

# WASTING AWAY



Food lost takes a heavy toll on natural resources as governments, food banks and recyclers strive to stop the rot

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**F**or centuries, mankind has worked to balance its population with its ability to keep people fed.

Yet, despite best efforts, almost 1 billion people — out of a world population of 7.4 billion — live with hunger today. Within the next 15 years it is thought another billion mouths will need feeding — many in Asia and Africa — in some of the poorest and most food-deprived regions of the world.

But the problem is not how much food we produce or even what crops we choose to grow. Estimates show that we make more than enough to feed everyone on Earth nearly twice over.

The real problem is that we simply do not eat enough of what we make. “About one-third of all the food in the world is wasted,” said Cecilia Tortajada, a senior research fellow at the Lee Kuan Yew School of Public Policy at the National University of Singapore, citing figures from the Food and Agriculture Organization (FAO) of the United Nations.

That would be roughly 1.3 billion tons of edible produce lost annually. “We’re wasting natural resources such as water, land, energy,” Tortajada told *China Daily Asia Weekly*. “This is because of inefficiency. And because of that, the food is not reaching the people for whom it was produced.”

Among developing nations, the most food loss occurs due to poor infrastructure, inadequate storage, poor planning or crop circulation, and even simple bad luck, like diseases or natural disasters.

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# FOOD:

## Campaigns target consumers but problem goes far beyond leftovers

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But developed nations are by far the biggest wasters, said Tortajada, as produce is more often lost around the consumer level. Cheap, readily available and bought in bulk, food regularly ends up unfinished on plates or removed from store shelves when the expiry date nears.

In Asia, with its enormous population in developed and developing nations, a complex mix of food waste issues is evident.

The National Irrigation Administration in the Philippines reported earlier this month that 15 percent of its rice production is lost annually, yet the country imported 1.8 million tons of the grain last year.

Despite Vietnam being a major rice exporter, a 2013 report by the Institution of Mechanical Engineers estimated that some districts lose 80 percent of their rice crop before or immediately after harvest. The study was part of the United Kingdom-based engineering industry body's initiative to find solutions to development issues worldwide.

By percentage, the Chinese mainland is not as bad as the United States, which is believed to throw away 40 percent of all its food, but it is not far off. According to the China Agricultural University in Beijing, 60 percent of all household waste — mainly rice — is made up of food scraps. Food waste from eating out is even higher — and almost 10 percent of the country's annual crop production disappears into restaurant bins.

In real terms, however, China's waste is still equivalent to more than half of what the entire African continent grows in a year.

Unlike in more developed nations, where the bulk of food waste is produced at home, in the Chinese mainland, restaurants are responsible for the most unfinished food. The China Agricultural University estimates that leftovers from Chinese banquets every year could feed up to 200 million people.

And according to *Food Losses and Food Waste in China: A First Estimate*, a 2014 working paper for the Organisation for Economic Co-operation and Development, this food waste problem is becoming an issue of national security.

In China, arable land is now squeezed to a premium due to urbanization, drought and deforestation. According to the paper, the country's agricultural GDP halved between 1995 and 2011.

In December, the National Development and Reform Commission announced plans to withdraw 5 million hectares of polluted or degraded farmland in the coming years.

The impact of food waste on the environment is a serious one. According to the FAO, global food



**VOLUNTEERS** from Feeding Hong Kong with bread they collected from around the city. The food bank redistributes 42 tons of food every month that would otherwise have gone to waste. PROVIDED TO CHINA DAILY ASIA WEEKLY

waste produces more greenhouse gas emissions than any country in the world, except for the Chinese mainland and the US.

This is of concern to Hong Kong. With a land area of around 1,100 square kilometers, the special administrative region imports over 90 percent of its food and now lacks space to dispose of waste material.

"Specific to (Hong Kong) we are filling up our limited landfills with unnecessary waste," said Gabrielle Kirstein, cofounder and executive director of Feeding Hong Kong, a local food bank.

She said that figures show the territory's three landfills will be exhausted within the next two years. The administration plans to counter this in a range of ways, including the building of a "super-incinerator" and the capturing of methane gas to power cars and businesses.

Meanwhile, some 1.4 billion hectares globally — nearly 30 percent of the entire world's agricultural land — is occupied by crops or food that will end up uneaten.

