

SOLUTION NAME

Solid waste Management

LOCATION

Kolkata

"Make the Case" Entry

TEAM NAME

WASTEND

SCHOOL

Indian Institute of Packaging

THEME 3 CASE STUDY



(Abstract) Describe the Plastic Waste Problem and The Proposed Solution

Problem: Being a financial hub of Eastern India, this city has a massive population density which in turn contributes to the increasing plastic waste in the city. Lack of proper disposal methods and awareness among the citizens are also responsible for the plastic waste problem in this area. Negligence is the main issue. Single-use of plastics commercially is another major reasons for the problem. Predominant use of pet bottles and its inappropriate disposal is also another issue. The problem has been prevailing in this area for about 10-15 years. Plastics waste management is of utmost importance that needs to be solved at the earliest.

Solution: The easiest solution is enforcing a ban on the single- use plastics at source (i.e. by closing the active manufacturing plants). The government has to enforce strongly on the laws that single use plastics are strictly banned on the market. Authorities have to build recycling mercenaries from where we can convert plastics into granules and hence by selling them waste management department can be partially financially independent.The long-term action is to educate our youth by gradually letting them know how these single- use plastics are doing enormous damage to our environment and how it is effecting our demography. Education department has to give more value to Environmental Studies and not make it "just another subject"

TITLE: THE PLASTIC WASTE PROBLEM, CITY

Kolkata, being a metropolitan city is densely-populated area and a workplace for numerous individuals. It is the primary business, commercial and financial of Eastern India

TEAM MEMBERS:

1. [Amrita Bhanja Choudhury](#)
2. [Pallavi Mukherjee](#)
3. [Deepmoy Mukherjee](#)
4. [Trishit Datta](http://www.linkedin.com/in/trishitdatta)

SCHOOL: Indian Institute of Packaging, Kolkata

ADD UP TO 4 PICTURES HERE

PART I: PROVIDE BACKGROUND INFORMATION

Briefly describe the city, town or village where the problem exists?

Kolkata, being a metropolitan city is densely-populated area and a workplace for numerous individuals. It is the primary business, commercial and financial of Eastern India.

Why is there a plastic waste problem in this area? What are the reasons for the problem? How long has this been a problem?

Being a financial hub of Eastern India, this city has a massive population density which in turn contributes to the increasing plastic waste in the city. Lack of proper disposal methods and awareness among the citizens are also responsible for the plastic waste problem in this area. Negligence is the main issue. Single-use of plastics commercially is another major reasons for the problem. Predominant use of pet bottles and its inappropriate disposal is also another issue. The problem has been prevailing in this area for about 10-15 years. Plastics waste management is of utmost importance that needs to be solved at the earliest.

What is the local government doing currently to collect plastic waste in the area?

The local government is practising curbside collection which request residents to separate designated recyclables from their household garbage and to place them into special receptacles, which are then set out at the curb for collection by municipal or municipally-contracted crews for its transfer to the recycling facility. The second collection method is drop-off recycling where containers for designated recyclable materials are placed at central collection locations and various civic locations. The containers are marked as to which recyclable material should be placed in them. Residents are requested to deliver their recyclables to the drop-off location and do the needful.

Are their additional local decision makers/stakeholders who should be responsible for solving this problem?

The local government is practising curbside collection which request residents to separate designated recyclables from their household garbage and to place them into special receptacles, which are then set out at the curb for collection by municipal or municipally-contracted crews for its transfer to the recycling facility. The second collection method is drop-off recycling where containers for designated recyclable materials are placed at central collection locations and various civic locations. The containers are marked as to which recyclable material should be placed in them. Residents are requested to deliver their recyclables to the drop-off location and do the needful.

PART II: YOUR PROPOSED SOLUTION

What do you propose to do to solve the problem?

