

A Study of the Knowledge, Awareness and Behaviour Regarding Plastic Waste Management in Pune City

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Abstract:- Plastic waste is a problem for us all. Even though plastic is one of the wonder products the problem starts when it becomes a waste. As the populations grows so does the amount of waste. The waste generation is much more in the urban areas which creates a problem because of the volume and as the waste is not segregates Keshav Sita Memorial Foundation trust is a one of the leading trust in Pune city the works on plastic waste management wherein they create awareness of segregation at source and also collect waste plastic from various households this plastic is usually the post-consumer plastic which includes mainly packaging wrapping and other traditionally non recycling plastic Around 665 people from various backgrounds from various WhatsApp groups respondent to the questionnaire. The basic statistical analysis was done on a various subject ranging from the behind the participation in plastic Warrior project and to understand the Habit change which has resulted into the long lasting behavioural change. It has been shown in many previous studies that for a sustainable waste management one needs active participation from the garbage producers I the people who generate the waste at their home workplace or other places. The behavioural change takes more time but also has longer lasting affect not only on the behaviour of the person but the behaviour of the householders also.

Keywords:- #Plastic Waste Management, #Pune City, #Behavior Change.

I. INTRODUCTION

Plastic waste is a problem for us all. Even though plastic is one of the wonder products the problem starts when it becomes a waste. As the populations grows so does the amount of waste. The waste generation is much more in the urban areas which creates a problem because of the volume and as the waste is not segregates. The scenario in Pune city is much better than other places when it comes to segregating dry and wet waste. From the dry waste the recyclables are taken out by the waste collectors or the staff in the housing societies which supplements their income, and this helps in increasing the recycling of such items. The thin and traditionally non-recyclable plastic waste ends up in landfill as there is no monetary value for such type of plastic waste.

According to census he current estimate population of Pune city in 2024 is 4,436,000 and as per the Pune Municipal Corporation Pune city in 2023 generates approximately 2200 Mt of waste and around 400 MT of it is plastic waste.

In Pune there are many initiatives are undertaken by many NGO's and organizations such as Janwani, SWaCH Cooperative, Adar Poonawala Clean City Initiative who are involved in various activities such as creating awareness, cleaning streets, collection, segregation of recyclables. There are many NGO's who work independently on various issues concerning waste in the city. Pune has always been a vibrant city and was well known for its education sector but in last few decades the city has also come to be known as the IT hub.

➤ *Plastic Warrior Initiative*

Keshav Sita Memorial Foundation Trust is a charitable organization founded in 2003 under The Bombay Public Trust Act 1950, has been working in Plastic waste management since 2014. One of their projects is called as "Plastic Warrior" They create awareness of plastic waste segregation at source and collect the segregated plastic waste from many households, schools, colleges, offices, restaurants, industry etc.

They have different collection models in different cities, while in Pune and PCMC areas are divided into various parts of the city. The collection intervals are either fortnightly or monthly depending on the number of pick-up points, number of housing societies and availability of space at collectors' home or society. The communication happens through WhatsApp, wherein Plastic Warriors who require collection will send message along with number of bags of waste plastic. The back office of the trust collects this information and creates a collection list. Day before the collection a message is sent to all reminding them of next day's collection. On the day of the collection itself, the collection team from the trust will ring the Plastic Warriors half an hour before reaching the collection point, this ensures that the Plastic Warriors know the collection team is coming and if they need to inform the team of any changes or if they have forgotten to put the bags of waste at designated place in the society or the collection point. One collection team can visit anywhere between 70 to 120 pickup points in a day. There are two such vans plying on different routes in the city. The team has weekly off on Sunday but sometimes if they have missed any day due to holiday or waste collectors leave on the previous week.

