

Waste on the roof of the world

In February, China closed its Everest base camp on the Qinghai-Tibetan Plateau due to waste accumulation (1). Improper garbage disposal and related hazards are not limited to Mount Everest. The Qinghai-Tibetan highway has brought waste generated from packaged goods and other commodities to the plateau for decades, and it has been accumulating even more rapidly since the railway began to bring tourists and consumer products to the region in 2006 (2).

From 2000 to 2018, the number of tourists visiting the Tibetan Autonomous Region increased 200-fold, reaching 33.7 million (3, 4). The increased local population and urbanized lifestyle (5) have also contributed to garbage accumulation. Meanwhile, the local people have gradually replaced their traditions, which produce little waste, with the western diet and lifestyle (5, 6). As a result, nonbiodegradable and toxic waste has damaged the Qinghai-Tibetan Plateau's fragile environment, including its water (7, 8).

Given the fragile environment, extreme weather conditions, and limited infrastructure, the waste produced on the plateau has been beyond the local capacity to handle. The Tibetan Autonomous Region is capable of treating 256,000 tons of domestic solid waste per year (9, 10), yet its two major cities alone produced more than that in 2014 (10). Garbage sorting, which became compulsory in Shanghai recently (11), may serve as the initial step toward a solution.

The Chinese government announced plans to organize waste sorting efforts in 2017 (12), but progress on the Qinghai-Tibetan Plateau has been slow. The implementation of an effective sorting program will require joint efforts by local governments, local communities, and nongovernmental organizations to provide sufficient resources for regulation, enforcement, and education. Given the limited local capacity for handling waste, the majority of the sorted garbage may need to be delivered to the lowland for recycling. The Qinghai-Tibetan railway and highway, as well as a new expressway under construction, all allow waste to reach the region; they can help the environment by now providing the routes for trash removal.

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