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RESEARCH ARTICLE

RESCO (REUSABLE SUSTAINABLE COMMODITY)

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Abstract

What do we do with our e-waste? The answers would possibly be 'what is e-waste', 'office IT vendor' and 'collection boxes' to 'we just dump it in the dustbin' or 'put it in our cupboards for a long long time.' It is like that disposing of e-waste effectively (or at all) is not a priority because, we think, it doesn't really get in our way.E-waste recycling is a concept barely existent in India. As a result, the electronic waste generated is often dumped in rivers or in dump yards without proper treatment. This is hazardous for both the environment and personal health. Electronic waste (e-waste) is one of fast-growing trash streams in the country. Knowledge Growth and The Telecommunications Technology sector has improved electronic use equipment exponentially. Soon expiration and subsequent upgrades of electronic products, are compelling consumers discard old products, which then accumulate large e-waste in a solid stream of waste. E-waste is growing in India at a rate of 10%. Major recycling of e-waste is carried out in the non-formal sector using primitive and hazardous methods. . Adequate legal action and inexpensive, friendly to nature, A technical solution will be needed to fix the issue.With increasing production of electronic devices, the carbon emission is also increasing drastically. Even processes like recycling have a high usage of resources like water and electricity which are also (though in lesser quantities) degrading the environment. The UN has set up Sustainable Development Goals which set up certain goals that we need to match up in future.Seeing that a large amount of carbon emissions come from development of electronics, we decided to build a project that can help people to REUSE old electronic products.

Keywords: Reusability, Recycling, Android Development, Donation, NGOs

Introduction

Consumers discarded 53.6 million tonnes worth of electronics in 2019, globally up 20 percent in 5 years. But only 17.4 percent was recycled sustainably. India generates **about 3 million tonnes (MT)** of e-waste annually and ranks third among e-waste producing countries, after China and the United States.[5]

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The Indian industrial sector generates an estimated 100 million tons/year of non-hazardous solid wastes, with coal ash from thermal power stations alone accounts for more than 70 million tons/year. Over 8 million tons/year of hazardous waste is generated in India and about 60% of these wastes, i.e., 4.8 million tons/year is estimated to be recyclable and the remaining 3.2 million tons/ year is non-recyclable. In India, approximately 1.5 % of the total e-waste generated is recycled by formal recyclers or institutional processing and recycling, and another 8% of the e-waste generated is rendered useless and goes to landfills.

E-waste is not hazardous if it is stocked in safe storage or recycled by scientific methods or transported from one place to the other in small parts . The e-waste can be considered hazardous if recycled by old methods. E-waste contains several substances such as heavy metals, plastics, glass etc., which can be potentially toxic and hazardous to the environment and human health, if not handled in an environmentally sound manner. E-waste recycling in the informal sector by primitive methods can damage the environment.[2]

E-waste releases chemicals which are harmful, such as lead on burning, which have a detrimental effect on human blood, kidneys, and peripheral nervous system. When dumped at landfill sites, chemicals that flow into the groundwater affect both land and sea animals. E-waste decay is an expensive process and only a few developed countries can do so.[4]

The great generation of e-waste is not a new story, but it has also become the cause of climate change. According to a survey, 78 percent of respondents agreed with the statement: "COVID-19 has resulted in unnecessary temporary investment in technology, leaving us at risk of data loss for a variety of devices."[4]

In India, among top ten cities, Mumbai ranks first in generating e-waste followed by Delhi, Bangalore, Chennai, Kolkata, Ahmadabad, Hyderabad, Pune, Surat and Nagpur. The 65 cities generate more than 60% of the total generated e-waste, whereas 10 states generate 70% of the total e-waste.[4]

Related work

1. Karo Sambhav wants to bring manufacturers, distributors and recyclers together to coordinate their efforts to tackle e-waste, creating a more sustainable, circular economy. And Microsoft – which itself aims to generate ‘zero waste’ by 2030 – is providing the technology behind it.

Karo Sambhav seeks to reunite producers, distributors and recyclers to coordinate their efforts to tackle e-waste, and to create a sustainable, sustainable economy.

Electronic donations and recycling are a great way to help conserve resources and natural resources. It is important to make sure that you supply and / or recycle electrical equipment safely and efficiently.

- Recycling one million laptops saves the energy equivalent to the electricity used by more than 3,500 US homes in a year.
- For every million cell phones we recycle, 35 thousand pounds of copper, 772 pounds of silver, 75 pounds of gold and 33 pounds of palladium can be recovered.

