



CAG

Citizen consumer and civic Action Group

Behind the Labels

A study of recycling labels on food packaging in Tamil Nadu



Image: [Flickr](#)

Vamsi Sankar Kapilavai, Senior Researcher
Sumana Narayanan, Senior Researcher

CAG | 2021

www.cag.org.in

Acknowledgements

The authors would like to thank CAG's partners in this study who were instrumental in data collection in four cities - Mr. Ramaperumal and team of Sadayanodai Ilaignar Narpani Mandram (SINAM) in Tiruvannamalai, Mr. Jayaraman and team of Citizens Voice Club in Coimbatore, Mr. Ramesh and team of Tamilnadu Consumer Protection & Environmental Research Centre (TNCPERC) in Tiruvarur, and Ms. Packialakshmi and team of Women Consumer Protection Association in Madurai.

We would also like to thank our colleague, Afroz Khan for single-handedly shouldering the field work in Chennai, coordinating with the field teams in the other four cities as well as pitching in with the data entry.

Our thanks also to colleagues, M. Balaji and Harish Baskar for helping with the data entry.

Background

Plastics are ubiquitous. They are, literally, everywhere. From the toothbrush and toothpaste we start our day with to the packaging that our food comes wrapped in, even our clothes now have plastic, what with dri-fit clothing becoming very popular.

As per the Plastic Waste Management (Amendment) Rules 2018, manufacturers are required to provide a certain minimum amount of information on recyclability of their packaging material as described by the Bureau of Indian Standards (BIS). This is given in the BIS document, IS 14534 (1998)¹ which states, “the manufacturers of plastics end products from either virgin or recycled plastics shall mark the symbol at the time of processing in order to help the reprocessors to identify the basic raw material.”



Figure 1: The symbols that should be used by the manufacturers to print on the plastics they use (Source: Guidelines for Recycling of Plastics, IS 14534 (1998))

The three arrows forming a triangle is the widely known symbol for recycling. However, the numbers and the text that accompany the symbol provide crucial information to the consumer. These two components provide the same information i.e. the type of plastic used in packaging. So 1 stands for PET (polyethylene terephthalate often used to package water, soft drinks); 2 is HDPE (high density polyethylene often used in toiletries such as oil bottles, shampoo); 3 is PVC or V (polyvinyl chloride used for pipes, wire insulation); 4 is LDPE (low density polyethylene often used for milk, curds, bread packaging); 5 is PP (polypropylene which is used for plastic containers, bottles); and 6 is PS (polystyrene which is used for plates, cups). The last symbol - 7 Others is unique in that this shows that the plastic used consists of more than one type.

The average citizen in India is vaguely aware that plastics are a problem. However, plastics have become so pervasive that citizens cannot fathom alternatives, especially those that match plastic in its versatility, convenience, and ease of use. Even informed citizens keen to reduce their carbon footprint by segregating their waste, find it hard to optimally recycle plastics or reduce their plastic consumption to begin with. While information is broadly available, especially online, there is little practical information or aid that allows a citizen to make an informed decision in choosing the most sustainable packaging.

¹ [Guidelines for Recycling of Plastics](#)

On the other hand, consumers are constantly bombarded with a variety of products focusing on price points, convenience, and superior quality. Businesses and brands are increasingly using sustainability labels and green claims on their products. In this crowded market space, the average citizen is hard pressed to decide which product is most sustainable. Although a recycling symbol (as specified earlier) is to be printed on plastic packaging, do manufacturers uniformly use this label on their products? Do consumers know what a recycling label is and do they understand how to use this information? This study seeks to answer these questions.

Scope

Since Tamil Nadu is a highly urbanised state with high market penetration leading to a wide range of consumer goods being available across the state, the study focused on 5 cities (covering Tier 1,2, and 3 cities) across the state. The study focused on recycling information available on different types of plastics used for food packaging.

Objectives

1. Understand the extent of recycling information provided on food packaging and whether this meets the existing Bureau of Indian Standards (BIS).
2. Assess the level of knowledge and understanding among consumers on plastic recycling

Methodology

To conduct this study five cities in Tamil Nadu were chosen: Chennai, Coimbatore, Madurai, Tiruvannamalai, and Thiruvavarur. Data was collected in partnership with civil society organisations in each city - SINAM in Tiruvannamalai, Citizens Voice Club in Coimbatore, Womens Consumer Protection Association in Madurai, and Tamilnadu Consumer Protection & Environment Research Centre in Thiruvavarur. Data collection in Chennai was undertaken by CAG.

