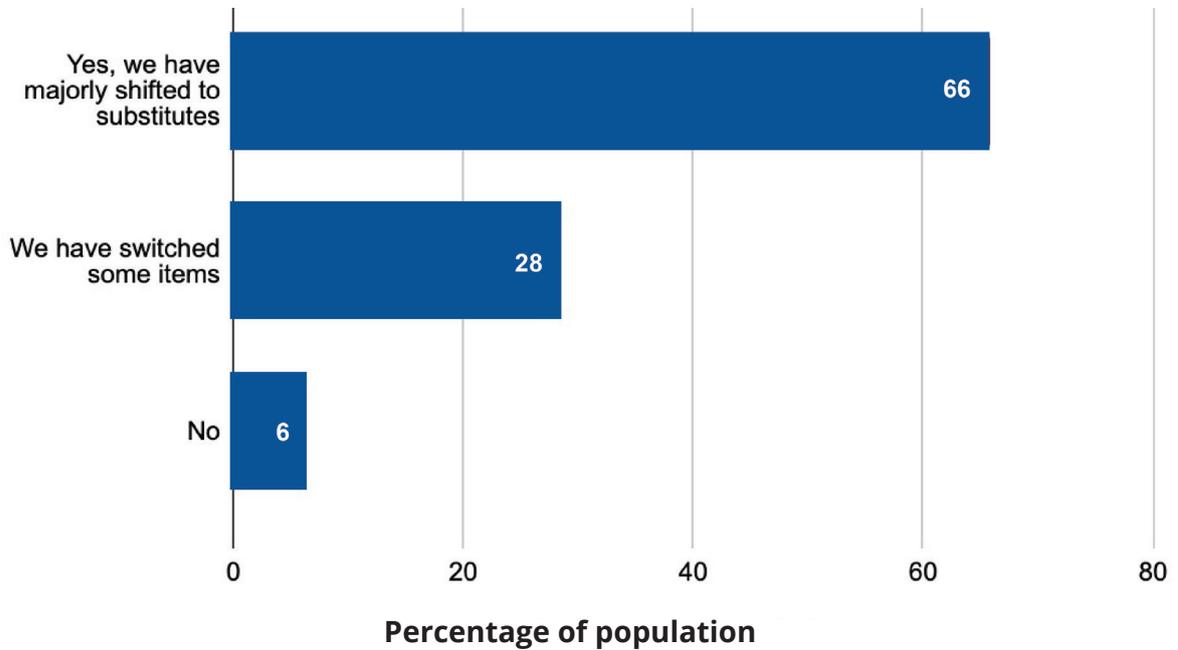
From figure 6, it is clear that the programme indeed played an important role in changing the perception of the population towards adopting an environmentally friendly attitude. For a country like India, where **over 80% of waste is disposed of indiscriminately without segregation**, this is a step in the right direction (Singh, 2002). While a majority reported having practised before the programme, this number must be accepted with caution as there is a tendency to overstate altruistic behaviours during self-reporting data collection. Only a negligible proportion reported not switching their practice, implying that, post programme, people understand that segregation is a good practice.

**FIGURE 7 - Responses to using sustainable alternatives to plastic bags**



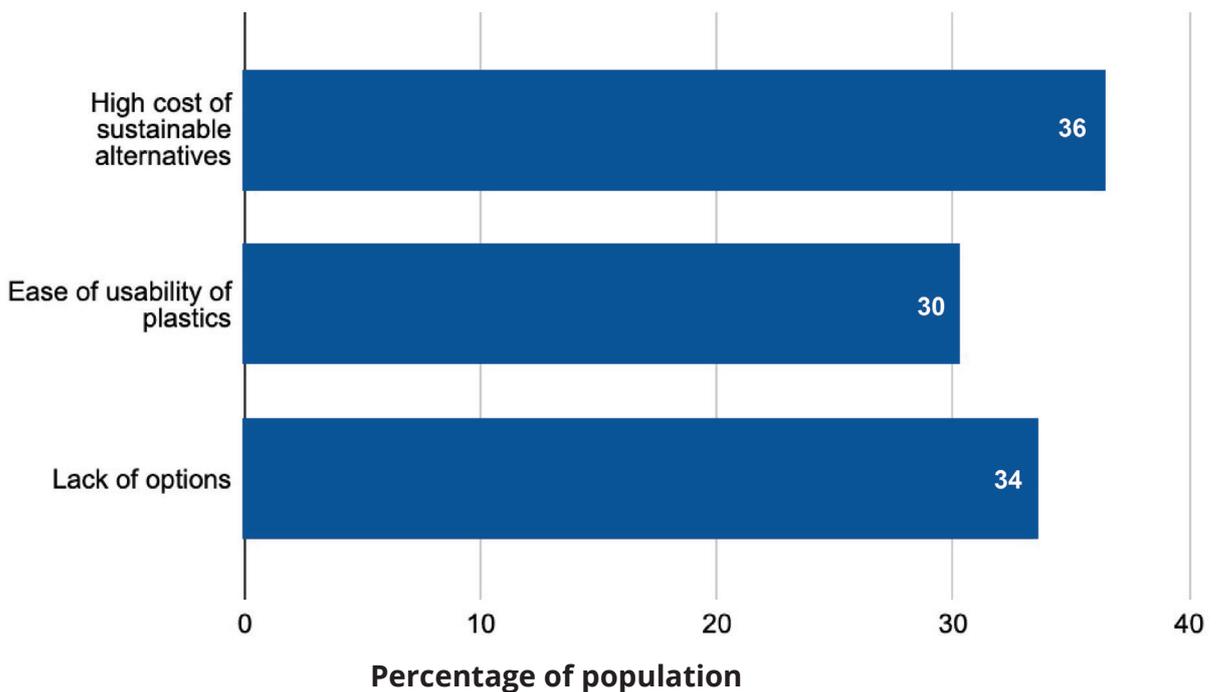
The programme increases participants' inclination towards pro-environment actions, as seen in **figure 7**.

**FIGURE 8 - Responses shifting to sustainable alternatives**



**Figure 8** shows the percentage of the population in favour of switching to environmentally friendly substitutes of common household plastic goods. A significant majority of the population initiated a complete or partial shift to sustainable alternatives of both major and minor items at home. This is a testimony that the programme was successful in bringing about a conscious change amongst the participants.

