

# Curbing usage of plastic the best way

WHILE I applaud the Sibul Municipal Council's efforts to reduce plastic pollution by banning non-biodegradable plastic bags, "Sibu's tough stand against plastic" (*The Star*, Jan 22), its proposal to replace conventional plastic bags with purportedly "biodegradable" plastic bags poses fresh environmental problems.

The plastic pollution reduction regulations and policies currently in place in Malaysia seem to mostly encourage the replacement of conventional plastic bags with paper bags, purportedly "biodegradable" plastic bags and cheap non-woven shopping bags. In addition, polystyrene food packaging is merely replaced with other types of non-foam plastic food packaging, and so far there does not appear to be any organised or official effort to recover, collect and clean these types of plastic packaging for recycling.

None of these items introduced to replace conventional plastic and polystyrene products are actual alternatives, as they are unsustainable and do not reduce waste.

Most commercially-available and inexpensive "biodegradable" plastic bags are still plastic and fossil fuel-based. Only bags that conform to compostability standards ASTM D6400 or EN 13432 are truly biodegradable.

Oxo-degradable, oxo-biodegradable, oxy-degradable, oxy-biodegradable and degradable plastic bags are all merely names for plastic bags with a chemical additive. This chemical additive, usually metal salts (which may include cobalt, depending on the manufacturer), breaks the plastic molecular ties and catalyses the disintegration of the plastic. Over time, these bags break down into smaller, more toxic petro-polymers, which eventually contaminate our soil and water and enter the animal and human food chain.

Therefore, although these purportedly "greener" plastic bags break down into fragments in landfills and waterways, they



contribute to microplastic pollution, posing a risk to marine and other ecosystems.

In fact, over 150 environmental organisations, non-profit organisations, research and scientific institutions and public bodies have recently called for a ban on oxo-degradable plastics (see: <https://newplasticseconomy.org/assets/doc/oxo-statement.pdf>).

Oxo-degradable plastics are also increasingly facing opposition in Europe, and the United Nations Environment Programme's chief scientist Prof. Jacqueline McGlade confirmed that a lot of plastics labelled biodegradable never fully break down and thus contribute to plastic pollution. Further, because these oxo-degradable plastics have a chemical additive, they cannot be safely recycled and can end up contaminating other types of plastics in recycling facilities.

As for paper bags, although they are truly biodegradable as long as they do not have a plastic coating, plastic-based glue or laminate, they do have a high environmental cost because they require more water and energy to produce compared

to plastic bags. However, as they are less harmful to wildlife and less toxic to human health once discarded, they can be safely used as food packaging.

Still, replacing plastic bags with paper bags does not reduce waste, as paper bags are typically single-use due to their low durability and cannot be recycled once wet or contaminated with food, grease and dirt. Considering the high water and energy use and low durability of paper packaging, the use of paper bags should be restricted to the sale and serving of food. They should not be used as grocery bags and shopping carrier bags, and consumers should still be charged a fee for paper bags and paper-based food packaging to reduce reliance on single-use packaging and to encourage behavioural change – in that consumers would be more motivated to save money by bringing their own reusable food and beverage containers and shopping bags.

The other unsustainable item frequently marketed as a sustainable alternative to plastic bags are non-woven shopping bags, referred

to erroneously as "recycle bags" although this is grammatically and factually inaccurate because they are neither made of recycled material nor are they recyclable.

Non-woven shopping bags are those inexpensive lightweight bags that look and feel like fabric and are usually given out as goodie bags at events or sold at supermarket checkout lanes. They are made of polypropylene and are therefore also plastic despite their resemblance to cotton or fabric. These should be avoided as they are not durable, typically contain lead, break down into plastic fibres easily thus contributing to microplastic pollution, and cannot be repaired, recycled or composted.

Malaysia is one of the 193 countries which signed a UN resolution in December 2017 to eliminate marine plastic pollution. There is no way we can fulfil this pledge if we continue to replace one type of plastic with another or with other single-use packaging with a high carbon and water footprint, or reduce microplastics in our oceans by increasing the demand for and use of oxo-degradable plastic.

To truly reduce plastic pollution, we need to reduce waste and change our mindset in relation to disposable and single-use items that may be convenient for us but not for the environment.

The solution to the problem of plastic pollution and waste should incorporate the banning of small, lightweight plastic bags, the distribution only of larger, thicker plastic bags for a small fee for rubbish disposal and the subsequent proper collection and disposal of such rubbish in sanitary landfills, the elimination of "greenwashing" alternatives such as non-woven polypropylene bags and oxo-degradable plastic bags, and the implementation of incentives such as rebates, shopping reward points and express checkout counters.

Long-term solutions can subsequently be introduced to include practical initiatives to encourage and increase recycling and composting to reduce household and industrial waste and correspondingly reduce the need for rubbish bags.

There must be incentives and laws in place to make it easier for homes and businesses to dispose of waste without the need for rubbish bags, and for food and consumer goods to be sold without the need for plastic wrap and other packaging.

Scientific and technological solutions to reduce waste and replace conventional plastic packaging are being developed every day, and we have a choice between the most cutting-edge solutions such as plant-based, edible packaging and traditional zero-cost, zero-waste options such as bringing our own baskets, cloth bags and food containers with us to the shops.

It is not choices or solutions that we lack, but the political and individual will to do the right and responsible thing.

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