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## Exploring Climate Change and Plastic Pollution Related Perception and Awareness Level among Working-class People of Rangpur, Bangladesh

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### Abstract

*Probha Aurora - a social enterprise from Bangladesh envisions a world with climate-conscious teenagers and young adults. Aligned with its mission, it has planned to launch a nationwide awareness campaign, and commissioned this baseline study. The purpose of this study is to develop benchmark information about the target group, use lessons learned and guide future programs in other areas of the country. The findings indicate lack of proper awareness, accurate knowledge, willingness to act, and direction to safeguarding about climate change and plastic pollution among the majority of the working-class people, especially, rickshaw pullers and day laborers.*

### 1. Introduction

In 2021, “Probha Aurora” as a social enterprise launched activities addressing climate change through engagement of teenagers (10- under 18 years) and young adults (18-35 years) towards fulfilling a vision of a world with climate-conscious teenagers and young adults who embody strong moral values and demonstrate ethical behaviors in work. Also, it has been working as a team-member of Risk Communication and Community Engagement (RCCE) led by the UNICEF Bangladesh. Aligned with its mission, it has started to implement a country-wide program to engage young adults, educate and build their awareness about climate change and plastic pollution. Before adopting the nationwide awareness program, a baseline study was conducted on perception and awareness among the working-class people -- rickshaw pullers and day laborers -- in Rangpur, a divisional city of Bangladesh. Besides, during the campaign, Probha Aurora also distributed Protector (Hat or Cap made with bamboo and leaves, locally known as ‘mathal’) and reusable masks among the target group. This article provides relevant information, evidence and experience for future use in programs in this regard.

### 2. Impacts of Climate Change and Plastic Pollution

Climate change is a global concern, which affects and will affect everything around us in varying degrees sooner or later. It mainly disrupts the Earth’s temperature equilibrium during the course of global warming with a higher concentration of greenhouse gases, and poses a significant threat to humans and the environment. Environmental pollution is

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another important aspect, contributing to climate change and biodiversity, especially plastic and polythene. To save the next generation from having grim future, responsive actions need to be taken immediately. Bangladesh is a hard-hit climate change country mainly because its low elevation, population density and inadequate infrastructure and an inadequate economy focused on farming. It is feared that by 2050, one in every seven people in Bangladesh will be displaced by climate change. About 28 percent of our people live in the coastal areas where the major driver of their displacement is tidal flooding due to sea-level rise. The process of sanitization has also been aggravated by rising sea levels. Riverbank erosion is another cause of climate displacement. Riverbank erosion may account for up to fifty percent of the urban slum dwellers in Dhaka city alone. Due to the changing pattern of rainfall, drought is now more frequent in the drier north-western regions of Bangladesh which attributes to crop yield loss. In the hilly north-eastern and south-eastern regions, landslides create loss of life, property and lead to the displacement of climate affected people.

Again, plastic pollution is one of the most pervasive environmental concerns for our world. The production of disposable plastic products is increasing rapidly. This easily overwhelms the world's ability to deal with this plastic waste. Production and development of thousands of plastic products augmented mainly after World War II and it paved the way for transforming the modern age. However, the cheap price and conveniences of plastic led to a throw-away culture that reveals its dark side. Now, single use plastics account for forty percent of the total year's production. Many of these products have a lifespan of a few hours but once discarded, these may linger on the environment for hundreds of years and cause havoc on nature and biodiversity.

In Bangladesh, estimated 0.8 million tons of plastic waste is produced here annually (Juliana AIS, et al, 2014.) Out of total plastic waste, only about 36 percent waste go through recycling process while 39 percent find their destination in landfill and the remaining 25 percent is thought to end up in the marine environment (Z K Mohammad, 2019). It is estimated that in Dhaka city per day some 14 to 15 million pieces of polythene bags are discarded and thrown away in trash, garbage or litter after using for once (H Shafiu, et al. ? ) All this plastic waste creates havoc on our nature and biodiversity.

### **3. Distribution Campaign and Baseline Study Objectives**

The national awareness campaign started with the working-class population in Rangpur- a divisional city of Bangladesh. The rickshaw pullers and day laborers in Rangpur city were targeted for awareness campaign. Along with the campaign, Protector (Hat or Cap made with bamboo and leaves) and reusable mask were distributed among them. The objectives of this awareness generation and distribution campaign are as follows:

- Orient young adults on health education, COVID-19 and environment protection.
- Train young adults on how to wear Mask and how to maintain hygiene rules during a pandemic.
- Orient rickshaw pullers about COVID-19 prevention measures using WHO reviewed

prevention guidelines, climate change, harmful impacts of plastic, and decaying of our culture and tradition.

- Distribute free of cost 2 reusable masks and 1 Protector/ Chhauni among rickshaw pullers.