Campaigns are in place to encourage people to use up produce and to reduce end-product waste. These include China's Clean Your Plate campaign and Thailand's Save Food Asia-Pacific.

However, polishing off a meal is still not likely to change the millions of tons of groceries we cannot or do not need to purchase.

One response has been a growth

in food banks. These collect almost-expired goods or unwanted food items and disperse them to those most in need in the community.

Feeding Hong Kong was set up in 2009, as a response to excess food and the needs of poverty-stricken locals. According to Kirstein, one in six people in the city live below the poverty line.

"We're collecting 42 tons of food a month and working with over 170 companies," she said. On the distribution side, the food bank works with 67 charities on 92 food assistance programs.

"Basically, good food that would otherwise have gone to waste is going to a good home. It's a win for the environment and a win for our community."

In Tokyo, Charles McJilton runs something similar. As founder and chairman of Second Harvest Asia, a Japanese food bank, his organization has been operating since 2000.

With more than 1,140 companies providing unused food, and thousands of volunteers across the country, Second Harvest collects and distributes to some of Japan's estimated 12 to 19 million people living under the poverty line.

As a whole, "food loss and food waste is actually decreasing in Japan the last couple of years," said McJilton.

"That's down to better processes" including recycling and reusing, he added.

The 24-hour culture in many Japanese cities means consumers expect fresh food in convenience stores at all times throughout the day. Boxed lunches, rice balls and pastries are often labeled with an expiration hour, not an expiration date.

To profit from the large amount of unsold food items, companies now seek new methods. Some recycling facilities turn unopened boxed lunches into animal feed. One facility in Tokyo reportedly converts 25,000 lunches, or 7.5 tons of food waste, into animal feed daily.

In South Korea, recycling has gone a step further with what could be seen as a penalty system for food wasters. Since 2005, South Korea has enacted some of the most stringent food waste laws in the world, banning the burial of food and establishing strict controls on burning.

Neighborhood trash cans in some parts of Seoul require personalized identity cards to open. Bags of food waste are weighed and a fee is charged before they are taken to a recycling plant.

Such legislation spurs momentum, said Kirstein of Feeding Hong Kong. Measures as varied as tax deductions and compulsory donations of unsold food can help support the industry.

However, there are misconceptions as to how much food waste can actually be slashed at the consumer level compared with during production.

Food waste is a product of con-

sumer choice, to buy what and when we want — and "if we didn't have that," said Second Harvest's McJilton, "we wouldn't call it a free-market system".

By comparison, hunger comes from lack of money to buy available food and infrastructure to reach those in need.

Second Harvest's "fishing fleet" of trucks and deliveries barely scratch the surface, McJilton said. Despite the company harvesting 2,300 tons of food for redistribution in 2014, 99.4 percent of Japan's food loss was not donated.

It would be impossible, logistically, to reclaim all the wasted food necessary to feed the world.

Environmental issues may be improved by cutting down food loss, McJilton said, but he feels that campaigns for clean plates and fewer meals are in place to "make politicians feel good".

"It makes the public feel like something's being done, but the reality is that it doesn't really change the dynamics of food loss or how much is actually getting to people in need."

Tortajada of the National University of Singapore said that part of the issue is supply and demand — a social problem rather than a food problem. "If people can pay for something, they demand it. Business firms respond," she said.

Open trade and solid infrastructure are vital to fix imbalances.

For instance, historic starvation in sub-Saharan Africa was widely blamed on lack of food. In fact it was mainly due to "inefficiency, to corruption, to a lack of structure — lack of roads and trade — because there was poverty," Tortajada said.

She noted that many of Thailand's crops were destroyed in the severe flooding of 2011, yet starvation did not occur, due to well-stocked rice stores, good infrastructure and farsighted policies.

Campaigns to raise awareness of food waste will take time, and attempts must be made to stop losses further along the chain — whether by government intervention or new technology.

As the world's population grows, shrinking crop yields and more waste is likely. By 2050, the world's population will have surged to more than 9 billion.

"We don't have enough land. We don't have enough water. And when it comes to our climate, we really don't know what we're going to have," said Tortajada.

"Forget 2050. This is already a big problem. We need education, we need awareness. We need to understand that we have more money to spend on food, but also that our resources are fewer."