


A photograph showing two large metal buckets, one green in the foreground and one orange in the background, filled with various types of waste. The green bucket contains several broken eggshells, a whole brown fruit (possibly a mango), and other organic debris. The orange bucket contains plastic waste, including a green and white packet. The buckets are situated on a ground covered with dry leaves and twigs, with a pile of sticks visible in the upper left corner. A white text box with the words "NO TIME" is superimposed over the upper part of the image.

# NO TIME



As landfills overflow, China's villages  
struggle with the impact of the  
country's trash problem

农村垃圾处理进入新时代

TEXT AND PHOTOGRAPHY BY TINA XU (徐盈盈)



# TO WASTE

**T**he wake-up call came with the tragedy of a newborn boy. In 2008, four-month-old Xie Yongkang was living 190 meters away from the Hai'an Waste Incineration Plant in Jiangsu province when his eyes began to no longer follow movement; doctors diagnosed baby Xie with cerebral palsy and epilepsy.

With no genetic cause, experts blamed the incineration plant. But the hazards of mismanaged trash had been signaled long before: Six villagers had died of cancer in neighboring Xiehe Village the previous year; five more cases were diagnosed in 2009. Soon, farmers began dragging dead livestock to the incinerator's gates, demanding compensation.

A lawsuit by Xie's father, brought with the aid of the Center for Legal Assistance to Pollution Victims, documented high levels of airborne dioxins in the area from years of the plant's operations. It emerged that the plant had been built within the regulatory 300-meter safety exclusion zone from residents, and even lacked the proper environmental licensing. Yet the

courts acquitted the incineration company, claiming inconclusive evidence.

Chen Liwen, a 37-year-old environmentalist and founder of the NGO Zero Waste Village, who assisted with fundraising for the Xie family's legal expenses, calls it "a tragedy I will never forget." Yongkang is now 12 and still bedridden. "He inspired many, including me, to begin studying incinerators and their effects," Chen tells TWOC. "Industrialization, while raising our standard of living, is supposed to make us more healthy, not less."

The mission to tackle China's chronic waste-management issues is partly personal for Chen, who recalls summers spent swimming in rivers near her childhood home in Hebei province.

But after pursuing a master's degree in the United States, Chen was shaken by what she saw on her return in 2017: Piles of plastic trash and rotting food had glutted the streams of her youth, and children no longer dared to touch the water. As middle-class consumption levels increasingly become the standard in China, decades of "economy first" policies have left



its countryside besieged by waste and wracked by environmental and public-health concerns.

The clock is ticking on finding a solution. In the 1980s, China generated on average 30 million tons of garbage annually, a figure that has since mushroomed to a level nearly on par with the United States (215 million tons in 2017, compared to 268 million tons in the US).

In 2018, the government banned the decades-long import of 24 kinds of plastic waste, primarily from the US and Europe, and has turned its attention sharply inward toward its own mountains of waste. Unfortunately, many of the nation's mega-landfills, the cheapest disposal option per unit of trash, are now reaching capacity.

The Jiangcungou landfill in Shaanxi, which serves the provincial capital of Xi'an, is currently 150-meters high and covers an area the size of 100 football fields. Intended to last until 2044, Jiangcungou made headlines last year when officials declared it was already full—25 years ahead of schedule.

The concern is not just over the

lack of space: in 2015, a Guangdong landfill that was illegally piled 65 meters higher than its maximum capacity collapsed onto a neighboring district, killing 73 people.

In need of a quick alternative, the central government set a target to burn 50 percent of China's garbage by 2020, up from 25.6 percent in 2015. At the same time, most rural areas lack even dumpsters or garbage collection—a 2017 survey of 100 villages across five provinces found that only 22 percent of villages had any form of waste-disposal service. Another survey of 22 villages in southwestern China found that 45 percent of trash was illegally dumped or burned on riverbanks and open areas.