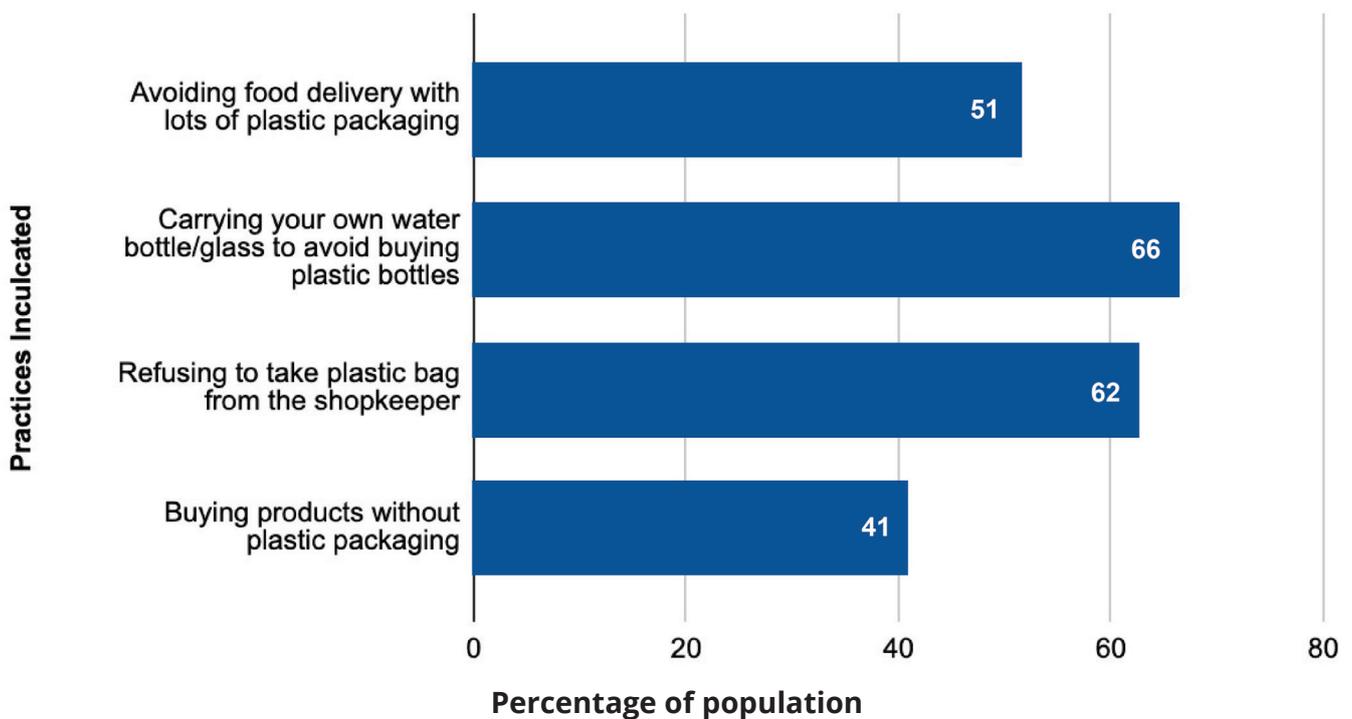
**FIGURE 9 - Reasons for not shifting to sustainable products**



While the alternative goods market is rising, a large chunk of the population still continues to use plastic. **Figure 9** discusses the plausible reasons as to why participants find it difficult to switch to sustainable products. It can be deduced that while **64% of the participants wish to make a change**, they find the prices of sustainably produced goods too high. This is in line with the fact that such products in India continue to be priced far higher than mass-produced plastic goods. Some others suggested that a bigger selection of products would allow them to make a change.

This throws light on aspects that can be focused on in the next chapter of the programme. The next phase of activities could get participants to interact with companies to design cost-effective prototypes, and make homemade sustainable goods as a way to reduce plastic consumption.

**FIGURE 10 - Responses to adopting sustainable practices post programme**

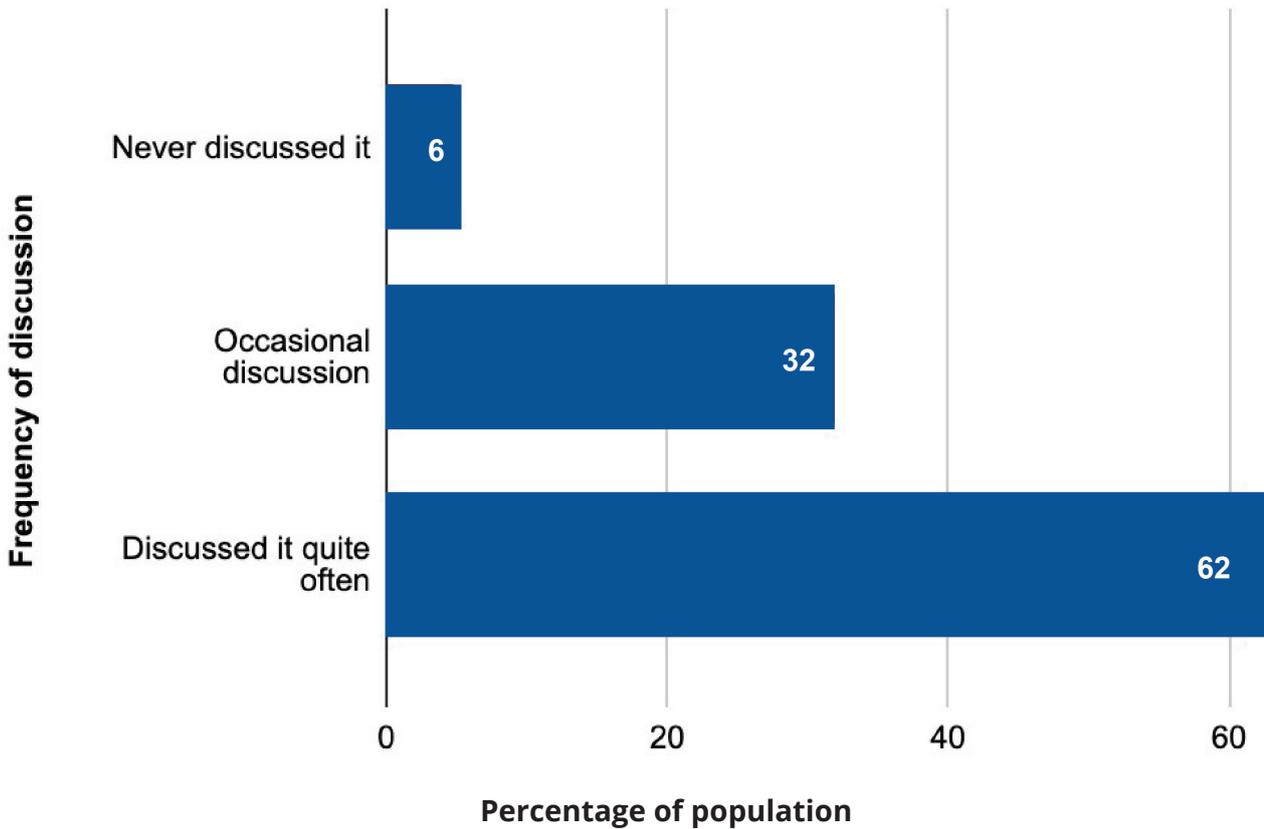


In the last section, participants were asked about the activities they found to be the most impactful, and what they have adopted post the programme. There has been a significant improvement in the attitude towards activities such as carrying your own water bottle, refusing to take plastic bags from shopkeepers, and buying products without plastic packaging. **Around 40% to 60% of the population** is now sensitive to this grave problem, and are willing to take baby steps towards a plastic-free world.

## Outreach

A study by Boulay et. al. (2002) showed that overall reach increases dramatically from 50% to 76% when indirect impact of a public awareness programme is factored in. Along similar lines, the indirect impact of the Tide Turner Programme was estimated at a community level.

