newstraitstimes
Friday, December 11, 2009, 01.46 AM

What benefits from a plastic-bag ban?

2009/12/10

We refer to the letter "Carrefour leads the way" (NST, Nov 16) and your "No-plastic days meet resistance" (NST, Nov 30).

Of late, the media has highlighted various views on the Penang government's decision to extend the "no-plastic bag day" policy beginning next year.

At a public dialogue organised by the Penang government in April, which the Malaysian Plastics Forum co-sponsored, the Forum had called for a 3Rs work group consisting of all stakeholders to look into the practice of the 3Rs (Reduce, Reuse, Recycle) model and to address waste-management issues through a combination of public education, enforcement of the Solid Waste and Public Cleansing Management Act 2007, and cleaning programmes by local authorities.

The Forum had, in fact, already circulated flyers to advise consumers not to accept extra plastic bags when buying only a few items or items already packed with carrying handles, for example, toilet rolls.

The Forum had submitted a memorandum to the Penang government in response to the campaign to stop giving out free plastic carrier bags in Penang every Monday, effective from the first Monday of July this year.

The memorandum was issued to help the state government and interest groups decide on the use of plastic bags.

It also highlighted the following lessons learned from countries that have imposed a ban or levy on plastic bags, or instituted bring-your-own-bag policies:

- Even if plastic bags are not made available to consumers at the point of purchase, it would still be needed to contain waste at the point of disposal as other materials will not be suitable for this purpose.

A ban or levy will, therefore, only create a situation where there would invariably be an increase in the use of plastic garbage bin liners, which the consumers would now have to pay for.

The oft-quoted case of Ireland where a bag tax of 15p (95 sen) in 2002 resulted in an initial 90 per cent reduction in plastic-bag use should be viewed against the fact that there was a 400 per cent increase in the local production of plastic garbage bags.

By 2006, consumers had switched back to using plastic shopping bags, with an increase of 20 per cent in bags used despite the tax.

The bag-tax proponents responded by raising the tax from 15p to 20p. This again failed, and the tax is currently being reviewed, with a tax of 30p-40p being considered.

One obvious observation is that if consumers are prepared to pay 20p for a plastic shopping bag, it clearly indicates they need the bag. Such taxes are, therefore, punitive and will only cause hardship to consumers.

- San Francisco banned plastic retail bags in November 2007 to, inter alia, encourage the use of reusable bags.

In a survey in September last year, it was found that few switched to reusable bags. Instead, large numbers of paper bags were issued, causing an even greater environmental impact.

Also, the San Francisco Streets Litter Re-Audit 2008 showed that plastic retail bags as a composition of total large litter increased from 0.60 per cent before the ban to 0.64 per cent afterwards.

This showed that plastic bags make for a very small component of total large litter and the ban did not reduce this composition.

- Consumers and check-out clerks will inevitably find themselves facing a situation where queues build up at the checkout counters when consumers forget to bring along alternative carrier bags and refuse to pay the charge for the plastic carrier bags.

- The issue of wire baskets and grocery carts being stolen and goods being carried home in clothing to avoid paying the levy for plastic carrier bags is a common occurrence.

To combat pilfering, retailers have to, in turn, introduce extra security measures and search consumers' bags. This results in delays.

- The loss of wire baskets/carts, pilfering and the administrative cost incurred by retailers in charging for the plastic carrier bags will result in the cost being included in the retail cost of products.

- There is the hygiene issue of spilled contents in cotton/fabric bags.

A report this year by the director of research services at Sporometrics, Toronto, Canada, stated that "test findings clearly support concerns that reusable bags can become an active microbial habitat and a breeding ground for bacteria, yeast, mould and coliforms... This study provides strong evidence that reusable bags could pose a significant risk to the safety of the food supply if used to transport food from store to home".

While there is no doubt that plastic bags are used a great deal in our daily lives, many mistakenly think that plastic bags are the largest component of landfills and the primary component of litter that is "harmful" because it does not degrade, and that it releases toxic fumes or leachate. These are common misconceptions.

We quote hereunder the statement from the Australian Department of Environment, Water, Heritage and the Arts.

