TOWARDS ESTABLISHING A MODEL SUP FREE MARKET

Rethinking consumption habits to eliminate single use

*Shabarni Roy Chowdhury[1], Anas Mohammed R[2], Aarti Sachdeva[3]**
[1]Saahas, Bengaluru, Karnataka, India
[2]Saahas, Bengaluru, Karnataka, India
[3]Saahas, Bengaluru, Karnataka, India
aarti.sachdeva@saahas.org

Abstract
The rapid growth of single-use plastic consumption has intensified environmental and public health concerns due to its persistence and contribution to microplastic pollution. Although the Government banned identified SUP items in 2022, their continued use in markets highlights gaps in enforcement and behavioural change. This study documents an intervention implemented at Uzhavar Santhai (Farmers' Markets) in two locations of Trichy, Tamil Nadu, led by Saahas under project 'Circular Waste Solutions' in 2022-2024. The intervention combined baseline assessment, awareness generation, training on sustainable alternatives, regular monitoring, and enforcement. Strong institutional support and vendor engagement enabled a transition to non-plastic alternatives, resulting in the declaration of the markets as SUP-free after 4–6 months. Observable outcomes included widespread adoption of reusable bags, paper straws, natural packaging materials, and durable cutlery. The initiative demonstrates that structured, participatory approaches can effectively reduce SUP usage and offers a scalable model for replication in other urban markets.

Keywords: Single-use plastics; plastic pollution; plastic waste management; circular economy, sustainable packaging

1. Introduction

Single-use plastics pose a significant environmental threat, and several initiatives to phase them out have been tried globally, such as blanket bans on plastic packaging, economic disincentivization, and behaviour change programs. In India, Plastic Waste Management Rules 2016 guide the management of post consumer plastics, and in 2022 commonly littered SUPs were banned across the country.

Despite the ban, availability and usage of these items is widespread, as also established by recent studies and surveys. However, multiple initiatives of varying scales are being tried out in different parts of the country. One such initiative was piloted in Trichy city, Tamil Nadu, where farmers markets were targeted to be made SUP free, resulting in a considerable success. The initiative was carried out by Saahas, an NGO working towards sustainable solid waste management under project "Circular Waste Solutions". This article captures the methodology and challenges in carrying out this initiative, to highlight the critical success factors in replicating this initiative in other parts of the country.

1.1 Literature Review

According to UN Environment, one million plastic bottles are purchased every minute globally, and up to five trillion single use plastic bags are used annually. Overall, half of all plastic produced is designed for single use and disposal. The everyday use of plastic presents complex resource and environmental challenges[1]. However, the growing prevalence of SUP, whose production, use, and disposal pose

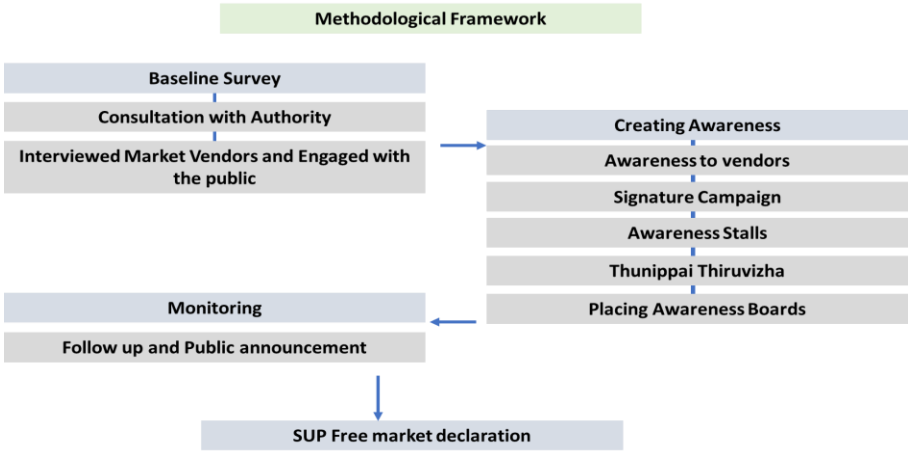
significant environmental challenges, has raised concerns about the need to reduce plastic consumption[2]. Extant literature provides mixed support for the effectiveness of interventions with controlling characteristics such as plastic bag bans and levies [3,4,5]. Several studies have examined SUP from a green decision-making perspective [6,7]. These studies regard people as informed consumers and recommend interventions to reduce SUPs through behavioural change, economic incentives, regulations, and improved access to sustainable alternatives.[8,9]. Furthermore, another study[10] suggested that behaviour change was the most important predictor of change in plastic consumption. Behavioural initiatives to curb SUP consumption have mainly involved public campaigns, educational programs, regulatory measures.[11,12] However, there are hardly any recorded success stories where SUP ban implementation has worked at scale. This research covers this knowledge gap by detailing the SUP free market intervention at Trichy.