2. United states environmental protection agency organises **Sustainable Materials Management (SMM)** Electronics Challenge every year for collecting and recycling e-waste.

3. **Saahas**, a sustainable waste management non-profit, will take your waste to collection centres across the city if you have more than 10kgs of e-waste.

4. In Hyderabad, you have a simple and efficient Internet of Things (IoT)-based platform, called **Sanshodhan E-waste Exchange**. It enables corporations across India and societies in the city of Hyderabad to transfer their e-waste to authorised recyclers.

5. **Karma Recycling**: This Delhi-based startup buys old mobile devices and sells repaired ones at a much cheaper rate.

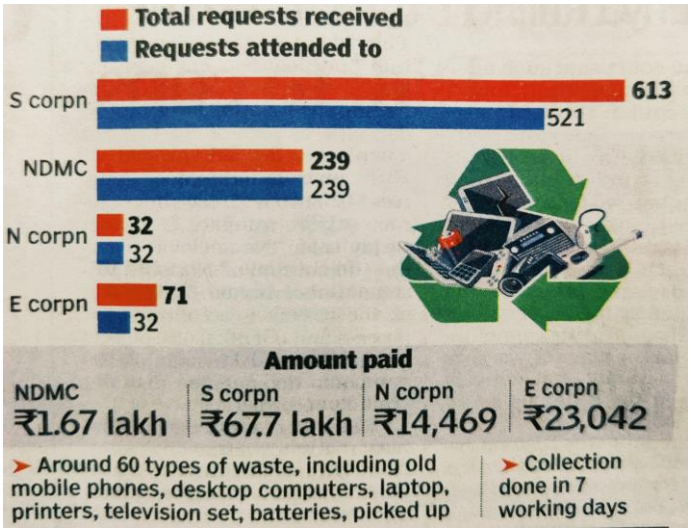
6. [7]To date, New Delhi Municipal Council, South Delhi Municipal Council, East Delhi Municipal Council and North Delhi Municipal Council have received 955 calls and applications from residents to collect waste from their homes. Agencies paid about Rs 70 lakh to those whose applications were processed.

Most of the calls are accepted for those living south of Delhi. SDMC, which started the e-waste collection program in June this year, received 613 applications, processed 521 of them and paid Rs 67.7 lakh to residents. The calls were mainly about the collection of old cell phones, laptops, central processing units, speakers, printers and batteries, taken by institutions registered with the Central Pollution Control Board and the Delhi Pollution Control Committee.

"We pioneered the project in the city but have only 52,000-54,000 households in our jurisdiction, explaining why the number of calls is less. We are still encouraging residents to use the platform to avoid inappropriate handling of e-waste," said an NDMC official.

EDMC, meanwhile, received 71 applications and considered 39 of them since the end of July, when it launched the project. The center paid a little over Rs 23,000 to residents.

North DMC, which launched the project this September, received the lowest number of calls-32. "Though the response is lukewarm, we have been pursuing departments to popularize the concept and contribute individually as well," said one of its officials.



Times of India

He added, "Three concessionaires are currently collecting items from the doorstep. They have specified their rates on the app and collect 60

types of e-waste free of cost. Residents can select the option that works for them and fix timings for collection."The official urged residents to dispose of old, obsolete and obsolete IT equipment through the e-waste management app, instead of selling it to garbage collectors in the informal sector..

E-waste contains complex combinations of highly toxic substances that pose dangers to health and the environment, according to officials.

How would we work

- By further exploring the idea we can save the environment and at the same time we can help the people in need who cannot afford such expensive electronics, so we will be solving the problem of e-waste disposal and for the poor and in need.

- Our project would focus on treating the electronic time before becoming it e-waste hence reducing the e-waste production.So we will focus on reusability of the electronic items.

This software portion entitled “RESCO” is very useful for any non-government organization to develop its social services in a more effective manner, so that they can improve society without any poverty and illiteracy.