The local government is practising curbside collection which request residents to separate designated recyclables from their household garbage and to place them into special receptacles, which are then set out at the curb for collection by municipal or municipally-contracted crews for its transfer to the recycling facility. The second collection method is drop-off recycling where containers for designated recyclable materials are placed at central collection locations and various civic locations. The containers are marked as to which recyclable material should be placed in them. Residents are requested to deliver their recyclables to the drop-off location and do the needful.

What resources do you need?

- **WHO WILL MAKE IT HAPPEN:** The primary individuals who would make it happen are the citizens itself. Government should act as the most active participant in solving the problem. Municipalities should actively look into the matter of providing the perfect infrastructure for plastics waste management to the people. Students can form small organizations and contribute in solving the problem.
- **WHAT ARE THE FINANCIAL RESOURCES REQUIRED:** Government should contribute a decent percentage in order to provide the infrastructures required for the plastics waste management. The plastics manufacturers should also contribute financial resources to the recycling units of plastics. Government aided funding should be done on the upcoming entrepreneur who are coming up with new ideas of biodegradable plastics.
- **WHAT WILL BE THE LEVEL OF LOCAL GOVERNMENT SUPPORT:** The local government support includes the municipality which would definitely extend its hand in managing plastics waste. Municipalities would provide the required infrastructure which includes the segregated waste collectors in different areas, conducting awareness programs and encourage the youth in coming up with new ideas of minimizing use of plastics.

How would you make your solution happen?

Firstly, planning the entire process and simplifying it as much as possible so that it can be absorbed by every kind of individual. Secondly, personal awareness is another aspect. Regulating self activities would do wonders. Thirdly, reaching out to the municipality with new ideas and inform them about any inappropriate activities like wrong disposal of plastics waste occurring around us making them take immediate measures to stop it. Reaching out to several organizations and collect funds to solve the ongoing major problem. Interaction with the students and bringing them to the field would add extra mileage in solving the problem

Describe the end result of solving the problem?

In our area during monsoon months, plastics waste lead to clogging pipelines which in turn affects the drainage system and leads to water-logging. Solving the problem would bring an end to this problem. Recycling of plastics waste would definitely save costs and would also minimize wastage. Replacing plastics with biodegradable alternatives would give birth to entrepreneurs in turn creating employment for many. Restoration of natural resources would take place. Creation of a happy, eco-friendly and healthier environment would take place. Involving students community in solving this problem would definitely bring awareness to them and encourage them to think for the betterment in future.

PART III: MAKING YOUR SOLUTION SUSTAINABLE

What has to happen to make your solution permanent (i.e., sustained) and not return back to its previous “problem” state?

To make the solution sustainable we have to divide our action into two parts.

1. One is short term by enforcing ban on the single- use plastics at source (i.e. by closing the active manufacturing plants).
2. Government has to enforce strongly on the laws that single use plastics are strictly banned on the market.
3. Authorities have to build recycling mercenaries from where we can convert plastics into granules and hence by selling them waste management department can be partially financially independent.
4. The long-term action is to educate our youth by gradually letting them know how these single- use plastics are doing enormous damage to our environment and how it is effecting our demography. Education department has to give more value to Environmental Studies and not make it “just another subject”

Assume you have solved the problem and made it permanent. In what scenario could the problem return?

Lack of supervision on initial state is necessary and if we are unable to convey of message to the people that how using the single use plastics is deteriorating us and our daily life is getting degraded gradually. So government has to give subsidy to non woven fibre bag so that by using those bags small entrepreneur can carry the cost to use eco-friendly options the single use plastics can come back. Another reason that these plastics can come back is to inability to make everyone understand the severity of using the single use plastics.

For long term results, is a new coalition of local stakeholders required? Do you need to change the behavior of local residents? Local government? Explain what needs to change, if anything, and why.

Yes, the main thing that has to change is the mindset of the mass and we have to reach and teach as many people as possible, otherwise just by imposing ban is not enough to make a sustainable solution.

PART IV: “MAKE THE CASE” TO REPLICATE THIS INITIATIVE IN OTHER LOCATIONS IN INDIA (OR WORLD)

How can this solution be replicated in other cities in India -with a similar problem to solve?