To tackle this, thousands of smaller incinerators were installed across the country. However, with little funding for their maintenance, and with rural trash requiring careful sorting and drying, many of these village incinerators have been largely neglected by residents more used to simply fly-tipping at random sites and burning the excess, plastic and all.

Meanwhile, 286 “waste-to-energy” incinerator plants had been built by 2017, offering more expensive and efficient solutions—as well as potentially more dangerous ones. While the plants generate some electricity through burning for local power grids, health risks associated with rural industry have often come at the expense of the poor communities that surround them, and incinerators are no exception, as the families near the Ha'ian plant discovered.

While such incinerators are operated to relatively clean standards in countries like Japan and Germany, lax regulatory enforcement and an emphasis on profit have led to a much smoggier history of operation in China.

Local governments contract private

**ONLY 22 PERCENT OF  
VILLAGES HAD ANY FORM  
OF WASTE-DISPOSAL  
SERVICE IN 2015**



**Villagers dumped or burned trash in roadside pits and riverbanks before there were waste management systems**

Around half of  
rural household  
waste is  
compostable  
if processed  
correctly

government would “resolutely declare war against pollution as we declared war against poverty.” But there are no easy solutions.

When I was a kid, the sky was blue. What color is the sky now?” Chen, the environmentalist, asks in an elementary school classroom in Hou’anzhuang village on the outskirts of Xingtai, Hebei province.

“White!” the children chorus on a smoggy winter day.

Seven of the ten most polluted Chinese cities are in Hebei’s industrial zone; it’s here that Chen Liwen is trying to give villagers an environmental education, including schoolchildren.

Xingtai used to be known as China’s most air-polluted city. In 2013, there were only 38 days when its air quality met national standards. For children growing up in the early 2000s, an omnipresent haze had become a hazardous norm, consisting of chemical, metallurgical, coal combustion, construction, soil, and road dust.

“Who here lives near the landfill?” Chen asks. “Does it stink?” Another affirmative chorus. Chen relates the tragic tale of Baby Xie: “This boy who

companies to build incineration plants, often choosing the cheapest option. Operators are expected to make a profit, part of which returns to the local government through taxes. Low-emission incinerators are costly to build, and must be correctly operated to actually reduce hazardous output, leading some environmentalists to believe that a lack of supervision means many plants cut corners to increase revenue.

The Wuhu Ecological Centre (WEC), an NGO in Anhui province, is among those pressuring operators to disclose emissions data. The WEC found that of the 77 incinerators out of 230 that disclosed data in 2016, a quarter failed to meet China’s emission standards, which allow for 10 times the dioxins by US standards.

Thanks to stories like Baby Xie’s, protests over plans to build incineration plants have erupted across the country over the last decade in provinces like Zhejiang, Jiangsu, Hubei, and Guangdong. A demonstration in Hangzhou in 2014 left 10 participants and 29 policemen injured.

Last year, a reported 10,000 marched in Wuhan to oppose a waste-to-

energy plant atop a filled landfill, with banners reading “Pollution will kill our next generation,” and “We only want a breath of fresh air.”

While the average Chinese still produces a fraction of the average American’s garbage, the World Bank predicts the country’s annual waste will reach 500 million tons in the next five years, making China by far the world’s largest producer of trash in 2025.

In 2014, Premier Li Keqiang told the National People’s Congress that the



The cost of transportation, labor, and facilities are barriers to rural waste disposal services



was born next to a landfill is your age. Instead of going to school, he can only lie in bed every day.”

The room falls quiet. “Why can’t he get up from bed? Because he was born near this garbage plant that polluted the air around it. Why was the garbage plant built? Because there was too much garbage.”

Chen picks up two bins—one yellow, one green. “We each have the responsibility to sort our trash.”

The students murmur in recognition: A week ago, following a town meeting about the village’s new waste-separation plan, each household had received one of each bin. Chen is now teaching the children how to identify what goes into the compost bucket and what is non-compostable.