II. METHODOLOGY

Keshav Sita Memorial Foundation trust is a one of the leading trust in Pune city the works on plastic waste management wherein they create awareness of segregation at source and also collect waste plastic from various households this plastic is usually the post-consumer plastic which

includes mainly packaging wrapping and other traditionally non recycling plastic. The trust has been collecting waste plastic from across Pune and PCMC for more than 11 years.

The trust calls this project as plastic Warrior and there are more than 1.5 Lakh people actively involved into this project in Pune city. For this research study a questionnaire was formulated after speaking to the employees of the trust with regards to the habits of various householders.

The question and was send to various people to understand they motives behaviour with regards to plastic waste. Google form was created and was sent via WhatsApp to various participants.

Around 665 people from various backgrounds from various WhatsApp groups respondent to the questionnaire. The basic statistical analysis was done on a various subject ranging from the behind the participation in plastic Warrior project and to understand the Habit change which has resulted

into the long lasting behavioural change. It has been shown in many previous studies that for a sustainable waste management one needs active participation from the garbage producers I the people who generate the waste at their home workplace or other places.

The behavioural change takes more time but also has longer lasting affect not only on the behaviour of the person but the behaviour of the householders also. The sample was random sampling.

III. RESULT & DISCUSSIONS

The respondents have been part of Plastic Warrior project, so it is assumed that they do segregate plastic waste at home and then handover the same to the trust for further recycling. It was essential to know for how long the respondents have been segregating the plastic waste at home. This will show the length of habit of segregation and behavioral change.