The general objective of the baseline study was to measure the baseline estimate of the level of knowledge, awareness and perception regarding climate change and plastic pollution among the target groups. The specific study objectives were:

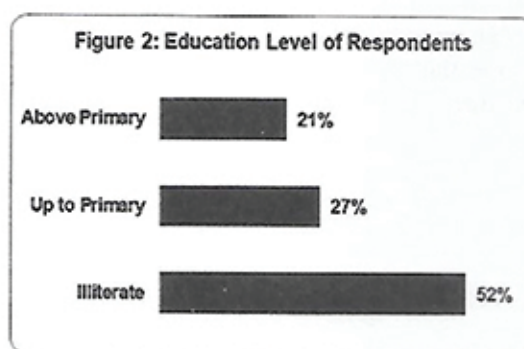
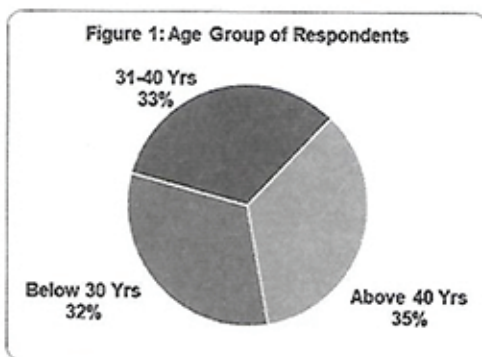
- To identify the level of awareness and perception among respondents regarding air pollution and common illnesses such as fever, cold, cough, etc.
- To gauge the level of awareness and understanding of the respondents regarding climate change and plastic pollution.

#### 4. Methodology

This was a cross-sectional study among the rickshaw pullers and day laborers in Rangpur city area, and approximately 3000 rickshaw pullers and day laborers live in the city area. The adjusted sample size was 300 with 90% level of confidence and 5% margin of error. Data were collected through interview from randomly selected equal number of rickshaw pullers gathered in four key locations of the city while doing the awareness campaign and distribution of masks.

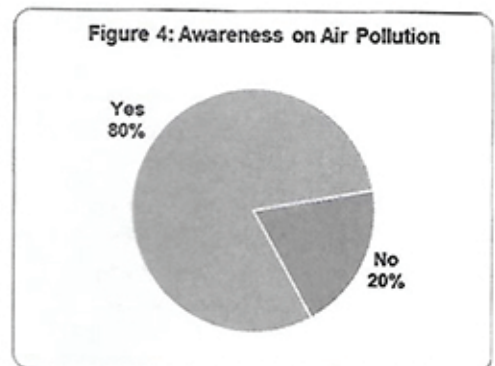
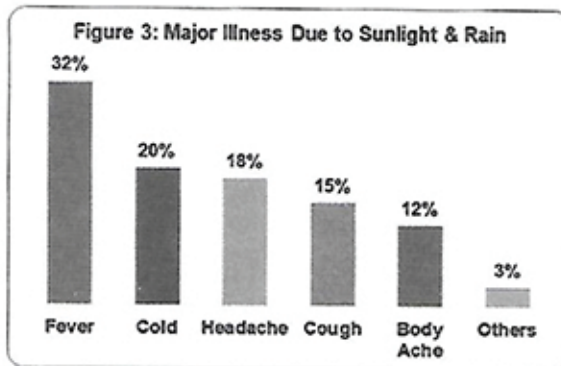
#### 5. Major Findings

Of the total rickshaw pullers and day laborers included in the baseline study, 32% were below 30 years old, while 33% belonged to age group 31-40 and 35% above 40 years (Figure 1). More than half of the respondents had no education (52%) while 27% respondents only studied up to primary, 27% and 21% above primary level of education (Figure 2).

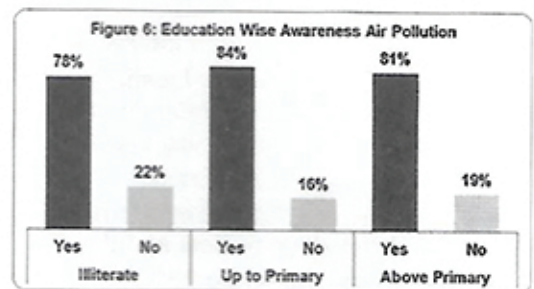
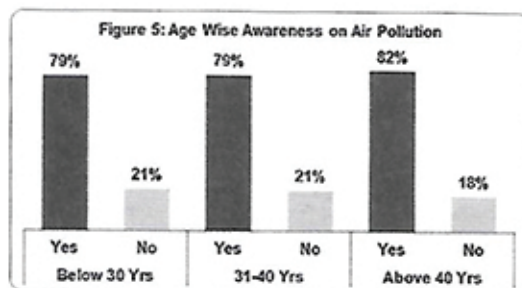


When the respondents were asked about the major illness, they normally face due to exposure of direct sunlight and rain, majority of the respondents reported to suffer at least one of the common illnesses after being exposed to direct sunlight and rain for long time. The top three reported illness included fever (32%), cold (20%) and headache (18%) (Figure 3). Regarding awareness about air pollution, four-fifths of the respon-

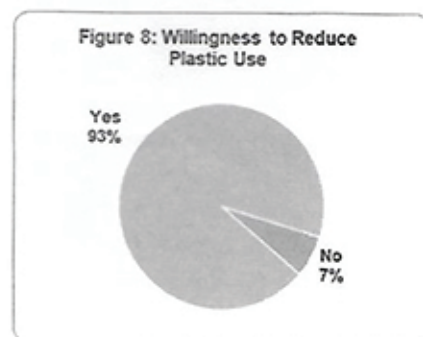
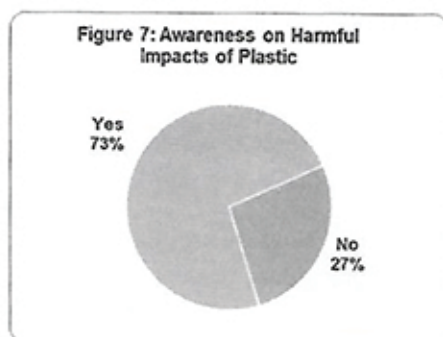
dents had some idea about air pollution (Figure 4).