In each city, trained volunteers visited a minimum of 45 shops over a period of two weeks. Shops were categorized to ensure a variety of food products were covered – from local products to international brands. In addition, to ensure that small sized packaging was also captured, shops in low income areas were also looked at. In each city, the following shops were covered:

- 10 small shops in low income areas
- 10 medium sized standalone grocery stores
- 3 chain supermarkets
- 2 organic stores
- 10 local bakeries
- 10 sweet shops

In each of the above shops, except supermarkets, a minimum of 20 products were assessed. In each supermarket, a minimum of 100 products were assessed. The data was entered in the free app, Kobo Toolbox, via a pre-existing form to avoid any paper usage.

In addition, a perception survey of consumers was also conducted where gender, age, socio-economic groups were kept in mind while choosing interviewees. Consent of interviewees was taken in writing and a total of 447 consumers were interviewed to gauge their awareness of plastic pollution, recycling of plastics, recycling information provided on the plastic used for food packaging, the usefulness of such information to them and what changes they would like in the recycling label.

Online training was provided to the volunteers on using the app, Kobo Toolbox as well as the forms, prior to fieldwork. The forms were available in English and Tamil. Throughout the fieldwork period of 3 weeks, a nodal person was assigned to address any queries, problems that may arise. Daily checking in and follow up with the volunteers was carried out.

The survey forms are provided as annexures.

Results

A total of 4230 food products were recorded. These covered ready-to-eat foods like biscuits, grocery items (flours, oils, spices, condiments, etc), beverages to name a few. Any product that follows the BIS will have three components: a recycling symbol, a number inside the recycling symbol and name of the plastic type under the recycling symbol. If the product had only the recycling symbol or the symbol with the number inside, this was classified as giving partial information; products with no symbol, number or text were classified as giving no information; and those that gave all 3 as per the law were classified as giving complete information.

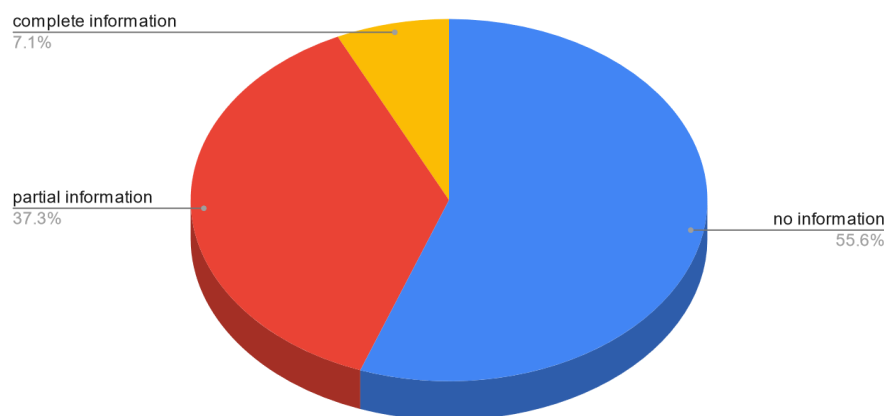


Figure 2: Level of recycling information provided by products

Of the 4230 products covered, 2351 of them had no information at all on recyclability of the packaging. They did not even have a recycling symbol on them. 1579 products had partial information (either just the recycle symbol or the symbol with the recycling number in it) and

just 300 had complete information i.e symbols, recycling number, and the plastic type in words.

Of the recycling numbers commonly seen on food packaging (numbers 1 to 7), 7 denotes that the packaging is made of more than one kind of plastic. As per the Plastic Waste Management Rules 2018 and the BIS parameters, such plastics must, in addition to the recycle symbol and number (i.e 7), should also list the component plastics and not just say ‘Others’.

Of the 4230 products analysed, 1358 were marked as 7. Of these 1358, only 403 of them clearly spelt out the component plastics. The remaining 955 products just noted the number or provided the number and the word ‘Others’ below the symbol. We found a large majority of the products that provided appropriate and complete information on this kind of plastic were products from the Indian companies of Tata and ITC, as well as some from the multinational company, Unilever (Hindustan Unilever Ltd in India).

