



FOOD, (UN)GLORIOUS FOOD

If you ever doubted that we live in a land of plenty where we want for nothing, consider the staggering statistic that, collectively, Malaysians produce enough organic waste annually to fill both Petronas Twin Towers at least 50 times over. With a large proportion of our trash made up of leftover food, it's clear that we take our bounty for granted. How can we make good use of this bad habit and curb our propensity for wastage once and for all?

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IT'S BEEN SAID that the easiest way to learn more about a country, its people and its culture is through its food. Here, in the heart of Kuala Lumpur, travellers looking to do that will find plenty of eye-catching sights in the bustle of open-air markets—take the one in Pudu, for example. The market, which has been running daily for the past 50 years, provides a space to dozens and dozens of small vendors whose wares make up a mind-boggling array of sundries, cooked food, seafood, meat and fresh produce. Between squeezing one's way through narrow aisles crammed with daily shoppers getting food supplies and making eye contact with vendors who have honed the art of calling attention to their goods with the most creative rallying cries that rise above the wet-market din, the sights of down-home, good and fresh food abound at relatively low prices, which could go even lower still if you have a knack for haggling. I don't know about you, but moments like these make me realise that I'm blessed to live in a land that is all but lacking in food. So much, in fact, that it made me wonder: what happens to all this food if it doesn't get consumed?

I didn't even have to go very far to get a bit of insight. By the afternoon, the market crowd had thinned out, enabling me to spot a curious sight near the market dumpsters. A man in

worn *pasar malam* jeans and dirty sneakers had leapt into a dumpster and seemed to be scavenging for something. He threw the things he found to a companion standing nearby with a large, salmon-pink plastic bag. Moving closer, I asked what they were collecting. It was *petai*, and plenty of it. "I'm bringing them home for my wife to cook," said Budi, the man in the dumpster, as his companion eyed me warily. Although the vegetables didn't look high quality or even well formed, they seemed fresh, and Budi insisted they were fit for consumption. "We come here almost every day, and we can get different things each time," he continued. "The [vegetable] *taukeys* don't want these anymore, so why waste?"

BUDI'S SEEMINGLY PREFERRED place for grocery shopping is unorthodox to say the least, but it's a striking statement on the amount of food wastage that goes on in this country. For a developing nation, Malaysia's food habits are distinctly first world. Our desire to expand our palate to unexplored cuisines has inspired waves of new food establishments; and with our discerning taste buds, we profess strong opinions on the level of quality, service, creativity and value. Places that miss the mark run the risk of being forever relegated to a "don't ever go there again!!!" blacklist. Food is our national pride, as it always has been and will continue to be—after all, if you take away our *laksa*, *nasi kandar* and *rendang*, you're taking away one of the most tangible things Malaysians genuinely feel a pride for.

Vibrant as our food culture is, there are consequences that must be given consideration—what it equates to is the creation of more solid waste, an increasingly critical issue that Malaysians have to address. In 2012, our population

of approximately 30 million individuals collectively produced 33,000 tonnes of waste on a daily basis—an astounding increase of 42 percent from 2005—based on data from the Ministry of Urban Wellbeing, Housing and Local Government. From that figure, about 45 percent, or 14,700 tonnes, was food and organic waste, bringing the annual total of organic waste to 5.3 million tonnes per year, an amount that would fill both Petronas Twin Towers at least 50 times over. In 2005, surveys conducted by the ministry had projected that our trash output would double only when we reached the year 2020, but here we are in 2015, and the figures indicate that we're close or already there.

But food wastage isn't just a Malaysian issue—it's a global endemic that we are aware of but aren't doing enough about. A 2011 study conducted by the United Nations' Food and Agriculture Organisation (FAO) indicated that 1.3 billion tonnes of food are lost or wasted annually throughout all stages of food production. In low-income countries, food loss happens at a much earlier stage in the supply chain due to reasons such as diseased crops or lack of proper agricultural infrastructure; while in higher income nations, the reverse is in effect, with significant food waste—namely, discarded, uneaten food and overbought food past their expiration dates—occurring on the consumer level. Despite having more established food bank programmes and waste recycling systems, wastage in developed countries is so rampant that nearly 222 million tonnes get thrown away annually, an amount that matches the net food production—230 million tonnes—of the entire sub-Saharan Africa. Water, land, energy, labour and capital resources to produce that food are also being squandered due to wastage, contrib-

PILOT MODE

Projects currently being conducted under the proposed food waste management plan.