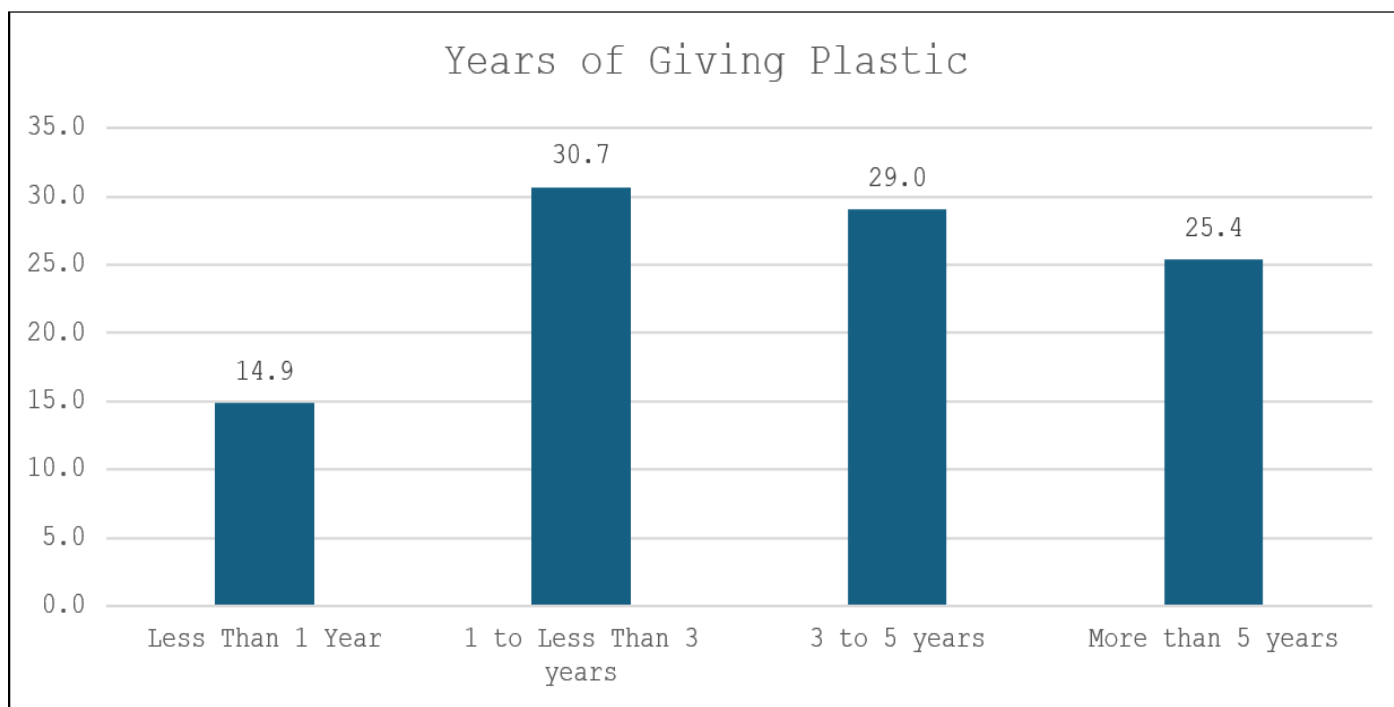


Fig 1 Years of Giving Plastic

The chart clearly shows that most people around 85.1 % have been part of this for more than one year. While 25% are giving it for more than five years. This clearly shows that the habit change in participants is high and consistent.

➤ Reason for Segregation

When respondents were asked what the reason for segregation of plastic waste.