“For a long time, villagers would take their trash somewhere nearby



A village leader corrects improper sorting and tracks each household's waste separation record

Most families will sort correctly by the third or fourth collection, advocates say



and just dump it,” explains Wu Gailu, the former village committee secretary. “You can see the effect.” Along Hou’anzhuang’s dirt roads are pits peppered with plastic. Frozen dumpling packets, popsicle wrappers, water bottles, and empty jugs of cleaning agents jut out of the soil.

Formal garbage collection began in Hou’anzhuang just four years ago, as part of the government’s official policy called “village collection, township transfer, and county treatment,”

in which waste is amassed and transferred to county landfills or incinerators.

With rising rates of trash disposal, even the Xingtai Ren County landfill, where Hou’anzhuang’s waste is bound, is growing faster than anticipated. Plant manager Wu Lifei explains that the site, opened in 2012, was designed to last until 2027, “but who knows when it will be filled to capacity.” Nearly 1.3 million tons have already been dumped there, with just 400,000 tons of capacity left.

Meanwhile, Chen has found a way to reduce the flow of rural trash by more than half—by separating waste for local compost, leaving a considerably slighter volume to be buried or burned. With eager buy-in from the local government, Hou’anzhuang village has launched a waste-separation initiative under Chen’s guidance.

As a first step, to make each household accountable for their own trash, the village removed all public

trash bins. Instead, a garbage vehicle now circulates the village to collect household bins every other morning, during which each family’s progress toward proper sorting can be individually tracked. Chen personally accompanies the trash collection for the first few weeks, until she finds that most villagers can consistently and correctly sort their garbage.

Hou’anzhuang is one of 24 villages so far where Chen has gone door-to-door to establish a waste separation and local compost system, alongside communities in Hebei, Zhejiang, and Guangdong provinces. In each, Chen troubleshoots problems along the route, trains waste management employees on correct composting practices, and advises local governments on how to coordinate an efficient system of bins, waste types, and collection.

Chen and former village secretary Wu meet in front of the school at 8:30 a.m. The vehicle’s loudspeaker blares a recording of Wu’s voice on

loop: “Hey, trash collection, hey! Bring out your buckets! You’ve got two, dump them correctly, don’t mix them up!”

While major cities like Shanghai and Shenzhen have begun piloting their own waste-separation and recycling system, places like Hou’anzhuang are about as far from the urban heart of China’s middle-class environmentalist movement as possible.

“Village life is a life of acquaintances,” explains Chen. “People know each other, so we can organize the community to make a tangible change. However, we can’t just come in as outsiders. We need the support of the village government.”

Ex-secretary Wu has accompanied each collection so far, greeting each family at their door in the local accent, and checking off their work on his clipboard: “X” for correctly sorted, “O” for those who have put eggshells in the dry waste bin, or styrofoam with the compost. “By the third or fourth time, most people get it,” says Wu. “It’s not too complicated.”

In the afternoon, the collection

makes its way to Dadun Household Waste Transportation Center, operated by Runyi, the sanitation firm contracted to run the route. The kitchen waste is kept for household compost that any resident can collect for personal use.

So far, there are few takers. “People don’t have a concept of compost yet,” admits Wu. Some farmers in Hou’anzhuang argue that it simply doesn’t generate enough soil for serious agricultural use, although employees at Runyi have used it to cultivate their own vegetables in a small on-site garden.

The program, though, is slowly winning converts. “I used to really think that if it’s out of sight, it’s out

of mind,” a 40-year-old Runyi employee, surnamed Zheng, tells TWOC, but, “The more knowledge you have, the more confidence you have. I’m afraid that if we keep digging landfills, we’ll all live surrounded by landfill one day.”

“People always say waste sorting ‘won’t work’ because people won’t follow the rules,” says Chen. “But they don’t consider that humans are capable of addressing problems.”