Looking in particular at some of the international and national brands, we found varying levels of information on recycling. The global brand audit by the Break free from plastics² movement (of which CAG has been a part) is conducted annually since 2018. In all editions of the audit, 3 companies have consistently been the top three plastic polluters globally.³ These are Coca Cola, Nestle, and PepsiCo. Other companies in the top 10 plastic polluters include Mondelez International and Unilever. These companies also constituted a substantial number of the products analysed in this study.

Of the 98 Nestle products analysed, 24 products provided full recycling related information as per the prescribed standards; 62 products had partial information (typically the text on what kind of plastic would be missing and sometimes the recycling number would also be missing); and 12 products had no information. When it comes to packaging marked with the recycling number 7, there were 79 products with this number. Of these 59 did not provide the full information of component plastics and only 20 had this information.

Similarly, we analysed 90 Unilever products, 27 with full information, 58 with partial information, and 5 with no information whatsoever. Here a number of products were marked number 7 of which 27 met the standards for plastic marked number 7 and 50 did not. However, Pepsico and Mondelez had just one product each marked 7 and Coca Cola did not have any marked 7.

² <https://www.breakfreefromplastic.org/>

³ <https://www.breakfreefromplastic.org/globalbrandauditreport2020/>

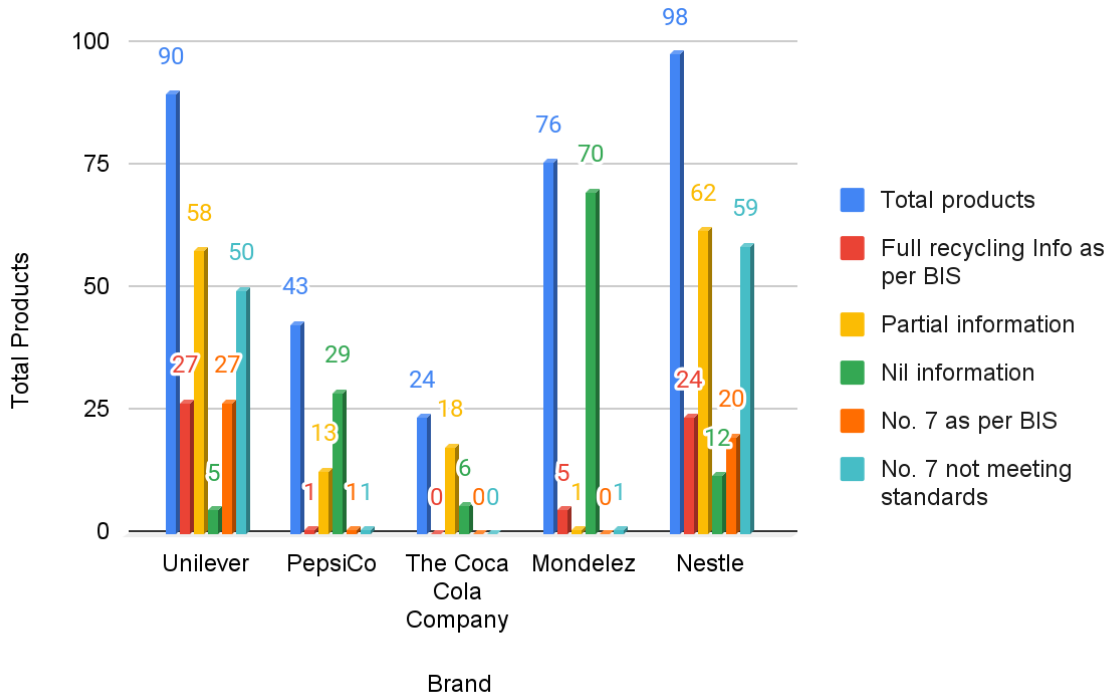


Figure 3: Top international brands and their adherence to BIS for the products analysed

We also looked at Indian companies - ITC, Tata, Parle, and Britannia. Britannia fared poorly with 144 products with partial information (out of 249), 73 with full information, and 32 with no information, 140 products did not meet standards for plastic marked 7 while just 68 did. Of the 80 Parle products, 42 had complete/full information, 16 had partial information, and 29 had no information at all. Of the Parle products marked 7, 10 provided complete information while 9 did not. ITC and Tata had 73 and 82 % of their products giving complete recycling information i.e as per the law. Of the 70 ITC products that were marked 7, only 11 did not provide complete information while all 27 of Tata products that were marked 7, provided complete information.