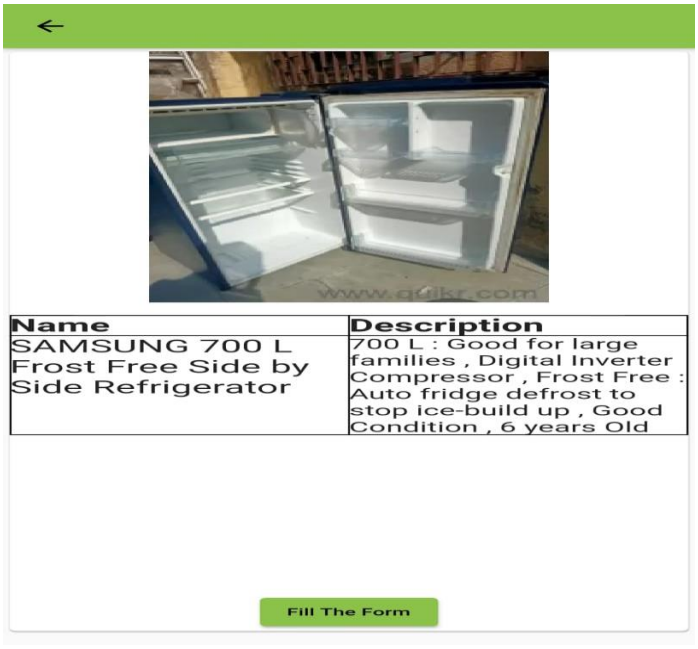
This project can help people to donate their old electronic gadgets like laptop, mobile phones, TV, electric induction, kettles etc. or even the things like extra electrical extension boards. They would get a platform to reach out to NGOs[7] easily and would be able to help the needy people with only a few clicks.

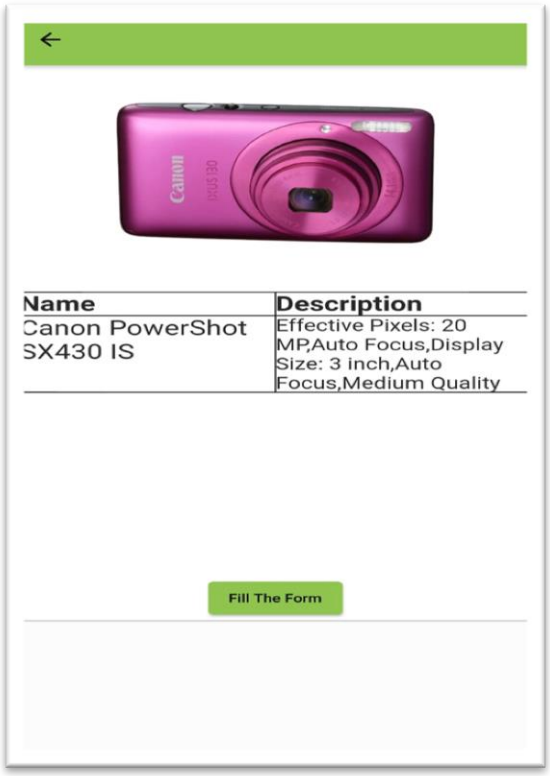
NGOs would be able to connect with more donors and would even be able to provide electronic gadgets to the needy people.

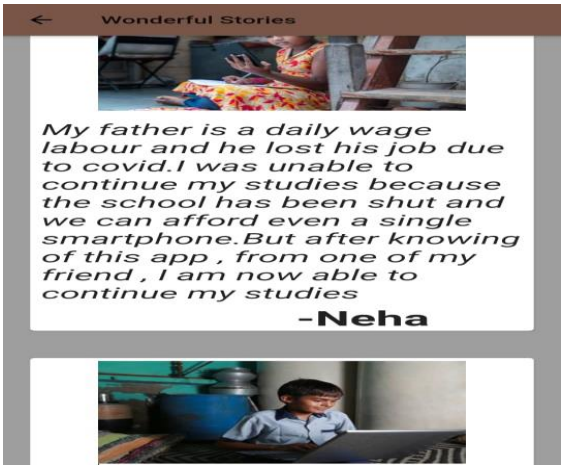
What are we proud of:

- Donate easily. Our network of NGOs will connect with you.
- Submit requests for any requirement and explore donations.
- Proper authentication before donation passed on.
- Read how your donation helped someone.
- No direct contact between donor and donate.
- Privacy maintained at all stages.

Some glimpses of our Application:







Future Scope:

1) Increase reach from metro cities to small and then to village
2) Add more electronic items
3) Save the environment by all means like providing e-vehicles for delivery agents.

Gift hampers/prizes for those who get a certain minimum number of donor points.

Conclusion

In this paper, we have provided a platform to the public through which they can donate their electronic items hence reducing the e-waste from the society and providing the reusable items to the needy ones through NGOs.

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