

LETTERS

Edited by
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Plastics that pollute coastal areas affect local environments and communities.

Decolonizing climate action or denying responsibility?

The August summit in Geneva, Switzerland to develop a global ban on plastic production split into two groups—the High Ambition Coalition (mostly European, African, and Pacific Island nations), which prioritized limits on plastics production and a full-life cycle approach, and the Like-Minded Group (Middle Eastern petro-states, India, Russia, and the United States), which focused on plastic waste management. No treaty was achieved.

As a rising economic power, India's stance warrants scrutiny. India has taken strong steps toward environmental protection, such as a ban on single-use plastics in 2022. However, its position in Geneva reflects a belief that a plastics economy is necessary for the country's development (1). Although this is generally portrayed as a decolonizing view (2, 3), it is a denial of environmental responsibility that hurts, rather than helps, India's people. Both academia and government claim that imposing bans on plastic production affects the unorganized labor sector, such as plastic recycling workers (4). Yet unorganized labor is the first to be displaced when environmentally questionable developmental projects are undertaken (5).

Traditional Indian products, such as jute, and sustainable ways of life based on principles of recycle and reuse could be examples for the world to follow. Jute—a strong, natural, and biodegradable fiber—can be used in products ranging from twine and fabric to industrial

materials. But the jute-based economy has suffered from neglect by the government (6) in favor of a flourishing plastics industry (7).

India's population severely suffers from microplastic contamination (8), and its coastal areas are among the most affected in the region (9). The government should protect its greatest asset—the people of India. If India reinvests in Indigenous research, development, and production of sustainable products and technologies, it will not need to take self-harming stands during international environmental negotiations.

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Himalayan rivers face a hydropower surge

In May, India's Forest Advisory Committee approved the Etalin Hydropower Project, which aims to generate 3097 MW of hydroelectric power to meet the country's energy needs. This will require building dams on the Dri and Tangon rivers, which will divert water away from 1175 ha of forest (278,000 trees) (1, 2). Similarly, China's Lower Yarlung Tsangpo Hydropower Project, which commenced in July, will affect water flow into India's Brahmaputra River (3). Although hydropower can provide energy security and support the transition to clean energy, these and other Himalayan rivers are vital for biodiversity and for the livelihoods of local communities. Hydropower projects pose environmental threats. Regional collaboration could mitigate environmental and societal risks while safeguarding energy security.

The Dibang River and Dibang Valley region in northeastern India host exceptional wildlife, including snow leopards, Bengal tigers, and diverse bird and butterfly communities. However, hydropower corridors, roads, and reservoirs fragment habitats and intensify edge effects and landscape degradation, and flow regulating alters water depth, temperature, velocity, and dissolved oxygen concentrations. This infrastructure can additionally cause permanent flooding in low-elevation rainforests (2). This river basin also faces geophysical hazards, such as snow, permafrost, and glacier melt, because of climate change. For example, in 2021, a rock-ice avalanche in northern India, partly triggered by warming temperatures, left more than 200 people dead or missing in Chamoli, a town on the banks of the Alaknanda River (4). In addition, China's hydropower project could create geopolitical tensions because regulated river flow could affect downstream countries, including India and Bangladesh (3, 5).

Public health risk is also underemphasized in hydropower plant approvals. Large reservoirs and construction camps can influence vector ecology and human mobility, as seen in the Brazilian

Amazon (6). Ignoring this dimension in Himalayan river valleys could expose local communities to disease burdens.

New governance of hydropower plants could manage risks by placing time-bound moratoriums on new land clearances for construction, conducting independent assessments on ecosystem effects, and legally mandating multiseason plans for monitoring biodiversity and health risks (7, 8). Rivers should maintain at least 30% of free-flowing reaches to safeguard ecosystem connectivity, and prior consultation with local communities should include informed consent (9). Regionally, India, China, Bhutan, and Bangladesh could jointly operate a Himalayan water-risk simulation platform that uses shared data to model risk and inform decisions on hydropower project approvals.

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OUTSIDE THE TOWER



Seniors can embrace the wonders of lifelong learning in science.

A science club for senior citizens

"When I arrived at my college campus 82 years ago, I told my adviser that I wanted to major in science," Ellen tells me. She is now almost 100 years old. "He replied that there were no jobs for women in the sciences and suggested home economics instead." She smiles and adds, "There is quite a bit of science in home economics." Ellen and I are sitting in the large common room of her assisted living community in Corpus Christi, Texas, along with a dozen other residents. I visit the

community every other week to share the latest headlines from scientific journals. We sit in a circle, some in wheelchairs and others in chairs with walkers parked nearby. Those who are hard of hearing sit closer to me so that they don't miss a word. They are eager to hear and discuss what scientists have discovered.

After nearly 10 years working in the retirement industry, I knew that older adults loved and benefited from lifelong educational opportunities, but I didn't fully understand the obstacles that many of them, especially women, faced when trying to access basic science education earlier in life. When I realized

that many retirees may not have been able to study science in the past, I wondered if they would be interested in doing so now. As a lifelong science enthusiast, I proposed a science news club.

Since the club began, participants have thoroughly enjoyed staying abreast of scientific and technological developments. They marvel at the scientific achievements that have occurred in their lifetimes and make connections to events in science history, some of which they have witnessed personally. They debate the ethical issues that arise in the articles, and they ask philosophical questions that sometimes lead to adjustments in their worldviews. They are quickly becoming science aficionados.

I'm glad that Ellen has made peace with her college experience, but it feels like a small restoration of justice that she can study science with us now.

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