Yes, this solution can be replicated and implemented in other cities in the Indian subcontinent, and minute changes has to be done on the basis of one particular city. Few suggestions are:

1. Opt for reusable alternatives
2. Turn ‘single-use’ into ‘multi-use’
3. Design products with circularity and end-of-life consideration
4. Invest in products that can be reused multiple times in order to avoid purchasing single-use plastics. Instead of using Ziploc bags, bring your lunch to work in a Tupperware container. As opposed to purchasing large quantities of plastic water bottles, buy a reusable bottle that can be refilled throughout the day. Keep reusable cloth bags in your car to avoid using grocery bags after shopping. Bring a coffee mug to work instead of buying a new cup every morning. The possibilities are endless!
5. And finally influence on a large scale. The single-use plastic problem originates from large corporations mass-producing plastic. If people spread the word on social media, large businesses may be influenced to find greener alternatives. Consumers’ wants and needs drive what companies manufacture and sell. You have a voice, use it! Signing a petition to stop the production of single-use plastic. Also, don’t forget to support companies that are sustainable and advocate for the environment.

What challenges need to be overcome for replication?

While there has been a huge media and consumer focus over the past year regarding single-use plastic, there isn’t a single solution or clear route to reducing the amount of plastic used or even to replacing it. Indeed, from the stance of technical performance of the product, replacing it isn’t necessarily the right route for all applications. The many images of plastic swamping rivers and the sea clearly show there is a major problem that needs to be addressed. However, as in any situation, the problems need to be analysed rigorously and offset against the benefits. A whole range of different foods and drinks are packed in plastic packaging - protecting it during transport, helping reduce food waste and providing convenience.

The main and most common challenge for people will be finding the functionality of alternative materials compared to plastics.

However, the challenges that are needed to overcome:

1. Functionality of alternative materials
2. Cost
3. Consumer acceptability
4. Availability of materials
5. Infrastructure and waste management
6. Product life cycle analysis

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What circumstances must be present in order for this solution to be implemented elsewhere in India and its subcontinent?

Well, there are various challenges that are needed to overcome to in order to stop the single use plastics, but there are few circumstances that can help avoiding the challenges partially, if not completely. Knowledge about single use plastics and its impact on environment among people is most important. Followed by, comes the importance of local government. They are the one who will make this happen in the large scale. If the people work hand in hand with the government, then nothing can stop a nation from achieving the goal.

BONUS SECTION (OPTIONAL)

Please layout, step by step, what your team would need to do to convince the responsible stakeholder(s) to solve the problem, including the steps that would need to be taken to make the solution occur:

1. Identifying the problem
2. Explaining the problem and it's outcome
3. Explaining the possible solutions
4. Discussing the financial situations
5. Conversation regarding sustainability discussing about alternative options

Non-Monetary Resources Required:

- Man power
- Technical know how
- Government support
- Electric power and land resources

Tell us about any challenges your team encountered (and overcame?) in working on this Case Study

The biggest problem we faced while working on the case study was lack of organized data and lack of correct information about the current situation of single use plastics. But we were very lucky that we found Mr. Abhishek Chakraborty who have been working with the local government on the same issue and was able to tell us and guide us about the current scenario.

Tell us about any individual(s) who you interviewed who met and possibly exceeded your expectations, and embraced your efforts and solution. Part of writing a great Case Study is the research you do, and sharing those who were eager to help. It's OK if this person would rather be anonymous.

We had a grand success and had an amazing conversation with Mr. Abhishek Chakraborty. He explained us the current situation of single use plastics and how the government is working upon it. While having a conversation, we get to know a lot about solid waste management system, how the single use plastics are developed and why it cannot be recycled. He also told us how he successfully created the campaigns on banning single use plastics acts as a handholder to keep the town Kalinpong clean which is a famous location in West Bengal. He also provided an alternative there. He also explained that how we can manipulate the supply demand graph that will reduce if not completely eliminate the single use plastics.