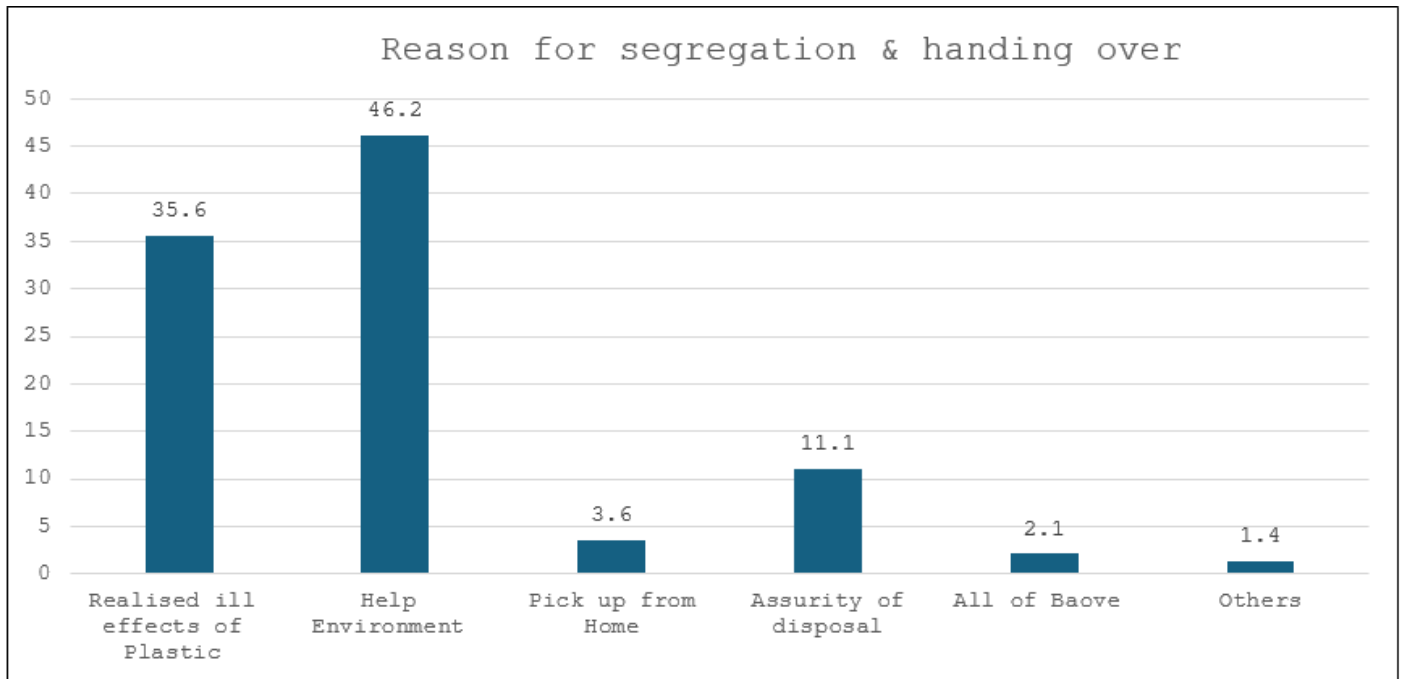


Fig 2 Reason for Segregation & Handing Over

The main reason people want to segregate is to help the environment (46.2%) while awareness plays major motivator also wherein 35.6% people have started segregating the plastic waste after realizing ill effects of plastic waste has on environment. This clearly shows that when people are aware they want to do something for the environment, and it starts with segregation of plastic waste at home.

➤ Motivating Factor

To further delve in to the reason and or motivating factor for segregation of plastic waste at the household level and giving it for recycling, researcher wanted to understand the motivation behind this.

Respondents were asked whether they think understanding the facts about pollution created by plastic waste converted you to be plastic warrior - or giving your plastic waste for recycling.