FOOD BANK

Malaysia has yet to implement a national food collection programme, which are activities currently undertaken by NGOs like the Kechara and Pertiwi soup kitchens. With federal support, the Petaling Jaya City Council launched a pilot food bank programme in 2012 to collect food close to their expiration dates from factories, grocery stores and bakeries. The food would then be distributed to charity homes and needy individuals.

Advantages: The program has been well-received by the public. Kayu Nasi Kandar donated a delivery van to distribute the collected food; the mayor of Petaling Jaya allocated two shop lots in PJ8 for the food bank; large and small businesses such as Tesco, Dutch Lady Industries, Cherry Cake House and Mirabelle Patisserie agreed to participate in the donation drive.

Disadvantages: Lack of meal planning results in charities receiving the same type of food at every distribution; participating businesses are reluctant to donate food that is close to expiry and choose instead to donate new food, which conflicts with the objectives of a food bank.

CENTRALISED COMPOSTING FACILITY

In Kampar, a composting centre has been set up to collect waste generated by all wet markets in the district. Organic waste from the public is also segregated, collected and sent to this composting facility to be repurposed into fertiliser.

Advantages: Immediate solution to preventing organic waste from reaching landfills; waste can be repurposed into fertiliser and sold for profit by the city council. The funds are then used to maintain composting facilities.

Disadvantage: The fertiliser produced might not be *halal*, thus reducing the number of people who can use it for growing food.



WASTE IN MALAYSIA

	2005	2012
Population	26.6mil	28.3mil
Waste generation per capita	0.85kg per day	1.17kg per day
Total solid waste generation	19,000 tonnes per day 6,935,000 (tonnes/year)	33,000 tonnes per day 12,045,000 (tonnes/year)
Food waste	8,550 tonnes per day 3,120,750 (tonnes/year)	14,685 tonnes per day 5,360,025 (tonnes/year)

HOW TO CREATE YOUR OWN COMPOST

1

Set aside a plastic container for your kitchen waste: vegetable stems, eggshells, etc.

2

Prepare a large rubbish bin and a plastic pipe. The perforation allows air to circulate through your compost system.

3

Throw your kitchen waste into the rubbish bin when you've collected enough to fill slightly less than half the bin.

4

Cover your compost waste with a layer of dry leaves.

5

Cover the layer of dry leaves with a layer of soil. You can create as many compost bins as space, time or patience will allow.

6

After three months, your compost will be ready to use for growing any kind of vegetation you choose.

uting to overall greenhouse gas emissions when they end up in landfills.

Back at home, urban areas like Kuala Lumpur and Petaling Jaya have already begun to run out of nearby sanitary landfill space, forcing local authorities to look for alternatives that might be too close to residential areas, or send waste to transfer stations in other towns that are already overloaded. This is a stopgap measure that's clearly not viable in the long-term as Malaysia's population grows and landfill space becomes scarcer, due to land making way for commercial and real estate development. The solutions for repurposing food waste before it ends up in the landfill is multi-pronged—households, industries, even small vendors can do their part; it's simply a matter of getting everyone on board to really roll up their sleeves and get down to business.

FORTUNATELY, the urgency of cutting down on waste has been acknowledged, which is why by September this year, small steps will be taken in the right direction. The public will be required to separate household waste according to organic and inorganic waste, an act that requires little effort on the individual's part.

IN 2012, MALAYSIANS COLLECTIVELY PRODUCED 33,000 TONNES OF WASTE ON A DAILY BASIS—AN ASTOUNDING INCREASE OF 42 PERCENT FROM 2005. OF THAT AMOUNT, ABOUT 45 PERCENT, OR 14,700 TONNES, WAS FOOD AND ORGANIC WASTE.

“The implementation of this new rule is part of the government's effort to reduce the amount of solid waste sent to disposal sites, which is becoming serious,” said Datuk Abdul Rahman Dahlan, Minister of Urban Wellbeing, Housing and Local Government, in a statement. Describing the increase in waste as “sudden”, Dahlan believes that “separation at the source will help reduce the amount of solid waste sent to disposal sites, which will then increase the lifespan of these sites.” Two rubbish bins will be provided to every household for this purpose, and Malaysians who don't comply with the directive will see their rubbish collection delayed.