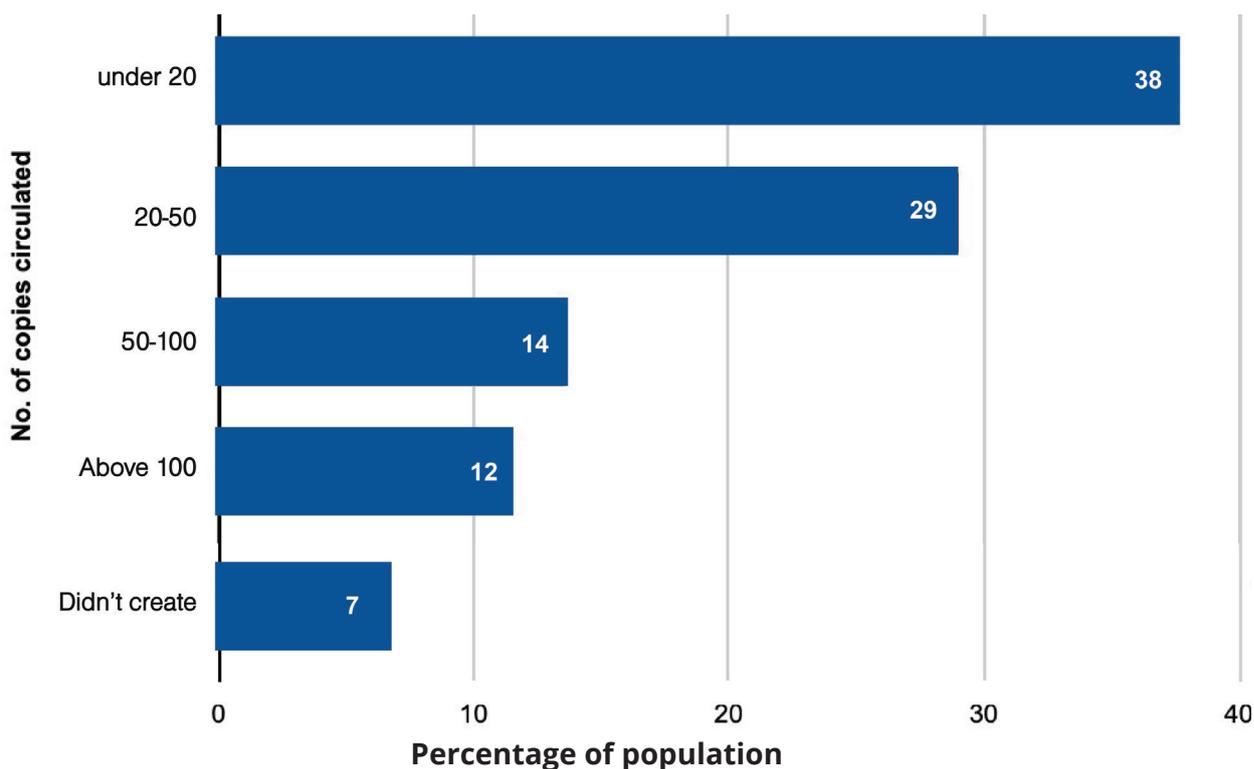
**FIGURE 11 - Responses regarding discussion among peers**



**Figure 11** shows the frequency of discussions about sustainable and plastic-free ways of living within friends and peer groups. Around 61% of the population had these conversations since the programme, but 31% reported more discussions after attending the programme, taking the count to 93%.

Interestingly, participants who regularly discussed these issues got a higher percentage of knowledge questions correct than those who didn't. However, it must be noted that, in self-reporting studies, there is a tendency for people to overreport altruistic habits.

**FIGURE 12 - Educational material on single-use plastic in circulation**



**Figure 12** shows how many additional people the participants reached out to. Around 67% of the participants distributed educational books and comics on single-use plastics to up to 50 people, with 12% even reporting distributing 100 copies. Majority could reach out to upto 20 people. Besides this, 7% did not create any content on single-use plastics as a part of outreach program.

Even with the small sample of **597 people participating** in this activity, if we average each person distributing copies to 30 other individuals, we can safely vouch for the fact that 1800 new people were made aware of the harms of SUPs. This number jumps to **13,000**, if we account for the entire population of **6200 champions** that participated in the activity.

**FIGURE 13 - Digital imprints of videos created for plastic use**

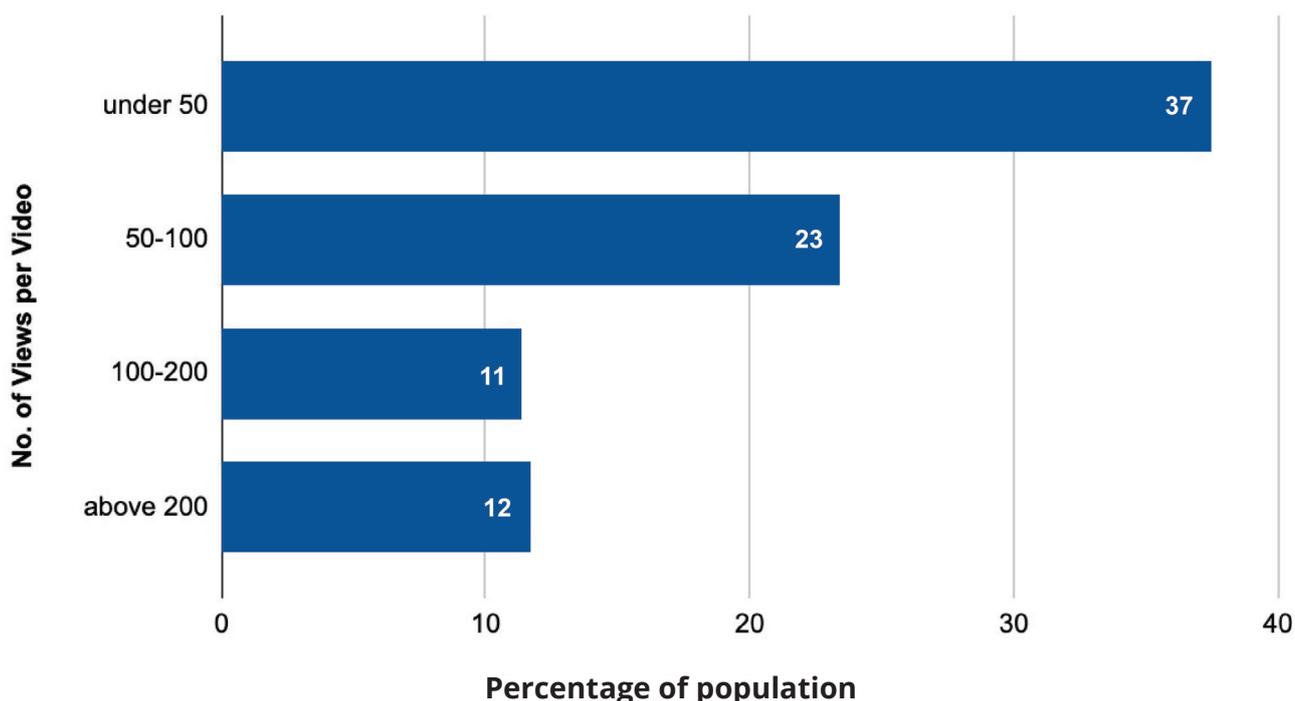
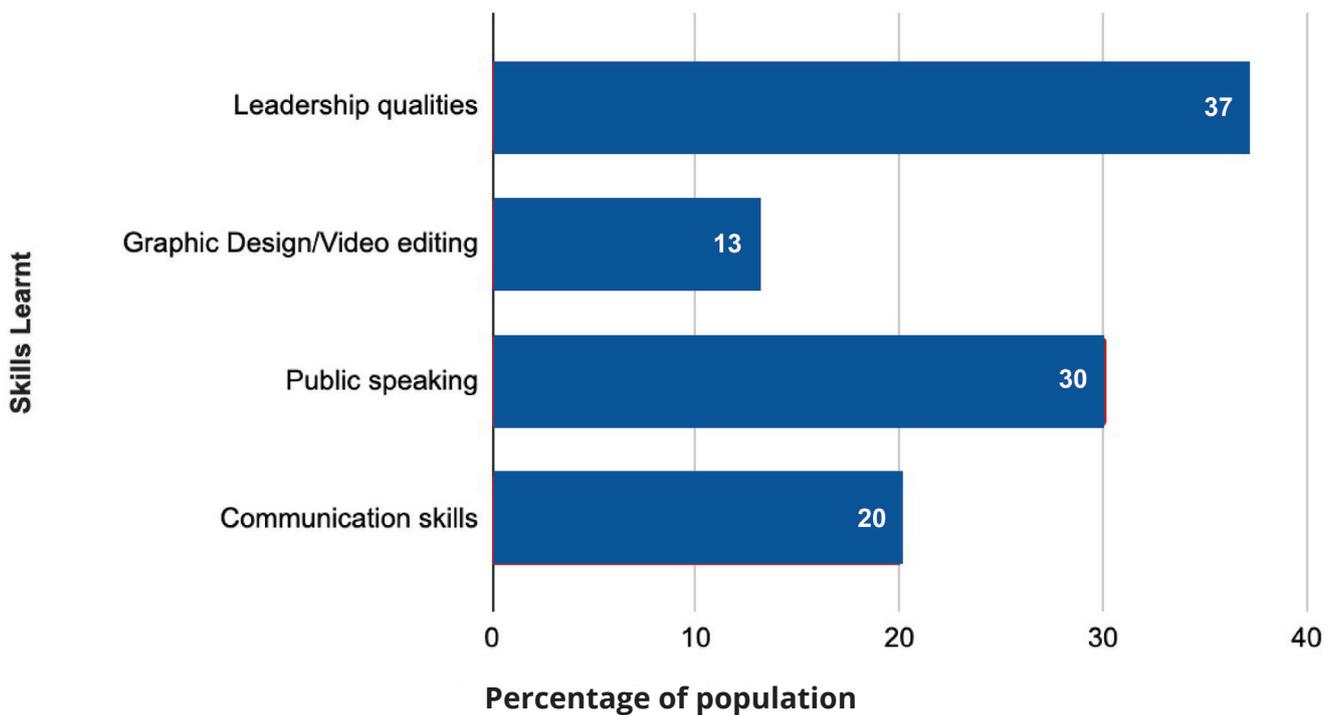


