

Biriyani lovers, beware! Your biriyani might not be as COOL as it used to be.

When was the last time you enjoyed your biriyani in a wedding reception / community event? Or when did you buy your biriyani as a parcel? Your chances of eating biriyani from someones waste is high! Under the disguise of “Material for recycling”, India has increasingly become a favourite destination for exporting waste. It was not long back when Municipal solid waste from the city of New York was shipped to Kerala under the category Material for recycling. Used electronic equipments are also following suit. India’s prominence as a recipient of used / rejected / discarded material is on the increase since China has banned the import of Material for recycling. Roots of the network that imports material for recycling has become so deep that it has reached our dining tables. Import of Carton cut waste or used cartons has become so rampant that they are being imported not only from developed nations like UK, Ireland, France, Spain, Austria, Italy, Belgium, Slovenia, Portugal and Germany in Europe and from Australia but also from developing countries like Saudi Arabia, China, Thailand, Indonesia and Vietnam in Asia and Egypt, Tunisia & South Africa from Africa. Material has also crossed the Atlantic from USA, Dominican Republic and Mexico to reach the shores of India. It is even more disturbing to realise that single use *paper plates* made from these carton waste are mixing poison into the hot food that we eat from them.



The investigation began when we noticed that we couldn't read the language behind soiled paper plates found during Attukal Ponkala 2018 in Trivandrum, Kerala. Green Army was campaigning to implement Green Protocol which discourages the usage of the so called **paper plates** and paper cups during the event. We checked closely on the back side of those paper plates used to serve vegetable biriyani. By tracing manufacturer's address & postal code we found that material for those paper plates originated from Switzerland and Spain. **Paper plates** were once called as *Frooti plates* because carton waste from Frooti, a popular beverage in India, was used to manufacture single use paper plates. Curiosity urged us to hunt for more soiled paper plates with new languages. Though it was Frooti in the beginning, it is milk, beverages and energy drinks now that brand vegetable biriyanis during Attukal Ponkala.

From Manacaud junction alone, we found paper plates with manufacture's address that lead to 6 countries: Spain, Italy, USA, Saudi Arabia, China & Switzerland. Since then we were always on the look out for colourful paper plates with unfamiliar languages. Since March 2018, we have found paper plates with carton material that originated from 20 countries.

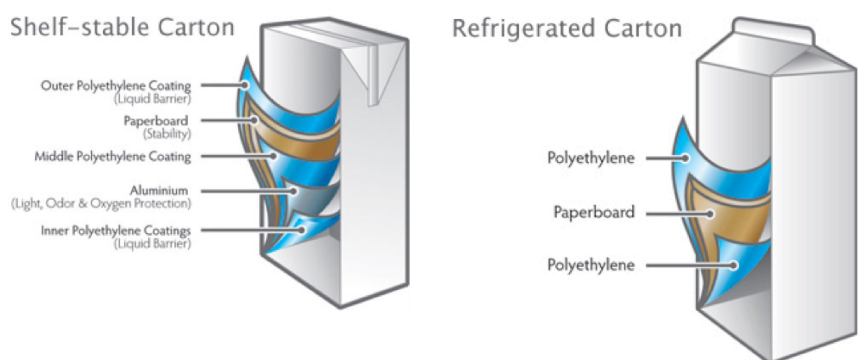
There were many other interesting observations during the 10 month investigation. Milk, Juices and Beverages were marketed on the pretext of Beijing Olympics in 2008 and some on the background of Football World Cup 2018, Russia. Some of these beverages, those which were marketed / sold on the pretext of sports event had presence in Kerala in the year 2018. Cut waste of carton material used to pack a product, that was scheduled to be sold in 2008 during Beijing olympics was used paper plates used in 2018. In another similar instance cut waste of carton material used to pack a product that was scheduled to be sold on the pretext of Russian Football world cup 2018 was used to make paper plates which served food in flood relief camps at Alappuzha in August 2018.



Paper plate adulterates food served hot

Carton waste is not the only material that is imported for recycling. At times, they are accompanied by plastic, e-waste and even Municipal solid mixed waste. Presence of mixed municipal solid waste poses a grave threat to hygienic conditions of all other categories of material including carton waste. Even though cartons are collected separately for recycling in developed nations, efforts to optimise container space utilisation brings multiples categories together even without proper partitioning. Such questions of hygiene and quality standards also arise at manufacturing units of paper plates in India. Micro and small scale industries that cut and heat press carton waste to form paper plates pack the same without any assurance of UV treatment or Food Grade standards or ISO quality standards. Thus the cumulative effect of contamination that started from shipping containers to manufacturing units is borne solely by the uninformed users of paper plates.