However, Chen notes that continued momentum is the largest challenge to her work. She had originally overseen a 70-percent reduction of landfill-bound waste in her home village of Xicai, Hebei, but the success didn’t last. Within a year, the local government’s interest in trash separation waned, and residents had gone back to their old ways. A 2012 World Bank report on waste emphasized that a successful waste treatment system “requires a strong social contract between the municipality and the community.”

Maintaining supervision is the key to the success of Dongyang, a “model county” in Zhejiang province where local officials keep strict records of villagers’ waste-sorting assessments, says Chen. The top three villages are awarded bonuses of between 4,000 – 8,000 RMB—as Dongyang’s county secretary told Southern Weekend last year, “No one wants to fall behind.”

In the end, the same rampant materialism which helped create China’s trash problem may also play a part in reining it back in, at least until the burgeoning of a broader environmental consciousness. “We’ve told the people many times to recycle and teach them the importance of recycling, but no one listens to us. No one cares,” the China Plastics Processing Industry Association’s Frank Chen told the Washington Post last year. “Chinese people understand only one thing: money.”

“IF WE KEEP DIGGING  
LANDFILLS, WE’LL ALL  
LIVE SURROUNDED BY  
LANDFILL ONE DAY”



**Chen Liwen** quizzes elementary school students on what items are compostable





Environmental activist Zhang Jingning wants the Chinese public to know where waste goes

垃圾都去哪儿了：对话  
芜湖生态中心垃圾焚烧  
项目负责人张静宁



# BURNING ISSUE

BY JIACHENG LI

**C**hina has a massive trash problem: Last year, headlines exploded with the news that Jiangcungou in Shaanxi province, a landfill as large as 100 football fields that was built to last until 2044, has already filled up—25 years ahead of schedule.

To deal with the over 200 million tons of trash its citizens are producing each year, the

government has turned to incineration, with 428 waste incineration plants in operation nationwide and 216 more to come as of April 2019. This solution, though, also triggered some of the biggest public demonstrations the country has seen in the last 20 years: In 2009, thousands of protesters blockaded an urban management bureau in Guangzhou following media reports that

a waste incineration plant had caused a 20-fold increase in local cancer rates.

The Wuhu Ecological Center (WEC) is a non-governmental organization based in Wuhu, Anhui province. Since it was established in 2009, it has campaigned for greater transparency from businesses, waste management plants, and the government on pollution discharge. Its executive

officer Zhang Jingning speaks to TWOC about how the NGO continues its advocacy in the face of apathy from local authorities and resistance—and sometimes violence—from polluting businesses.

### **HOW DID YOU COME TO CARE ABOUT ENVIRONMENTAL PROTECTION?**

I feel a sense of mission toward my work, but I don't know where it comes from. Maybe it comes from my father, who is a village doctor. He likes to say he heals people. I heal the Earth.

Once you are in the middle of a job, there is more direct motivation. Once, we saw trucks on a provincial highway stopping to dump animal feces and dead poultry directly off of a bridge and into the river. When you see people recklessly creating pollution in front of you, it's deeply unsettling.

### **HOW DO YOU TRY TO INCITE CHANGE?**

We want to encourage the clean operation of waste incineration plants by means of data transparency. As mass incineration becomes a trend, the government may overlook the environmental impact. Transparency is the basis of public participation. We don't know when that day will come, but our mission is to make it happen sooner.

It is difficult to claim credit for inciting change. We can only continue to write proposals, suggestions, and briefings. Sometimes we receive exciting feedback, such as at the “Two Sessions” [annual political congress in Beijing], when a representative answered journalists' questions using

phrases from one of our reports: “Information transparency is the warning light and alarm bell of the environment.” Political actors are drawing from our work.

### **WHAT IS THE GOVERNMENT'S ATTITUDE TOWARD WASTE INCINERATION?**

The government's introduction of the pollution permit system in 2013 marked a new beginning, essentially shifting the responsibility of monitoring from the government to businesses and society at large.