Figure 13 shows the audience’s engagement with the digital campaigns on plastics disseminated via social media platforms like YouTube and Facebook. In the age of social media, this is a powerful indicator to judge indirect outreach. **Around 60% of the population that participated in this activity reported receiving up to 100 views on their videos.** Again, taking into account the outreach of each participant, we can concur that the benefits of the programme branched out to a much wider audience than one can capture just in terms of the participant pool.

## Skill Development

FIGURE 14 - Responses on skill development during the programme



Of **597 participants**, 562 individuals across all age groups felt that this programme helped them develop allied skills. A prime example was learning soft skills so they could better advocate against SUPs.

The major skills imbibed during the course of this programme included leadership abilities, graphic design, public speaking and effective communication skills. A majority of the population felt that they gained leadership abilities and became better speakers, which would further allow them to work with authorities and put across their demands.

## VII. ENTRY LEVEL FINDINGS

Of all the participants who registered, around 50% didn't initiate the programme and of those who did, around 30% didn't go beyond the level 1 challenge. While the attrition rate for Massive Online Open Courses has historically been quite high, feedback and suggestions were taken from participants who didn't move beyond level one of the challenge, to understand how retention can be increased in the future.

We received a **total of 261 responses** at the end of three weeks, which is a small sample but gives us a glimpse into the issues that the participants faced and how the programme can be strengthened in the future.

### Demography

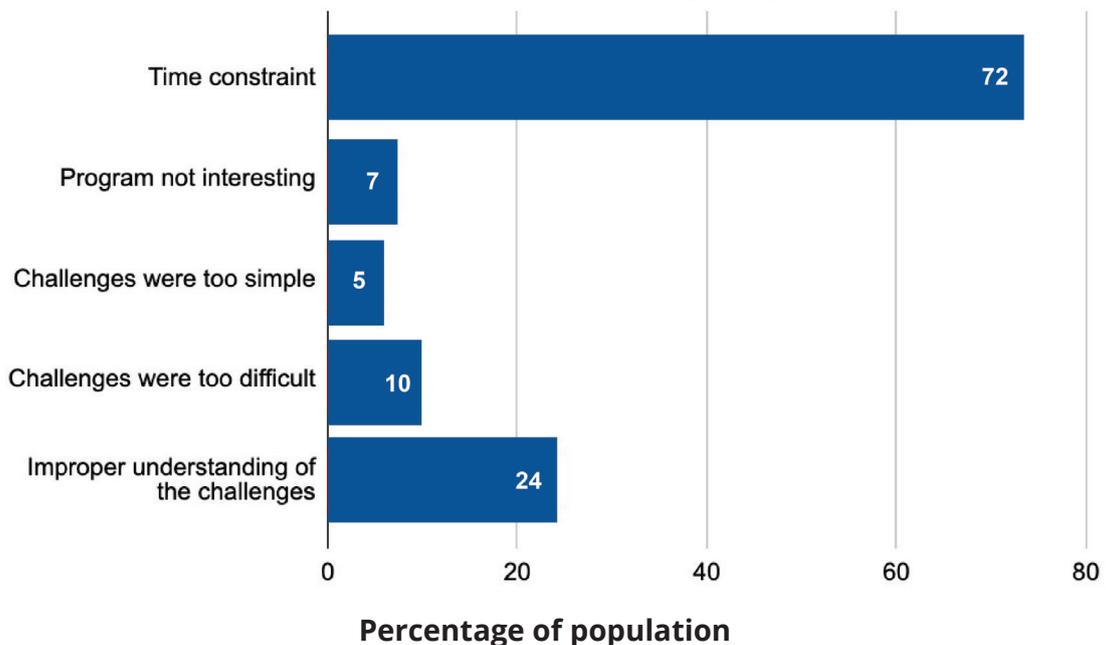
As seen in table 1, there is approximately an equal distribution of genders among level 1 participants. The highest participation in the survey was from college students.

INDICATOR	% OF RESPONSE
<b>GENDER</b>	
Female	46
Male	53
Prefer not to say	1
<b>BACKGROUND</b>	
School student	29
College student	58
Young professionals	13

TABLE 3

### Causes of Early Withdrawal

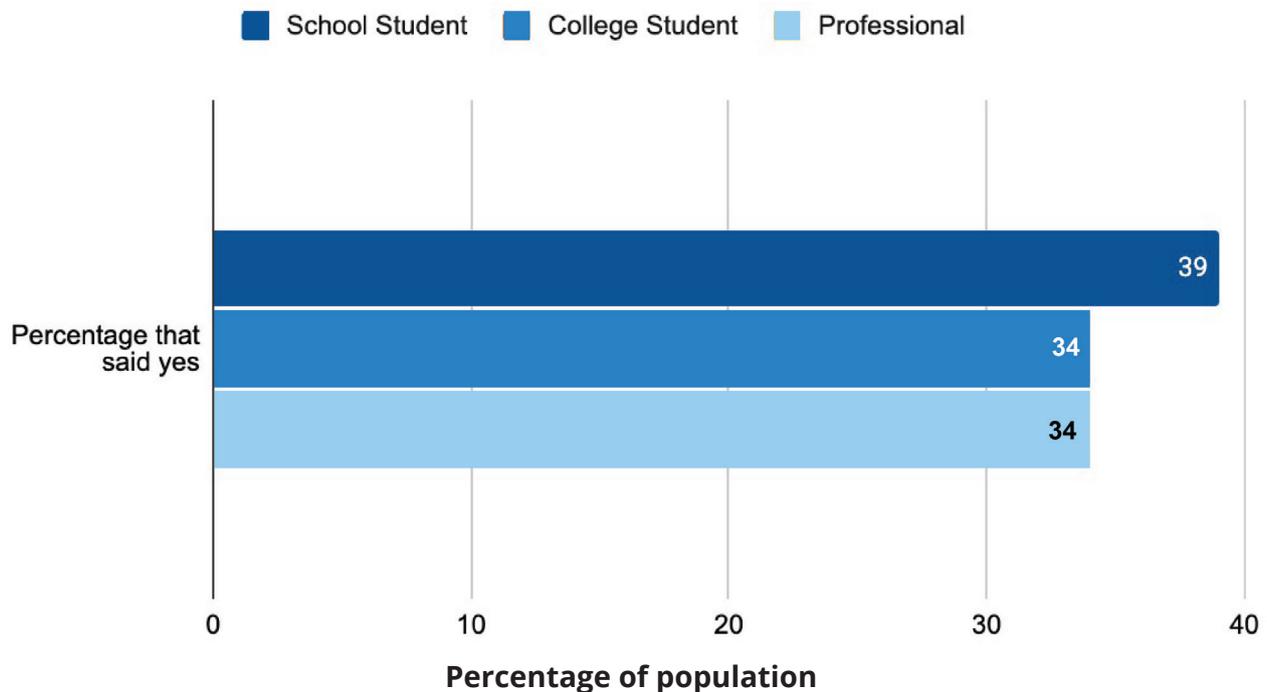
FIGURE 15 - Reasons for discontinuing the programme



**Figure 15** depicts the participants' reasons for not being able to complete the programme. The overlap in percentages is because the participants were allowed to select multiple responses. Approximately 72% cited time constraints as the prime reason for discontinuing the programme. This reflects that phase three needs to be planned such that the challenges can be carried out outside of college/work hours, and the duration should be long enough to allow everyone to easily complete the challenges. 24% of the population responded that they were unable to properly understand the challenges and the subsequent requirements, leading to the conclusion that the intensity of challenges was agreeable to most but the wording of instructions needs improvement.