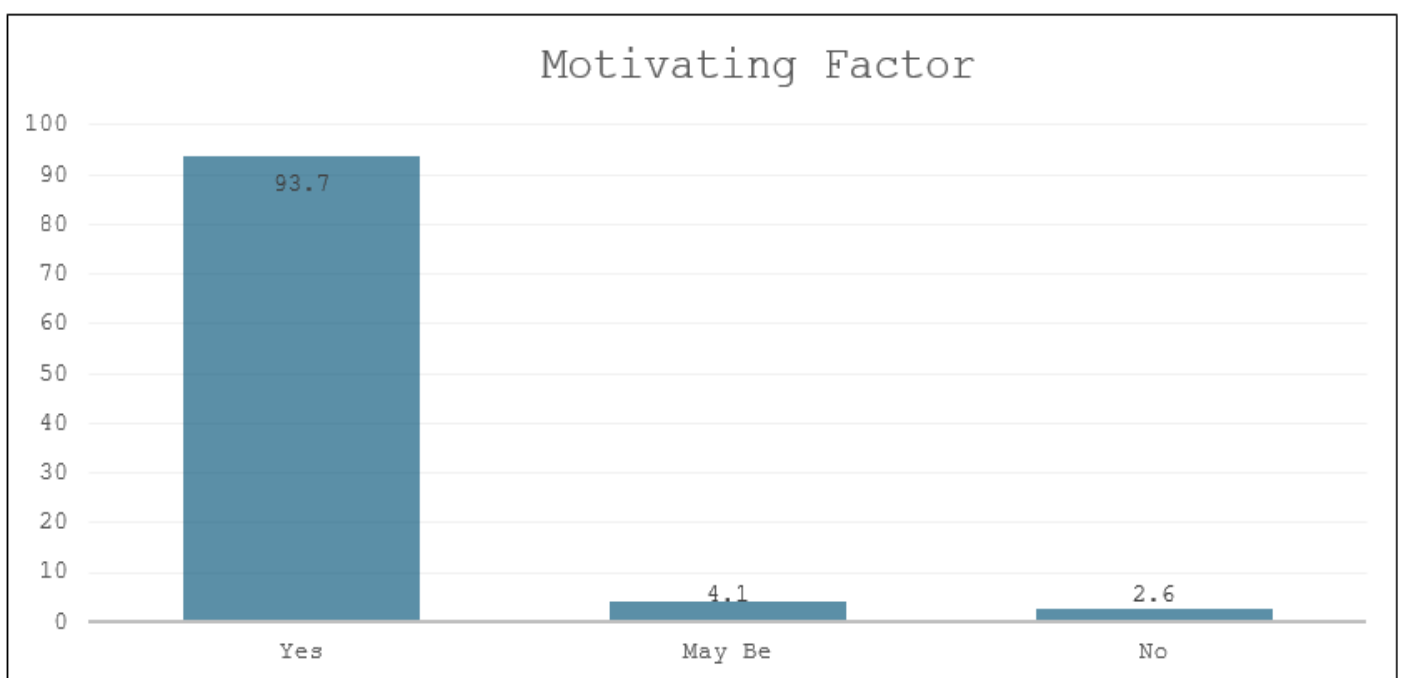


Fig 3 Motivating Factor

This clearly shows that when people understand about the facts of plastic waste pollution then it motivates them to be the segregator and handing over the plastic waste for the recycling. Here around 93.7% respondent have overwhelmingly stated that it is the major factor motivating them to this behavior of segregation at source.

➤ *Feeling*

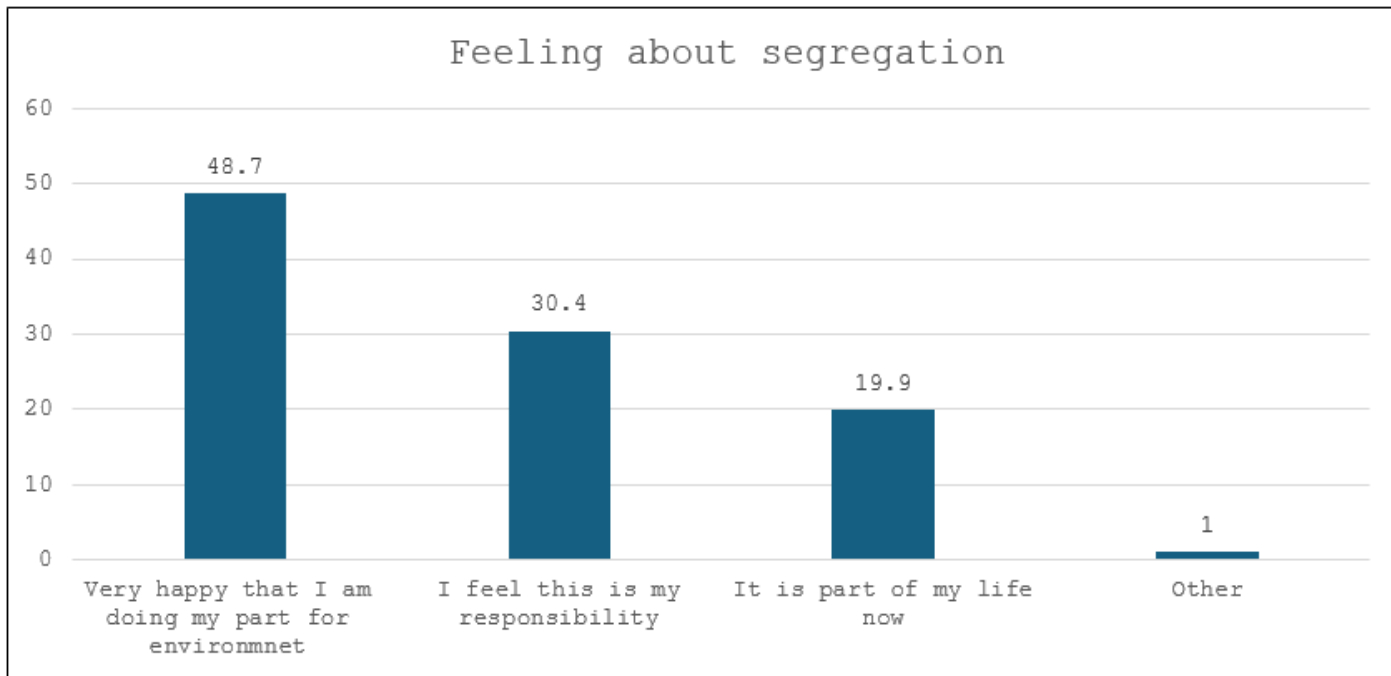


Fig 4 Feeling about Segregation

It is clear from the fact people are very happy (48.7%) and feel responsibility towards the environment and they also feel that they are doing their part to help save nature from possible pollution caused by the plastic waste.