2. Methodology / Approach

The intervention targeted the Uzhavar Santhai (Farmers' Market), a Tamil Nadu state initiative enabling direct sales of fresh produce from farmers to consumers, bypassing middlemen. Trichy hosts eight such markets, overseen by the Agriculture Officer and Assistant Agriculture Officer. Sanitary Supervisors, authorized by the Sanitary Inspector, can penalize vendors using SUPs, while Ward Councillors supervise overall on-ground activities. The market was selected for the following reasons:

- Presence of a regulatory authority enabling strict monitoring.
- Farmers' close connection with nature, providing fresh, locally sourced produce and reducing the need for packaging.
- Regular customer base facilitating engagement with a defined consumer group.
- Success in a large market could serve as a model to inspire nearby markets.

The methodological framework is depicted as below:



3. Results / Key Findings

The below table is depicted about the impact of CWS in two vegetable markets

MarketName	SUP free market Initiative commenced on	SUP free market declaration date	Number of vendors in the Market	Average Daily Footfall	Before CWS Intervention		After CWS Intervention	
					Number of Vendor using SUP	SUP usage %	Number of Vendor using SUP	Current SUP usage%
Uzavar Santhai, Tennur	03-07-2022	21-01-2023	95	200-250	85	90%	0-3	4%
Uzavar Santhai, KK Nagar	12-10-2023	24-02-2024	82	200-250	76	98%	0	0%

The below table is depicted about the amount of SUP stopped from going to landfill

Market Name	Shops Count			Quantities of SUP stopped diverting to landfill			
	Total Number of Shops	Shops that were using SUPs (Pre Intervention)	Number of Shops Stopped using	Quantity of SUP for 2 days/shop (Approx)	Quantity of SUP usage/shop/month (Approx)	Quantity of SUP usage in all shops per month (Approx)	Total Diverted
Uzavar Santhai, Tennur	95	85	82	150g(50 covers)	2.25Kg	185Kg	12 months 2200 Kg
Uzavar Santhai, KK Nagar	82	68	68	150g	2.25Kg	155Kg	4 months 620 Kg

Assumptions:

1. Quantity of SUP usage/shop/month was calculated by considering the quantity generated for 2 days/shop. Although the footfall is high, not everyone will buy from all the shops.
2. Each package of plastic carry bags which has 50 covers weigh 150gms.

The following outcomes were visible after the intervention:

- Most vendors consistently avoid using SUPs, and customers bring reusable carry bags.
- Tender coconut vendors use paper straws.
- Hotels use aluminium foil for packaging parcels.
- Tamarind and flowers are packed in newspaper or banana leaves.
- One vendor began selling cloth bags without losing customers due to the ban.
- Steel cutlery is consistently used instead of disposable alternatives.

4. Discussion & Policy Implications

Since July 1, 2022, bans have applied to 19 identified SUP items, however, most of the banned items can be easily found in markets across the country. To improve implementation of the ban, initiatives like SUP free markets can act as a testament to intensive efforts in widescale adoption of the sustainable alternatives across India.