## Technical Issues

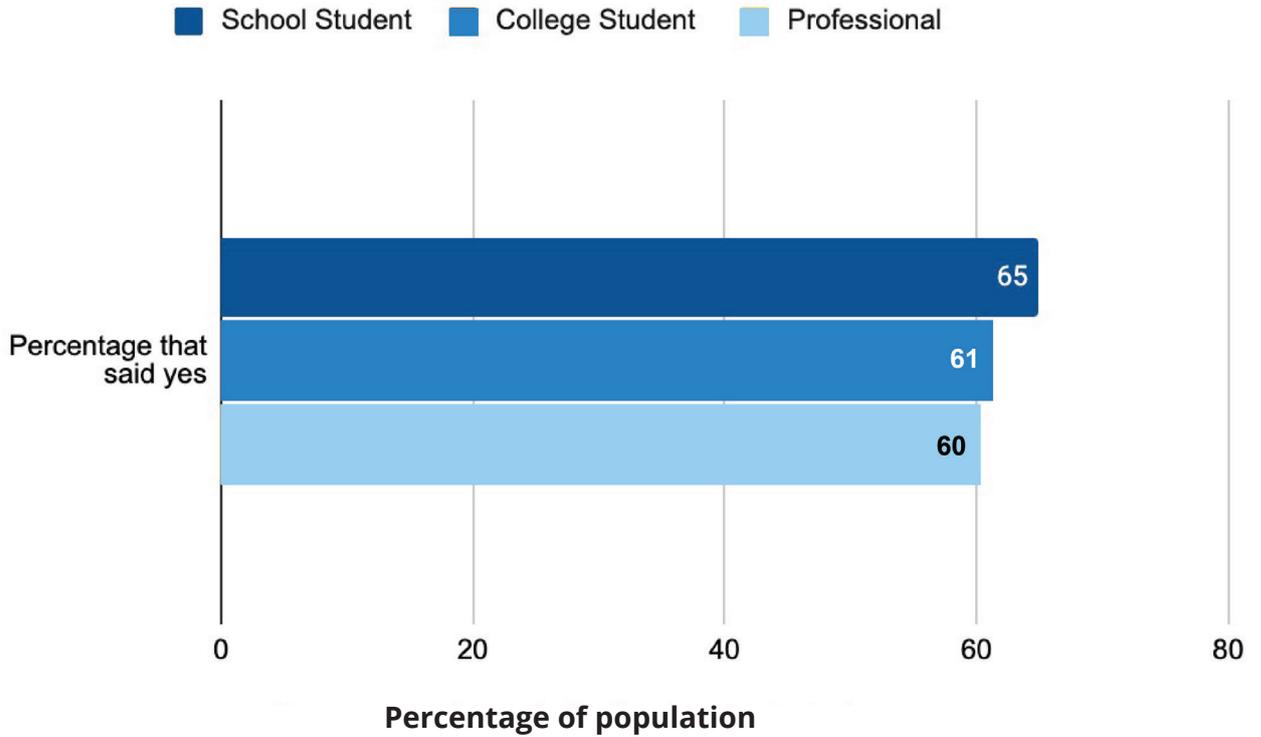
**FIGURE 16 - Responses on facing technical issues during the programme**



More than 30% of the participants reported facing technical issues. This demonstrates that the logistical issues should be rectified for the programme to work smoothly.

## Clarity of instructions

FIGURE 17 - Responses on the clarity of instructions

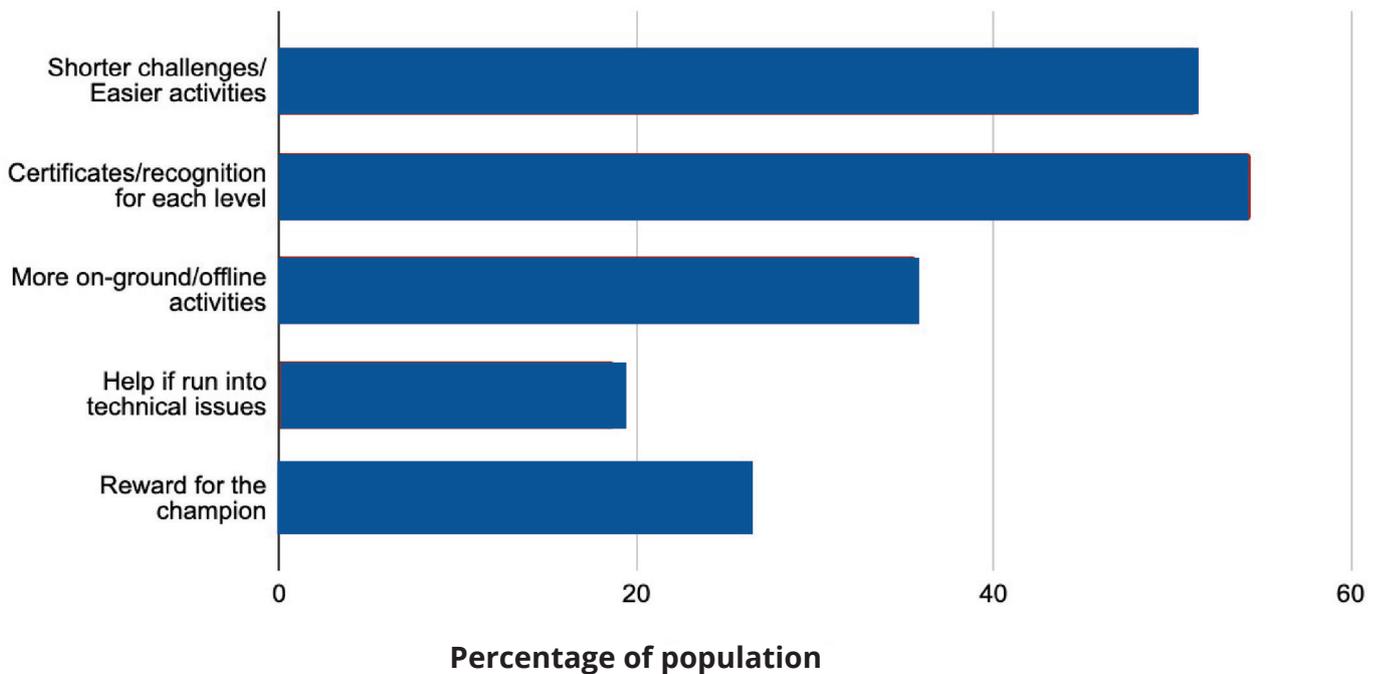


**Figure 17** depicts the comprehensibility of the instructions. Around 62% of the participants, of all ages, felt that the instructions were clearly specified and well-detailed.

However, as 40% of surveyees found the instructions difficult to follow, they could be more detailed and well-crafted in the future, with technical support provided where required.