➤ *Knowledge about Recycling*

Does knowing what happens to the plastic waste a motivating factor for the Plastic Warriors.

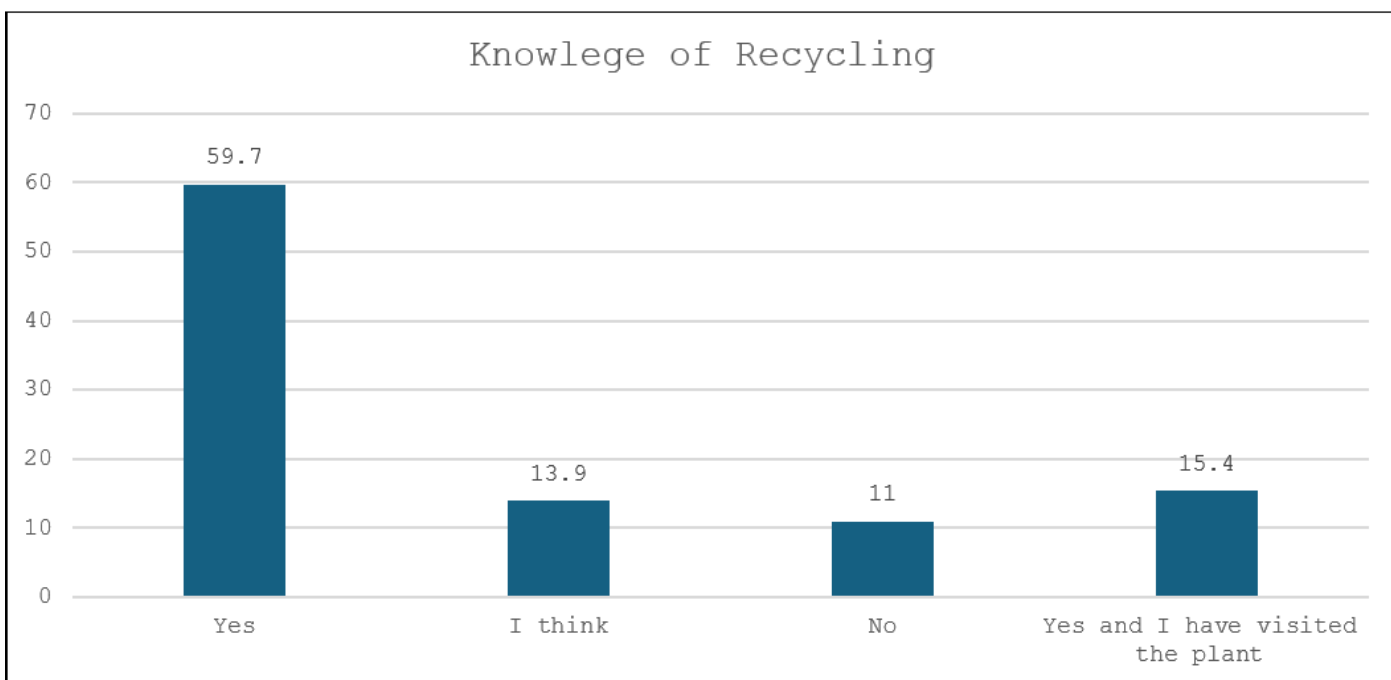


Fig 5 Knowledge about Recycling

The Keshav Sita trust has tied up with a company for recycling plastic waste. The transparency and traceability of plastic waste and clearly knowing what happens to their plastic waste helps people change their habits and their behavior,

IV. CONCLUSION

From the above data it clearly shows that awareness is very important factor in educating people to change their behavior and the awareness has be constant and must be supported by timely collection. The transparency of knowing what happens to their waste also helps in changing the behavior of the people. And once the behavior changes it is formed into habit.

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