5. Conclusion & Recommendations

The CWS project in Trichy was executed by Saahas, funded by multinational organizations such as GIZ, and implemented in collaboration with the City Corporation. In conclusion, it can be stated that

- Markets like this have a clear administrative structure, with farmers and vendors adhering to guidelines set by the Agricultural Officer.
- Upon introduction to sustainable alternatives, vendors ceased using banned SUP items within the market.
- Penalization of defaulters significantly reduced SUP usage.
- Bringing about change among vendors operating outside the market proved more challenging.

This successful model can be replicated in other marketplaces, which attract a large and diverse population of vendors and consumers. Engaging Bulk Waste Generators can further enhance the dissemination of sustainable practices. Over time, this step-by-step approach across multiple markets can foster behavioural change, reduce single-use plastic consumption, and promote the adoption of sustainable alternatives on a larger scale.

Reference

Journal Article:

1. L.S. Dilkes-Hoffman, S. Pratt, B. Laycock, P. Ashworth, P.A. Lant, Public attitudes towards plastics, Resour. Conser. Recycl., 147 (2019), pp. 227-235
2. T.R. Walker, D. Xanthos**,** A call for Canada to move toward zero plastic waste by reducing and recycling single-use plastics**,** Resour. Conserv. Recycl., 133 (2018), pp. 99-100
3. A. Jehangir, M. Imtiaz, V. Salman, Pakistan's plastic bag ban: an analysis of citizens' support and ban effectiveness in Islamabad Capital Territory, J. Mater. Cycles Waste Manag., 24 (4) (2022), pp. 1612-1622
4. R.J. Kish, Using legislation to reduce one-time plastic bag usage, Econ. Aff., 38 (2) (2018), pp. 224-239
5. E. Ritch, C. Brennan, C. MacLeod, Plastic bag politics: modifying consumer behaviour for sustainable development, Int. J. Consum. Stud., 33 (2) (2009), pp. 168-174
6. L.M. Heidbreder, I. Bablok, S. Drews, C. Menzel, Tackling the plastic problem: a review on perceptions, behaviors, and interventions, Sci. Total Environ., 668 (2019), pp. 1077-109
7. A. Macintosh, A. Simpson, T. Neeman, K. Dickson, Plastic bag bans: lessons from the Australian capital territory, Resour. Conserv. Recycl., 154 (2020), Article 104638
8. L.M. Heidbreder, J. Tröger, M. Schmitt Exploring the psychological antecedents of private and public sphere behaviours to reduce household plastic consumption, Environ. Dev. Sustain. (2022)
9. B. Chekima, S. Chekima, S.A. Wafa, O.A. Igau, S. Laison, Jr Sondoh, Sustainable consumption: the effects of knowledge, cultural values, environmental advertising, and demographics, Int. J. Sustain. Dev. World Ecol., 23 (2) (2016), pp. 210-220
10. H.B. Truelove, K.T. Raimi, A.R. Carrico, Curbing Single-Use Plastic with Behaviour Change Interventions, Nature Reviews Earth & Enviroment, in press (2022)
11. A. Macintosh, A. Simpson, T. Neeman, K. Dickson, Plastic bag bans: lessons from the Australian capital territory, Resour. Conserv. Recycl., 154 (2020), Article 104638
12. R.E.J. Schnurr, V. Alboiu, M. Chaudhary, R.A. Corbett, M.E. Quanz, K. Sankar, T.R. Walker, Reducing marine pollution from single-use plastics (SUPs): a review, Mar. Pollut. Bull., 137 (2018), pp. 157-171

Book:

GIZ India, KPMG, RACE (Reduction, Awareness, Circular, Engagement) Campaign for Single-use Plastic (SUP) Free Uttar Pradesh, Department of Environment, Forest & Climate Change (DoEFCC), Government of Uttar Pradesh, 2023