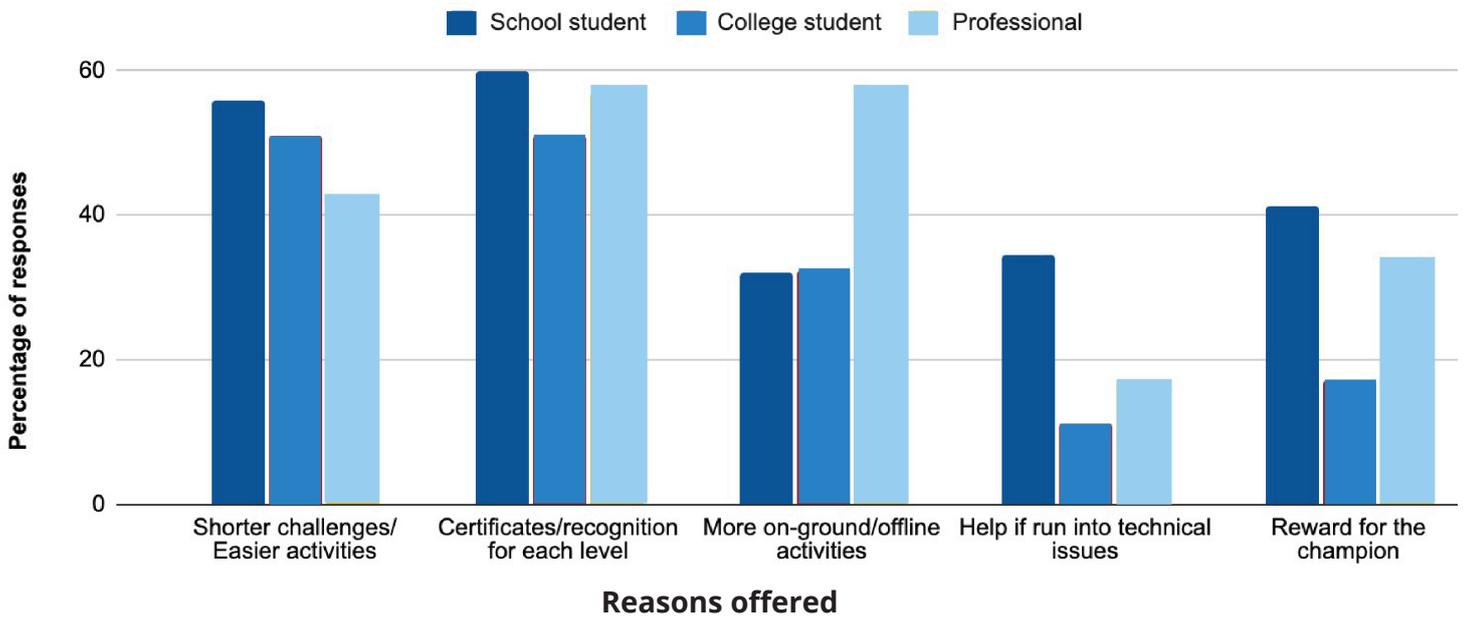
## Increasing Participation

FIGURE 18- Ways to encourage participation in the programme



Out of the **487 responses** (including multiple selections from some participants), around 54% felt that formal recognition at every level would have motivated them to carry on with the programme since during the third phase of the program formal recognitions in the form of certificates were handed out to youths who completed the champion level. Around 26% felt that a reward for the champion would have been a good incentive, and approximately 19% would have liked technical help.

**FIGURE 19- Ways to encourage participation in the programme**



**Figure 19** breaks down the previous results further, according to age groups. While the school and college students had similar responses to the average, around **57% of the professionals** felt the need for more on-ground activities. It is possible to conclude that customising the challenges to the age and background of the participants might help them perform better, and an increase in level-wise recognition could aid in motivating all participants to complete the programme.



## VIII. QUALITATIVE INTERVIEWS : FINDINGS

Qualitative interviews were conducted with the for Tide Turner champions, including students, teachers and facilitators who inspired and created an impact on their communities. The interviewees were shortlisted approached based on their high scores and the evaluation of their performance in the challenge activities, and selected based on their on-the-ground experiences as well as willingness to share their personal stories.

### 1. YOUTH CHALLENGE CHAMPIONS

Interviewees for this survey were between 12 and 39 years of age, and were a mix of school students, graduates and teachers, from different parts of India. Male to female respondents ratio was 40:60.

#### Lessons learnt

Participants gave a diverse set of responses when questioned about the key learnings from the programme but they can be consolidated into a few common themes. A significant number of them reported that they understood the imminence of issues caused by rapidly increasing plastic waste and its impact on their daily lives. One interviewee expressed that while they had heard of the term 'plastic pollution', this was the first time they learnt about the hard-hitting figures and that, in turn, made the problem more real and personal to them. Another emergent theme was the importance of reducing plastic waste. Interviewees noted that the programme made them realise that it wasn't just sufficient to reuse plastic, but it was essential to curb it entirely. One participant understood that no man-made plastic entirely decomposes, so the only way to mitigate the problem is to actively reduce consumption. Along similar lines, a crucial lesson learnt by all champions revolved around the idea of community awareness. They realised how important it is, not only to reduce consumption of single-use plastic themselves, but also to make other people understand the dire consequences of improper disposal of plastic waste and plastic pollution on the environment. Further, they realised that as

they convinced the community to reduce consumption of single use plastic, they also needed to provide affordable and innovative alternative options to use. One of the interviewees stated that replacing plastic bottles with copper bottles is not only sustainable but also beneficial to health, reflecting the possibility of reviving the age-old Indian traditional practices which were sustainable and environment-friendly. Champions also learnt that a very strong awareness drive is needed to motivate people. While most of them are aware, they do not implement sustainable practices and need to reiterate their commitment to preserving this world for the generations to come.

I came to know more about 4R's. I became more aware about plastic problems and understood the concept of sustainability. My communication also improved and now I have the confidence to communicate with the locals.

• Arfidha, Kerala



#### Change in attitudes and behaviours

The interviewees reported a change in their consumption of plastics, as they began to increase their usage of alternatives to plastic products. They came up with innovative solutions to adapt to sustainable lifestyles, and reused as well as recycled the products they could. They reported reusing plastic bottles for both decoration and as planters, using cloth and jute alternatives, increased their use of old newspapers over plastic coverings and switched to eco-friendly gifts. One of the interviewees also expressed how they empathise more than before with nature, and took extra steps to ensure a proper disposal of plastic waste to avoid it ending up in landfills. They

reported that a major reason for this shift was the carbon footprint and plastic audits that they performed during the challenge, which quantified the wastage and helped them convince their families to opt for environmentally friendly products. The champions also felt the need to drive more awareness campaigns to help induce large-scale behaviour change. One of them noted that they had begun visualising their surroundings differently, and whenever they go out now, they pay more attention to the litter around them -- something they didn't do before -- and take action.

The challenge changed me to a large extent. I did a plastic audit for the first time and it was truly eye opening. While I was already conscious about my consumption, doing this audit made me realise the ways I could further curb my use and I am much more careful now.

• Roshan Saxena, Madhya Pradesh



## Innovative solutions and actions taken



This phase of the Plastic Tide Turners Challenge saw a lot of **innovative ideas adopted by the youth to ensure that less plastic ends up in landfills**. One of the champions reported using biodegradable coconut shells as pots for plants instead of discarding them, which controlled waste disposal, and also provided extra nutrition to the soil. Other champions created art and DIY products from plastic, like pen stands and flowerpots from bottles. One interviewee also came up with the idea of a competition to persuade their society members to incorporate pots made from plastic bottles.

Several of these solutions came about through on-ground actions such as beach clean-up drives. The waste collected from beaches was recycled and made into eco-bricks. The awareness drives also resulted in some of the local vendors opting for a better alternative of selling plastic bottles instead of plastic pouches, which they collected later from customers and recycled for monetary gains. Participants also came up with **digitally innovative ideas to educate people** - one participant reported making videos and simple quizzes for their neighbours that resulted in, for the first time, people segregating waste in the society. Another ingenious idea implemented by a student involved putting up placards urging people to not litter at tourist spots in their city. Participants carried out door-to-door campaigns and, while they initially found it challenging to convince people, they received a fairly positive community response by the end of the programme.