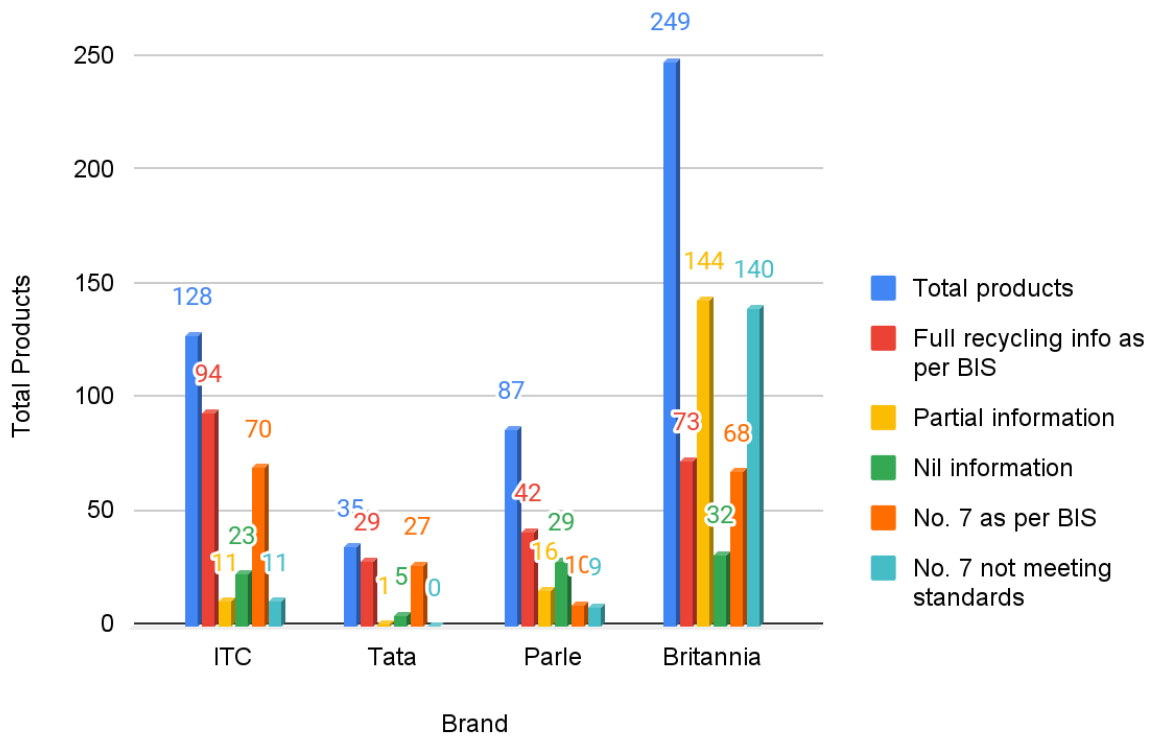


Figure 4: Top national brands and their adherence to BIS for the products analysed

Looking at two widely available brands in Tamil Nadu - Aachi and Sakthi, we found that neither provided full recycling information on their products. Of the 83 Aachi products analysed only 2 provided full information, and 2 had partial information, and 79 provided no information at all. Of the 74 Sakthi products analysed, 60 provided no information and 14 provided partial information (i.e either providing only the recycling symbol, or the symbol with the number but no text).