There are primarily two government departments involved: The Ministry of Housing and Urban-Rural Development (MOHURD) is in charge of where the waste goes. They now think that waste incineration plants are a convenient way to burn everything, a simple and crude approach.

The Ministry of Energy and Environment (MEE) is responsible for environmental monitoring, but city or county-level branches

have insufficient ability to handle these issues, or simply lack conscientiousness. The MEE builds platforms, such as the pollution permit platform, or national pollution data platform, but these have many holes. The Environmental Protection Law clearly states that key polluting companies must disclose discharge data, but the law does not specify which channels to use. The law also stipulates that the data should be open to the public, but again, it is vague. When a business reports unusual discharge, that report is often not accessible to the public.

Generally, the attitude of government toward waste management is: Your job is to wipe my ass. Wipe it clean, and that's enough.

### **HOW HAVE BUSINESSES AND GOVERNMENT OFFICIALS RESPONDED TO YOUR ADVOCACY?**

The center has two main roles. One is policy advocacy, which

**Zhang explains**  
sorting principles  
in a waste  
separation  
workshop





pushes for the introduction or revision of policies issued by the authorities. The other part is identifying problems one by one and patching them up. One is top-down, the other is bottom-up.

We raise issues that I'm sure the MEE is aware of, but whether or not they see it as a problem is another matter. We wrote cases for the Two Sessions and got in touch with representatives to bring them up, and the government responded to the tone of, "Thank you, the problem you pointed out exists and your description of the problem is accurate. We have an environmental governance plan, which should be implemented soon." It was a stock response; I don't think we actually convinced them.

Businesses have a similar attitude. For example, if we call and ask them why they didn't publish a certain indicator, they will put it online for Quarter One. But come Quarter Two, the indicator will be missing again. Two-thirds of waste incineration plants in China are equipped with world-class equipment, but these facilities are poorly managed and still create pollution.

Neither government nor business has strong initiative. But this is also the value of an environmental protection organization: to make noise, to advocate for improvement, to act as a social observer and watchdog.

### WHAT HAPPENS WHEN YOU EXPOSE ILLEGAL ACTIVITIES?

When it comes to environmental supervision, the attitude of companies is to "Close the door and beat the dog"; in other words, to use violence to prevent you from monitoring them. We usually cannot go into factories, so we



Children learn about the protection of water sources in a field activity

simply observe quietly from the outside. When we are discovered, we are sometimes threatened.

Another difficulty is securing evidence. We take a photo to prove pollution discharge, but a photo may not be enough; you need to monitor data. We can take samples, but our samples are not legally recognized by the government, because we are not an environmental law enforcement or official monitoring agency. Another example is stench—I can say that I smell it, but I have no way to prove that. You need an odor sniffer with special qualifications.

The most damned difficult thing to obtain is evidence for toxic discharge at night, because it's too dark for photographs. In 2016, we discovered trucks from a waste incineration plant dumping fly ash [classified as a hazardous waste] in an empty field at night. We followed the activity, uncovered it, and even ignited public outrage at the issue. However, the company did not take responsibility in the end, because we did not have a clear and complete video of the dumping.

Later, when I went to survey

the pollution with my colleague, I was shocked to see that the discharge covered an area of several hundred thousand square meters, just two kilometers from the Yangtze River. Returning from that scene, my heart was incredibly heavy.

### WHAT ARE YOUR HOPES FOR THE FUTURE OF THE CENTER?

In the short term, I hope there will be a local seminar on environmental co-governance with the government and NGOs. This will lend legitimacy to our organization and help spread environmental consciousness. Now, we ask companies to disclose information, but there will be a turning point where companies seek us out and ask us to help *them* build environmentally sustainable practices. That day hasn't come yet, but I hope it will soon.

It is difficult for people working in public welfare to have a sense of accomplishment. But as long as we can keep food on the table with our basic salaries, we will stick to the work. The Wuhu Ecological Center has persisted for over ten years. This in itself has not been easy.