In order to further spread the message, a Tide Turners Challenge (TTC) champion, Aditiya Mukherjee, wrote to the MP of Thiruvananthapuram and policymaker, Dr. Shashi Tharoor, asking them to join the movement. As a result of Aditya's efforts, Dr. Tharoor used his social media influence to mobilise citizens to take the first steps, and also pledged his support to the cause of reducing single-use plastic in his constituency, working with other stakeholders to address this issue at the state-level.

Through the challenge I realised that while we can introduce newer technologies, to see ground-level results we need to get communities involved actively into the process, be it through NGOs, local governments, or door-to-door campaigning.

• Eldon Soshley, Shillong



The challenge has provided us with new ideas and technologies by which we can focus on reuse and recycling of plastic waste. Hope we will be able to implement the learnings through the support of others in the future.

• Mansi Thakar, Gujarat



## Feedback about the programme

Overall, the interviewees gave exceedingly positive reviews. They found the online programme useful as they could follow it from the safety of their houses. Interestingly, they also reported learning new technical and soft skills, especially improved communication, public speaking and innovative use of the digital media.

Participants appreciated the ease of the format. However, they did have some concerns, the most common being the mode of language. They felt the programme would reach more people if it was free of language barriers

Another feedback was the proposal to include all age groups -younger kids could be sensitised early, and elders would bring more experience. Several interviewees suggested that the programme should be tailored to the ages or educational qualifications of the participants, and that the challenges should be curated in a way that everyone could understand and perform them within their capacity and experience.

There was also a suggestion that the challenge could support young people with stakeholder mapping in their region and include a roadmap that they could follow, to make an activity reach the right authorities on time.

Interviewees suggested that there should be an assessment, both before and after the programme, to capture the growth in their knowledge, change in their attitudes and how they contributed to society. Measure their development during the course would further motivate them to be more proactive.

Some appreciated the design of the format and its ease in understanding the concepts, the training workshops that helped them gain skills to work efficiently, and the plastic audit as a good way to reflect the quantity of plastic consumed over time. They did suggest that, given how interesting they found the videos, they would like more audio-visual tools in the next phase.

One of the interviewees offered a rather interesting suggestion, noting that they would like to know more about how the problem is being tackled by various countries and multinational firms. Since the problem is global, it should be viewed in that respect. Learning from the exemplary work of other nations could motivate participants to think out of the box while also holding their local authorities accountable.

## Potential activities for phase 4

One of the champions suggested including more ground-based activities, like dramas, street plays as a part of community engagements and participatory school activities. Other suggestions included adding more inspirational DIY content and interactive videos for participants on the website, and including more activities that require creativity like curating poems, shooting a small film, and writing skits and stories to spread awareness. They also asked for a deeper engagement with the participants to support ideas and innovative solutions.

One interviewee suggested that participants with an interest in research should be encouraged and connected with others to perform in-depth research and maybe aim at being published.

Especially in this pandemic, ground activities were quite difficult and thus the online campaign was quite helpful to reach out to people and create awareness about the issue of single-use plastics. I could target more people.

• Sonia Pradhan, Orissa



I really enjoyed the online medium, it allowed me to participate while being safe. But I would love to work more closely with local bodies in the next phase and see how the plans can be put in action.

• Ankita, Myanmar



## 2. ECO-CLUBS

To shed light on work of eco clubs and their members as part of the challenge, interviews were conducted with the coordinators of 18 of the best-performing eco clubs across India.

### Lessons learned

One of the interviewees highlighted how their club came to learn about microplastics in the environment as well as in what they eat. They also discovered alternatives to the single use plastics and ways to reduce its consumption.

Various eco clubs adopted the process of maintaining a plastic diary to measure their daily consumption of single-use plastics as per the format of the challenge. They also learnt how to manage plastic waste, segregate it and properly dispose of it so it would not end up in landfills. They gained knowledge on the **5Rs of plastic waste** and **plastic consumption**, and the hazardous effects they have on the environment.

Another coordinator stated that they took up more initiatives, specially to sensitise students early, to the benefits of using sustainable alternatives to plastic. The club now organizes meetings once every week to discuss plastics and give updates on plantation drives, clean-up drives, and other activities that they carry out. The eco clubs also acknowledged the lack of management as well as implementation on rules and regulations.

### Value-addition in the Existing Model and New Approaches

Most of the eco clubs believed that the programme and the activity-based approach of the challenge increased the involvement of the students, when compared to the usual eco club activities. They were motivated to take individual actions, such as proper disposal of plastic waste, stopping the use of plastics lunch boxes, educating the communities, using cloth masks, and making paper bags.

The programme inspired students to work, not only within their campuses, but also at home and in their communities. The coordinators also felt proud that most of their students were able to successfully conduct activities at the village level, even during the pandemic.

Many of them pointed out that the challenge added a great value to the functioning of their clubs, and initiated valuable discussions.

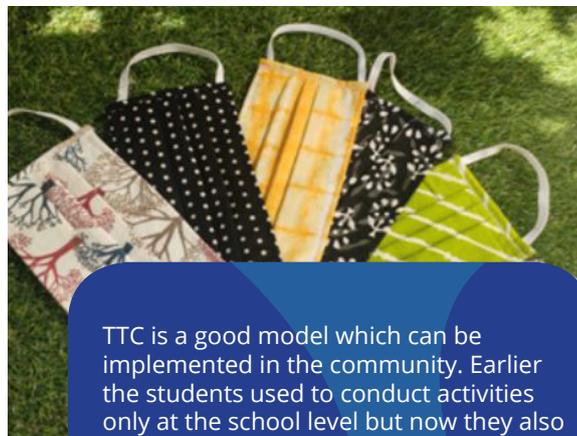
We can't remain without plastic because plastic has become a part of our everyday life. But we should know how to manage plastic. Keep them, recycle them, use them again and again. Through TTC, we all have learnt a lesson to use plastic in a wise manner.

• Sachin Jaiswal, Maharashtra



Children were more aware about the daily use of plastics and have now developed a habit of keeping the used plastics for a month. We have a plastic collection centre at school where students can deposit plastics every Friday. They sometimes come with their parents and take selfies as a matter of this small achievement

• Mitali Mehta, Maharashtra



TTC is a good model which can be implemented in the community. Earlier the students used to conduct activities only at the school level but now they also have started working in their own home and community.

• Anjili Maheswari, Ghaziabad



## Innovations and Actions

The eco clubs came up with numerous innovative ideas and actions including organising awareness drives, clean-up drives and plantations, promoting the use of sustainable alternatives like cloth and paper bags and distributing them to local vendors and shopkeepers, and, in one case, even taking up farming on campus.

As a part of the awareness drive, one of the eco clubs practically observed the recycling process by going to the field. As a result of this trip, they set up benches made from recycled plastic. Another eco club took up the challenge of cleaning up a local pond and collecting the plastic waste from the premises. Later, they ensured that this waste was disposed of properly with the help of the municipal corporation.

The youth from several of the eco clubs conducted webinars to make people in rural areas aware of plastic pollution. One of the clubs visited houses in the nearby village, where they explained the problems of littering and the benefits of using dustbins. Another club organised local community campaigns and put forward the idea of celebrating festivals in an eco friendly and sustainable way.

Before Tide Turners, our eco-club used to conduct routine activities on themes such as Plantation, cleaning and saving tenergy etc. Now on every Saturday we discuss plastic issues.

• Seema Agnihotri, Madhya Pradesh



Students have started avoiding the usage of plastic items, and single use masks. After they were sensitised, they have now started using cloth masks.