It would be interesting to note that the material is made up of more than 3 materials in multiple layers. Polyethylene (referred as PE), Aluminium and paper fibre are the materials used in cartons. There are two types of cartons; one for refrigerated storage, mostly used for dairy products and the other for shelf storage of juices & beverages. Cartons used for refrigerated storage need not have the Aluminium layer to keep off bacteria as low temperatures ceases bacterial activity. These type of cartons, known as Gable top cartons, have an outer coating of Polyethylene, paper board and then an inner coating of Polyethylene (refer illustration provided below. *Source: Canada Carton Council*). Material wise gable top cartons contain 80% paper fibre and 20% polyethylene. Cartons used for shelf storage of juices & beverages are called as Shelf Stable aseptic cartons. These type of cartons contain an outer layer of Polyethylene, paper board, middle layer of polyethylene, aluminium and an inner layer of polyethylene. Shelf Stable aseptic cartons contain 74% paper board, 22% polyethylene and 4% aluminium on an average (refer illustration provided below. *Source: Canada Carton Council*).



Polyethylene is known to release phthalates at temperatures above ambient conditions. The coating on carton material used for making paper plates could also release phthalates in the presence of hot food items. Phthalates are known to dissolve in fatty food items and are found to be endocrine disruptors. “Studies have shown phthalates to cause endocrine disruption, and have hepatotoxic (liver damage) teratogenic (affects foetus, producing congenital abnormalities in the child), and carcinogenic properties. But their usage continues due to their attractive chemical properties, low production cost and lack of suitable alternatives,” says Dr Bruno, a Chennai based neurosurgeon (*Source: The News Minute, 13th July’18*).



Brand owner's Adherence to irresponsibility

Used cartons are collected for recycling in North America and Europe. In United State alone, more than 60% of carton waste produced is collected separately for recycling (*Source: www.earth911.com*). Hydro-pulping enables the recovery of paper fibres from carton waste. However, evidence of carton waste and carton cut waste in Kerala, India proves that material collected for recycling are not always recycled. Thus the responsibility discharged by brand owners to divert material for recycling can be measured by the extend of carton material that reach the coast of Malabar. Action plan for implementing Extended Producer Responsibility is becoming a mere Green Wash activity when it comes to Milk, Juice & Beverages brands that use single use carton for packing.

Under the principle of Extended Producer Responsibility the brand owners are responsible for the waste generated during & after the use of their product. Manufacturing Address / Registered address of the main product is taken as the origin of carton cut waste / used carton.

Local government units are at the receiving end of such big brand's adherence to irresponsibilities. Single use plates that consist of multiple layers of plastic, aluminium and paper fibre are used and disposed as biodegradable waste as per what the name paper plate suggests. Manual sorting / separation of single use paper plates and recovery of paper fibre, aluminium and plastic is not financial viable for Local government units here in Kerala. Single use paper plates thus end up burning or in landfills. In short material that is imported on the pretext of recycling, is re-used in another application harming the user and the environment he lives in.

Green Protocol, a guideline to avoid single use products, advocates against the usage of paper plates. The campaign is gaining momentum with more & more people becoming aware of its health and environmental hazards. Even though demand is reducing, the product can not be wiped away from the market unless authorities start scrutinising materials imported for recycling. More evidence needs to be collected to open the heavy eyes of bureaucrats. Let us map more evidences. Let us mop away single use paper plates from our culture.

Next time you see a colourful paper plate / colourful lid for a biriyani packet, click a picture of the product and a close up of the colourful side. Send us the image at climate@thanal.co.in. We are piling our data to stop the import of material for recycling.

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Source of scientific information:

1. https://www.researchgate.net/publication/326741200_Extraction_and_Determination_of_Phthalates_Content_in_Polyethylene_Food_Contact_Materials_on_the_Ghanaian_Market
2. http://www.ehso.com/ehshome/BPA-Bisphenol_health_issues.htm
3. <https://www.thenewsminute.com/article/should-you-be-eating-and-heating-food-plastic-bowls-experts-weigh-84670>
4. <https://www.recyclecartons.ca/carton-facts/>