(i) "Our consultancy report, The Impact of Degradable Plastic Bags in Australia, found that there is probably little benefit obtained by using biodegradable plastics if you dispose them to landfill. This is because micro-organisms cannot survive the dry, oxygen-deprived conditions normally found in landfills.

"All sorts of biodegradable materials, including food and paper, have been found 'mummified' and

preserved in such conditions. Even if the degradable materials degrade, the low oxygen level means that they release methane as they break down -- a potent greenhouse gas".

(ii) "Plastic bags that are commonly replaced by degradable plastics actually make up a small number (by volume) of the waste going into landfill, and most plastics are inert and do not contribute to toxic emissions or leaching."

The truth, therefore, is that degradation, often in anaerobic conditions, causes the release of methane which is a potent greenhouse gas. Degradation, in this sense, is therefore not good.

The non-degradation of plastics is, therefore, in fact good for the environment as it represents a form of carbon capture (carbon sequestration) without any carbon dioxide or methane being released into the atmosphere.

It is, therefore, an irony that many environmentalist are harping on the issue of degradation which releases either CO2 or methane gas, only to see millions of dollars are being spent on carbon capture and storage programmes.

Plastic bags are mainly made of raw materials such as polyethylene, which consists of carbon and hydrogen. Even if plastics end up in landfills, due to its inert non-toxic properties, plastics still do not contribute to toxic emissions or leaching to the groundwater and soil contamination.

In terms of manufacturing, four per cent of the world's crude oil is used to manufacture all forms of plastic products, including plastics bags.

While a huge amount of crude oil is used as fuel for transportation (45 per cent) and energy, heating and electricity (42 per cent), there is still the misconception that the production of lightweight polymer-based products causes the depletion of oil reserves.

In fact, being lightweight, plastic bags are much more energy-efficient and have, therefore, contributed towards sustaining limited energy resources.

Plastic bags are 100 per cent recyclable and the recycled resins have a wide spectrum of applications. To say then that plastic waste recycling in Malaysia is not possible, or is not significant, is inaccurate as current recycling operations are active and profitable even without subsidies.

Plastic bag uses 91 per cent less energy to recycle and generate 60 per cent less greenhouse gas emissions than paper bags.

The Forum wishes to also reiterate that plastic bottles made from polyethylene terephthalate (PET) should not be blamed for environmental pollution. It is not the product itself that pollutes but the behaviour of mankind. Calling for the ban of PET bottles does not address the root cause of littering.

Finally, in determining which packaging material is the best choice, it is necessary to measure all the parameters, from the initial stage of the raw material (cradle) up to its end of life (grave) at the disposal stage. This "cradle to the grave" technique, also known as Life Cycle Assessment (LCA), is essential to judge how a product affects the environment.

Plastic bags -- whether in terms of the total energy used, fossil fuel used, waste disposal volume/weight or

greenhouse gas emissions -- have the lowest environmental impact compared with any other packaging material.

Plastics, just like other materials, will have an adverse impact on the environment if it is not properly managed.

Our proposal to set up a work group based on the 3Rs model would effectively address all the issues raised with stakeholders working together towards a better environment.

Given that 80 per cent of plastic shopping bags are reused, mainly as garbage bin liners, the unintended result of banning plastic-bag use even for a day, or imposing a levy on plastic bags, would be that most consumers, who normally reuse plastic bags, will be financially burdened.

This is because they would now have to buy thicker-gauge plastic garbage bin liners. Consequently, we will not see any reduction in the overall tonnage of plastic bags ending up in landfills.

If the authorities would like to do something for the environment, stronger mechanisms to punish litterbugs should be in place to prohibit littering altogether, and provisions for the collection and recycling of all materials, including plastics, should be advocated.

The Forum stands by the good principles of the 3Rs model and will continue to run activities on the model.

The Forum, therefore, calls upon the Penang government to urgently adopt the 3Rs model, as this approach would not only benefit the environment, but also not burden the rakyat.

The 3Rs model, in place of the ban/tax model, needs to be given a chance to work.

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