I wanted to know what else could be done

to reduce waste at home, so I sought out an expert. Dr Theng Lee Chong, an environmental specialist who works closely with Putrajaya on various waste management projects, encourages Malaysians to take it one step further with personal food waste management. He breaks down food waste into four categories: inedible kitchen waste like vegetable roots and eggshells; food residue like bones; wasted food like unfinished meals; and uneaten, expired food like bread, snacks and tinned food. The first three categories, according to Theng, can be easily turned into compost for growing flowers or vegetables. “In Malaysia, composting as a commercial solution for industrial food waste is a bit tricky, due to *halal* and *haram* considerations,”

observes Dr Theng. Food waste can be repurposed into fertiliser and animal feed, but few would be comfortable growing food using non-*halal* fertiliser or feed meal. On a household level, however, composting makes sense. Theng has devised a semi-aerobic composting method that only needs the initial set-up, but doesn't take daily effort to maintain. His composts, which are prepared in rubbish bins, take three months to mature, and can be utilised even in a small condo with

a balcony. The bigger challenge is changing the Malaysian mindset about consumption habits, which Theng describes as “a bit spoilt, because we have too much food to waste”.

If anyone is looking for an expert in food waste issues, Theng is likely one of the foremost go-to persons in the nation. In the past 15 years, he has written more than 100 technical papers, columns and international journals, and collaborated on environmental and waste management projects with various United Nations bodies, as well as the governments of Denmark, Japan and the Philippines. His fieldwork has led him to about 50 landfills around Malaysia, and most of them are filled with wasted food, not just from households but also from food industries. Once, he received a call from the officer on duty at a landfill. “He told me, ‘I just got a truckload of potatoes, what should I do?’” Theng recalls. The driver of the truck had already left without explaining why, and scavengers living in a squat nearby had begun to collect the potatoes. Theng instructed the officer to bury the potatoes with a bulldozer and discourage the scavengers from taking more, in case of disease. Although the potatoes were never sent for testing, none of the scavengers who brought some home were reported to have fallen ill from eating them, leading Theng to conclude that here was yet another example of food resources being squandered. He estimates that about 10 percent of landfills contain the fourth category of food waste, which is perfectly whole, wasted or

expired food. And it's not just vegetable crops that he's seen: packaged food such as unopened snacks like Mamee and Twisties regularly end up in landfills, some not even past their expiration dates. “It's a lot when I calculate the tonnage. I feel so bad,” Theng says.

The country still has no specific framework in place to address the challenges of reducing and recovering organic waste, but the Urban Wellbeing, Housing and Local Government Ministry has brought Theng on board to rectify this. A comprehensive national plan targeted at industrial food waste management has been created for Malaysia through a collaborative effort between the ministry and the Ministry of Environment in Japan.

FOR EVERY RECEPTION OF 100 TABLES, AT LEAST 20-30 TABLES WORTH OF LAVISH 10-COURSE MEALS COULD GO UNEATEN. “WE SHOULD REALLY BE APPRECIATING WHAT FOOD WE HAVE,” SAYS DR THENG LEE CHONG, ENVIRONMENTAL SPECIALIST. “DON'T BE SHY. JUST TAKE AWAY YOUR LEFTOVERS LAH.”

Although Malaysian households collectively contribute a large bulk of food wastage, compelling individuals to change their ways won't help reach waste reduction goals by the targeted timeframe. Instead, the plan draws from the Japanese experience with waste management to set an example for industries here. Setting up a proper framework on strategies such as recycling at the source or ensuring that edible waste is correctly disposed of at organic waste-processing facilities—if done efficiently and correctly—could drastically lower their carbon footprint and relieve our landfills of some pressure.

But the proposal is still pending approval, with various projects being carried out in the pilot stage—it could be years before the regulation of food industries is implemented. As conscientious citizens, we don't have to sit and wait if we choose not to. Theng emphasises that change is hard, but starting small can make a big difference. He leaves me with a telling anecdote on surveys he's done on wedding dinners: for every reception of 100 tables, at least 20-30 tables worth of lavish 10-course meals could go uneaten. We don't have a culture of taking home leftovers, mainly because we fear that we'll be looked upon as cheapskates. When the FAO reports that 870 million people in the world still do not have enough food just to keep them nourished and healthy, the perspective becomes clearer—that caring about our image more than wasting food is something we should reconsider.

“What I'm saying is that we should really be appreciating what food we have,” Theng says. “Don't be shy. Just take away your leftovers lah.”