There was high level of awareness on Air Pollution among respondents in different age groups (Figure 5) as well as among illiterate and educated respondents (Figure 6).

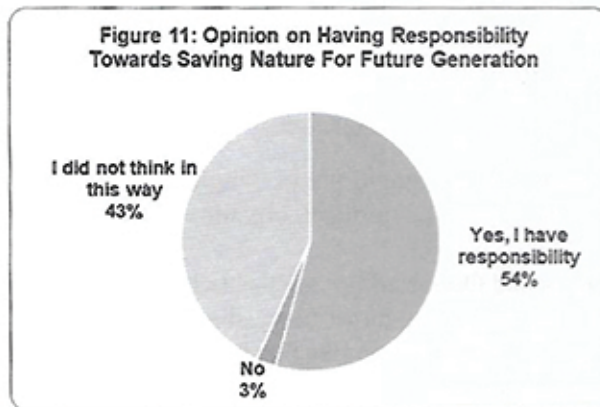
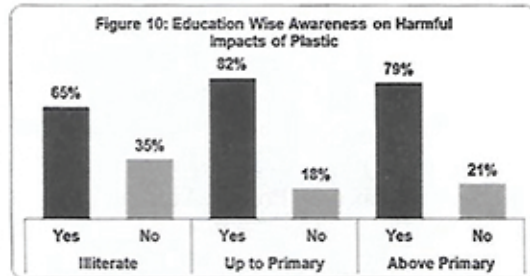
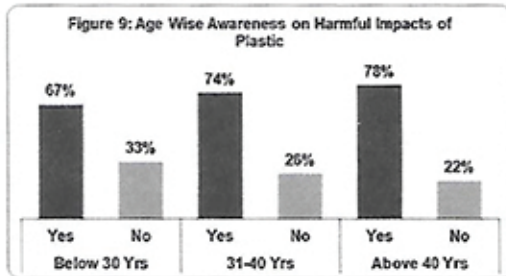


In response to the question about plastic pollution, little less than three-fourths of the respondents were aware of harmful impacts of plastic, while 27% respondents never heard about it (Figure 7). Those who were familiar with the terms, they lacked detailed knowledge on this issue, which was observed by the field supervisors during the data collection. After the special campaign, most of them (93%) agreed to reduce plastic use in their day-to-day life (Figure 8).



Age and education have been found to play a role in the level of awareness on harmful

impacts of plastic among the respondents. Respondents who were below 30 years, and illiterate were less aware about the harmful impacts of plastic compared to those who were aged above 30 years (Figure 9) and educated (Figure 10).



The respondents were asked about if they have any responsibility towards safeguarding the nature from climate change for future generation.. In response, only 54% of the respondents nodded “yes”, 43% respondents did not think that they have any responsibility in climate change issues (Figure 11).

## 6. Discussion and Conclusion

Bangladesh is the greatest sufferer of climate disasters. Climate-induced disasters have devastating effect on lives and livelihoods of disadvantaged people like Rickshaw pullers. The special campaign clearly indicated that focused activity increases the level of awareness and brings positive attitude among the working-class people. The involvement of young adults showed a positive impact in the knowledge and attitude among the respondents. Their acceptance of protectors indicates a positive behavior since exposure to sun and rain is likely to increase their vulnerability to illness.

The findings provided us with some insights, such as climate change awareness and perception level differs with age and education of the working-class population. The findings about literacy indicated a strong role in shaping up the level of awareness and knowledge among the rickshaw pullers and day laborers. The majority respondents were found illiterate indicating a strong literacy efforts needed for Rangpur. The findings indicated higher level

of education and higher level of awareness on air and plastic pollution among the respondents. Overall, it is expected that these region-wise data when combined with data from other regions will provide a national level baseline status for Bangladesh.

## 7. Recommendations

The scaling up of this activity is expected to bring a positive change among the working-class population and build better Bangladesh. As evident from the findings of the study, there are many opportunities to work and enhance knowledge and perception among the working-class population and incite actions against climate change and environmental pollution. To this end, Probha Aurora should conduct similar type of study in other regions and set up the baseline for the country. Probha Aurora should develop appropriate awareness building communications for age-specific as well as the illiterate segment of the target population to address their knowledge and practice gaps in air and plastic pollution. Apart from the young adults, other community stakeholders, such as, religious leaders can also be involved in disseminating the message among the working-class population.

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