• Mohit Majumdar, Gujarat



## Major challenges

One of the most common challenges for the eco clubs was a lack of communication due to the technical glitchesc. While the online mode seemed convenient given the pandemic, a lack of cell phones/devices as well as inappropriate technical guidance was a challenge they had to face throughout.

Other eco clubs reported a lack of understanding in the people they encountered during the campaigns, since there was paucity of awareness amongst them regarding plastic pollution and harmful effects of single-use plastics. As one of the interviewees pointed out, **“while explaining to the locals how to stop the use of single-use plastics, they were even more keen to know why we can’t stop the manufacturing of the plastic itself”**.

A lot of eco clubs also identified time management as an issue.

Time management was a major challenge, as students were at their home and organizing the webinar or meeting was difficult due to non-availability of all the Eco-club members.

• Mohit Majumdar, Vadodara



Since schools were opened for limited standards, less students joined Eco-clubs and there was also lack of time for us to engage students in the challenge due to deadlines pertaining to syllabus completion and other mandatory school-level activities.

• Mohmad Ayaz Yunus Kholvadiya, Gujarat



## Feedback on the challenge format

Most of the eco clubs found the format easy and understandable, and acknowledged the toolkit available in various languages and presentations during webinars to be very useful.

One of the coordinators suggested having a report/document of the work done by other eco clubs as a reference and as motivation.

As the challenge engaged directly only with the coordinators, one interviewee suggested more student training as well as better establishment of connections between students and teachers.

Students were very excited by doing the challenge activities as they were very interesting. The concept became of great interest to them and that’s why they are so involved.

• Prabha Bhatt, Karnataka



## IX. CONCLUSION



First and foremost, our findings illustrate that there is a considerable demand among both students and young professionals across the country for digital education programmes, with **over 1.5 lakh participants enrolling** in the Tide Turner Challenge in 2021. It is evident that the current generation is getting more involved in finding robust, long-lasting solutions to this crisis and is seeking out programmes that, not only educate them, but support them in this venture.

The challenge has an **attrition rate of 57%**. While this is a considerable number, it is not unusual for open-source online courses. The movement restrictions during the past year could have also contributed to lower completion. Across participants who did complete the challenge, our responses reflect a high level of sustainability-related knowledge, attitudes and practices. Most champion level participants have adopted sustainable habits into their daily lives and are actively curbing plastic consumption. Though, it must be noted that these findings are self-reported and lack a pre-programme assessment cannot definitely attribute the knowledge gained from the course itself, as the participants who filled the survey may have already been pro-environment before the start of the course. Nevertheless, there is ample evidence suggesting that pro-environmental behaviour is fairly high in the participants, and the programme has played a role in positively impacting the behaviour of the community.

The findings also shed light on the nuanced impact of the programme on individuals and institutions in developing a deeper understanding of the problem and giving them a platform to explore solutions. The eco club analysis particularly goes to show how leaders from the remote areas of India are willing to learn, collaborate and innovate, if they are given the right guidance and resources. Another takeaway is the importance of including those from less privileged backgrounds and limited access to resources.

While this evaluation captures several key insights, an individual-level baseline and endline evaluation could be incorporated into the challenge to be able to aptly attribute changes in knowledge and behaviour to the programme.

## X. WAY FORWARD



As we prepare for the next chapter of the Tide Turners Plastic Challenge, the report will be an invaluable resource to design an even more rigorous and impactful programme, both in terms of the structure and evaluation. As for the course structure, **more community-driven programmes** will interest participants even in the remotest locations. **To increase outreach**, the medium of instruction should be expanded to incorporate major local languages and the website navigation should be improved.

**To increase the retention of participants**, the programme will be made more diverse; incorporating more on-ground activities, increased use of video-audio tools and more focused efforts in terms of target groups.

As for the eco clubs, it is imperative that the challenge is adapted to the ongoing curriculum and activities to influence as many students as possible. To further invigorate the clubs, an annual virtual meet or report presentation could promote **accountability, innovation and collaborations**.

Finally, the motive of the Tide Turner Challenge is not limited to introducing people to the subject of SUPs but **to inculcating values and practices that they can carry beyond the duration of the program**. In order to maintain this momentum, it is recommended that a platform or subsidiary programme be introduced to allow youth champions to seek guidance from and collaborate with local experts, government authorities and NGOs in their states.

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# ANNEXURE

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## Champion-Level Participants Quantitative Survey

### Knowledge

1. According to you, does plastic pollution remain localised to an area?
2. Do you know how many years it takes for plastic bottles to decompose?
3. Which of these contain plastic?
4. Which type of plastic can not be recycled?

### Attitudes and practices

5. Do you think the programme shifted you to segregating plastic and biological waste at home?
6. When you go to the supermarket for shopping, what do you carry the produce in?
7. After the programme, did you switch to environmentally-friendly substitutes of common household plastic goods?
8. If the answer to the above question is no, why?
9. Which practice have you started following after the programme?

### Advocacy/outreach

10. Have you discussed sustainable and plastic-free ways of living with your friends/ peers?
11. You were asked to make educational materials on single-use plastics as part of the challenge. Approximately how many people were you able to reach out to?
12. As part of the challenge, how many people could you engage with through your digital campaign on plastics? (If you put posts/videos on social media, please report the number of views)

### Skill development

13. Do you think, apart from plastic awareness, the program helped you gain other skills?
14. If the answer of the questions above is yes, what was one major skill that you picked up?  
(Multiple choice)

### Program feedback

15. How do you think the programme can improve to increase your knowledge and interest in plastic pollution?
16. How would you perform the challenge to be conducted once it is safe to step outside?
17. Would you prefer to take the challenge alone or would it be more interesting in a group?
18. Which task did you enjoy the most and would like to be re-introduced?

19. Did you face any technical issues with the website while completing the programme?
20. Did you find the instructions for performing the challenges to be clear?

### **Demographics**

21. State your professional background
22. State your gender

### **Entry Level Participants Quantitative Survey**

1. What would have encouraged you to move ahead with the programme?
2. Why could you not continue the programme?
3. Did you face any technical issues with the website while completing the programme?
4. Did you find the instructions for performing the challenges to be clear?
5. State your professional background
6. State your gender

### **Youth Champions Qualitative Interview**

1. Details: Name, Age, Phone Number/ Email, City & Institution
2. What is the one big lesson that you learnt by getting involved in the TTC? What skills did you acquire as part of the challenge
  - a. Leadership qualities(taking initiatives at neighbourhood/city level)
  - b. Graphic Design/Video editing
  - c. Public speaking (Educating and convincing people about plastic pollution)
  - d. Communication skills(Improved writing/oration skills, ability to communicate with multiple people)
3. How did the challenge inspire you to change your attitude and behaviour?
4. What were the innovative solutions you came up with to tackle the issue of single-use plastics?
5. What action did you take at the community level? What were the outcomes/impacts?
6. Will you be interested in further training to strengthen or carry forward the initiatives?
7. What were the major challenges faced by you to complete the programme as well as taking action on the ground?
8. Was learning about single-use plastics through the online challenge helpful? How?
9. Is there any feedback on the format of the challenge?
10. If you were given a chance to design the Tide Turner Challenge 4 what activities will you include or what would you do differently?

## **Eco-clubs Qualitative Interview**

1. Details: Name, Phone Number/ email, City, State & Eco-club name
2. What is the one big lesson that you learnt with your involvement in the TTC?
3. Do you think the involvement of students in TTC was more as compared to the usual eco-club activities?
4. Do you feel the online format of TTC was effective for students to learn about single-use plastics? Why?
5. Was TTC able to add any new approaches or value in the way Eco-club functions? If yes, what ?
6. What community outreach activity did students take up? Any innovative projects /activities that could be highlighted?
7. What were the major challenges faced by you?
8. Feedbacks
  - Did the reporting mechanisms and formats? work well?
  - Were your resource requirements (toolkit, PPT etc) fulfilled? If not, what kind of resources were needed?
9. Any additional learning/ inputs?



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