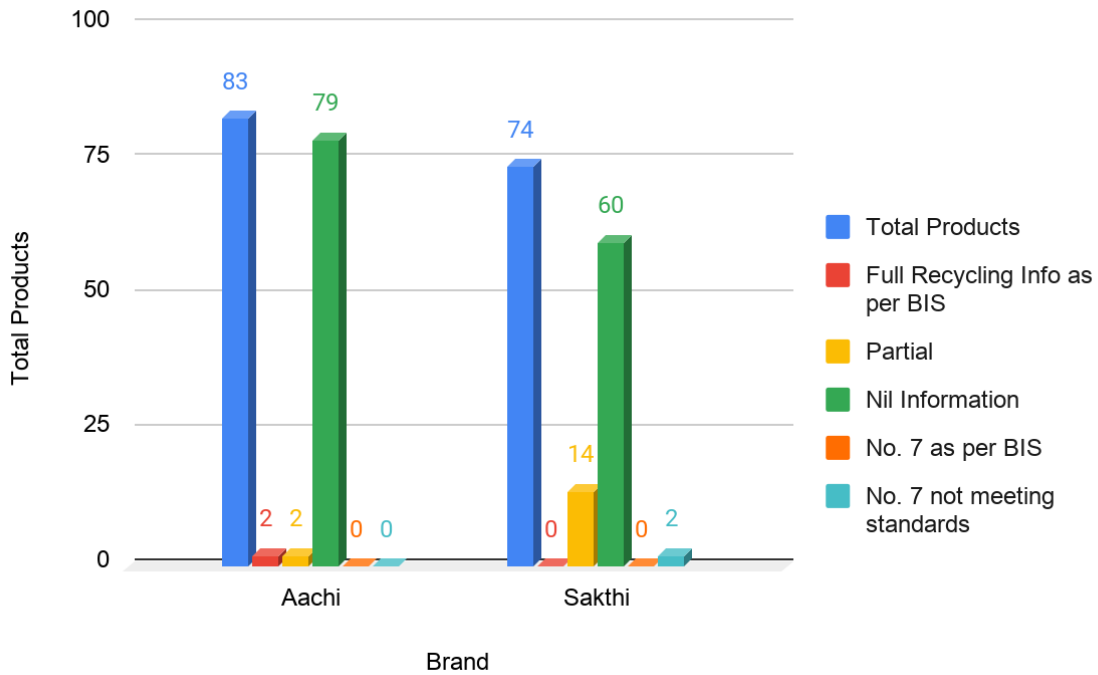


Figure 5: Aachi and Sakthi brands adherence to BIS for the products analysed

It was noticed that except for 1 product (Figure 6), none of the other products gave the recycling information for all the component parts of the packaging used. By this, we mean that for plastic bottles, the cap and the bottle itself are of different plastics but the recycling information provided does not reflect this. Nor do companies mention how to dispose of the label in bottles or containers where a label is affixed. In one product, Auro Biotech's apple cider vinegar, recycling information was clearly indicated for the cap and for the bottle separately. However, even in this product, the information for the plastic sleeve used was missing.



Figure 6: Only product in study that provided recycling information for the lid and bottle

The results clearly show that most of the brands and businesses do not adhere to the Plastic Waste Management (PWM) Rules 2018. Very few products provided all the information as required by law.

Best practices

While the results are really disappointing there have been some good examples of recycling labels that we found during this study. Two companies, ITC and Tata, not only provided information as required by law, but also provided additional useful information on recycling. In the image below, an ITC product's recycling label clearly indicates the recycling symbol as per the BIS standards and also provides instructions on how to clean and segregate the waste into the right category (Figure 7). While this might not be the ideal label, it was definitely an improvement on the majority of recycling labels we found.

To be of use to a consumer, the recycling label should note the kind of plastic used, if it is recyclable in the local context, and how to recycle the plastic. In addition the label should be in a conspicuous place, visible, and readable.



Figure 7: Plastic packing used for biscuits showing the recycling symbol and the segregation instructions

Perception survey

The perception survey was conducted with a total of 446 respondents out of which 225 were male and 217 were female. The survey also ensured that respondents were of varied ages (14 to 85 years old) and socio-economic groups. Since many respondents did not wish to share income details, education level and occupation were used as proxies to estimate socio-economic status. Education levels were classified as post-graduates and above (35), graduates (50), under graduates (92), Senior Secondary i.e. Standard 11-12 (108), secondary schooling i.e. Standard 6 to 10 (99), and primary schooling i.e. upto Standard 5 (57). Five respondents declined to share their education level. In terms of occupation, respondents

covered a gamut of work spaces. They included agricultural labourers, panchayat office workers, bankers, professors, home makers, scrap shop owners, and students to name a few.