PROFILES

TEAM LEADER: Trishit Datta, www.linkedin.com/in/trishitdatta

First year Post Graduate student pursuing Diploma in Packaging from Indian Institute of Packaging, Kolkata. Even though I am new in the field of packaging, I find this subject quite interesting! Well, that being said, I want to start my career in this field with an internship and then build enough experience and knowledge to start a full-time job. I am interested in technical and innovative type of work.

TEAM MEMBERS:

Deepmoy Mukherjee

First year student pursuing post graduate diploma in packaging from IIP KOLKATA, at graduation level where I had a paper in packaging that really make me turn my head and I decided to do specialization in this field that being said me being a team man I want to kick start my career with an internship to gather knowledge to start a fulltime job that involves technical knowledge and brain storming.

Amrita Bhanja Chowdhury

I have completed my BSc graduation in physics honors. While surfing through various application based fields I came across the course of packaging technology which is probably one of the fastest growing industry in the world. I would like to do an internship to cultivate the various new ideas on packaging which I nurture in my mind and gather knowledge which in turn would equip me with all the technicalities to start a full time job and progress in future.

Pallavi Mukherjee

My name is Pallavi Mukherjee, born and brought up in Kolkata. After doing my graduation in chemistry I came across this packaging course where I thought my ideas would get results. An internship would help me to brush up my practical skills and also give me an opportunity to work in a professional environment. This exposure would highly uplift my various skills and give me a hand in hand experience about how a company functions it's pros and cons.

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PLEASE PROVIDE THIS INFORMATION FOR THE JUDGES: REFERENCES/INTERVIEWS

INTERVIEWS (LIST PERSON, DATE OF INTERVIEW)

1. Mr. Abhishek Chakraborty, 01/02/2022
2. Mr. Digbijoy Chakraborty, 03/02/2022
3. Mr. Mahadeb Datta, 05/02/2022

DO NOT INCLUDE IN THE FINAL PRESENTATION THAT YOUR TEAM SUBMITS

DIRECTIONS FOR COMPLETING CASE STUDY

Dear Teams,

- 1) As a number of the winning Case Studies will be printed in the IPI Journal (https://www.ipiindia.org/journal_listing), we will award a small number of points for completing the Case Study by following these rules. Every team should receive the maximum points:
 - a. Please use Calibri font 10 for your answers.
 - b. Add your team's relevant information in the Header, replacing the placeholder name, location, team name, school.
 - c. Replace all "Lorem ipsum" passages throughout with your answers. These passages are placeholders for your answers.
 - d. Erase the (XXX words) and all other (Red Font directions) as these directions should not be part of your Case Study.
 - e. Replace the RED font with what is requested to add in its place, where applicable
 - f. Provide two PDF copies of your Case Study – one copy for the Reviewers that includes your case study as well as the For Judges Only and these Directions; and one copy with just your Case Study itself, ending after Part III as this would be the version that would be included in the IPI Journal.
 - g. Please adhere to the word limits.
 - h. Please keep this Case Study "template" format.
 - i. Complete the footer information with your information about your team and initiative name
- 2) Interviewing the stakeholders: As you view the Case Study Parts, it is designed to make your team provide a detailed background about the initiative itself, in its current state, and to think what could be possible if the current initiative had more financial and other resources in its current location; and, most important, how your team could recommend replicating/scaling the initiative and what has to happen. We hope you'll reach out to the stakeholders and work with them to answer these questions. The more comprehensive your answers, the more believable your answers will be, and the more credible your Case Study becomes.
- 3) Building the Story: In Parts II, III, IV and the bonus section, there are no wrong answers. Your Case Study should "Make the Case" why and how your initiative should be replicated and scaled. The more compelling your story, the greater the possibility that there will be interest by other stakeholders in India to replicate the initiative and reach out to CAPP.Global to see how they can get involved to do so.
- 4) CAPP.Global may showcase all winning Case Studies on both its web site (CAPP.Global) and the CAPPIndia.in web site. At the appropriate time, we will require written permission from the stakeholder your team is writing about.