Irrespective of education levels, respondents largely were aware that plastic pollution is a matter of concern. One important outcome of the survey is that more than 85% of the respondents are aware of the problems plastic has on the health and the environment and these respondents depend on the internet and government regulations to inform themselves (Figure 8). More than half of the respondents were aware that plastics can be recycled. To understand if respondents were aware of different types of plastics and their recyclability, we asked (to those who replied yes to the previous question) if all plastics can be recycled. We found that only a third of the respondents thought that all plastics could be recycled.

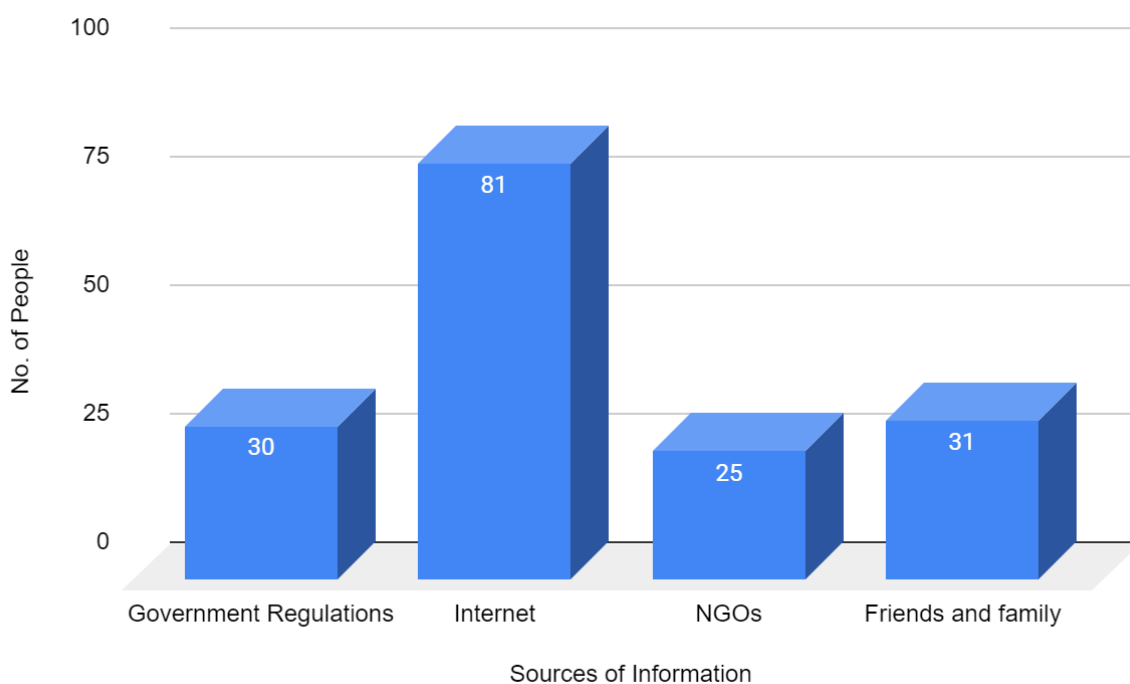
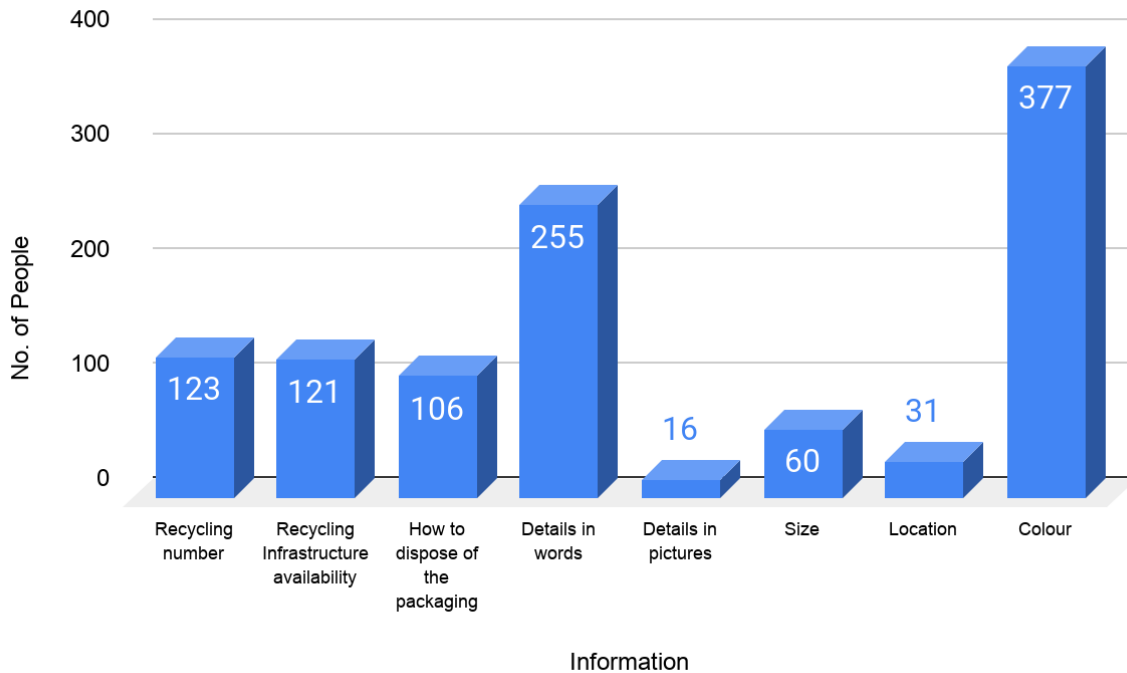


Figure 8: Different sources of information used by the consumers to inform themselves about plastics

Recycling has been practised by the Indian households for many decades and the local scrap shops are a big source for the recycling of plastics. A total of 369 respondents have said they have a clear idea about which plastics can be recycled in their locality and with 342 respondents saying that the labels that are used right now are hard to read to get the information indicating that it makes it harder for the consumers to recycle their plastics correctly. In addition, a staggering 425 respondents said that they would use the labels more if the changes in the labels in terms of location, size (proportionate to the packet size), colour, recycling infrastructure and instructions in text (ideally in the local language) are provided.



The demand for the change in the labels size, colour and location from the respondents clearly show that if information is provided correctly the consumers will be empowered for taking informed decisions.

Conclusion

The study shows that there exists a wide range in companies meeting the standards as required by Indian law. A majority of products do not meet the standards while some like ITC and Tata provided clear information and adhered to the law.

One commonality across brands, including ITC and Tata, however, is that the location, size, and readability of the recycling information is not up to par. In many products, the recycling information is much smaller than the rest of the label, it is often tucked away in corners which is not easy to find and in the case of PET bottles, it is often embossed on the bottom of the bottle. This is hard to locate and read even if a consumer thinks to look there. While the standards do not specify these aspects, it is common sense that if these parameters were standardised then it would aid the consumer for easily accessing and making use of the information.

The first step, however, needs to be that existing standards are enforced. Just like MRP, packaging date, use by date and so on, recycling information must be provided clearly and this must be enforced.

It is well-known that recycling information varies regionally and from nation to nation. So what is easily recyclable in one region may not be easily recyclable elsewhere. Just like manufacturers tailor their product taste, packaging, price, etc to suit local markets, the

recycling information provided must also be tailored to reflect whether the packaging material can be easily recycled in that region.

Keeping the above points in mind, the standards on recycling information to be provided by the manufacturer need to be updated. The standards must include benchmarks for size, location, visibility of the recycling information, as well information on availability of infrastructure for recycling. This will ensure that consumers know if a particular plastic can be easily recycled in their region or not and therefore make informed choices.

Finally, in the perception survey, a number of consumers indicated that it would be easier if the recycling information was provided in the local language. This too needs to be looked into when standards are updated.

Consumer awareness on recycling labels and how to use that information is essential. Over 85% of consumers interviewed said that they do check for the recycling label so there is a certain level of awareness. This base of knowledge needs to be built upon and expanded so that consumers are able to make informed choices. This will require coordinated action between govt agencies (food safety department, environment department, Tamil Nadu Pollution Control Board) and CSOs/consumer groups. Several international brands are part of the United Nations' voluntary targets to move to sustainable packaging. Such companies must be held accountable in the national context as well and more large brands must be encouraged to join. This will also require transparent reporting on plastic use and recycling efforts by the companies.

Annexures

The forms are available at the links given below.

- [Labelling study form](#) (accessed via Kobo Toolbox)
- Perception survey form - [English](#), [Tamil](#)
- Consent form -[English](#), [Tamil](#)