Climate change

How India can adapt faster

It is the biggest test case for how hot, hard-up countries can cope

FEW PLACES illustrate the challenges of adapting to climate change as clearly as the world's most populous country. India was hot even before people started to cook the planet, not to mention vulnerable to floods and droughts. Now all these ills are getting worse. Minimum temperatures last summer were the highest since 1901, giving heat-sapped Indians little respite even at night. During the monsoon in 2024, floods destroyed villages and brought towns to a standstill. In the dry season several big cities nearly ran out of water, including Bangalore, the thriving technology capital.

India is not yet rich, but is already shelling out a fortune to adapt to climate change: 5.6% of GDP in 2021, up from 3.7% in 2015. Vast though these sums may be, they barely match the scale of the problem. Humid heat makes outdoor labourers less productive, costing India the equivalent of 7% of GDP annually, by one estimate. Most Indian cities really will run out of water if they don't conserve it better, hydrologists predict. Yet in 2021 nearly half of big cities were doing nothing to recycle the life-giving liquid.

The keys to faster adaptation are information, incentives and effective government. Better information allows more rational decision-making. For example, in parts of Kerala where heavy rains cause deadly mudslides, researchers have developed a cheap early-warning system using microdata (see Asia section). Each farmer measures the rainfall on his land and feeds the information into a local database far more granular than the national weather service can provide. From this, an NGO works out which villages are so sodden as to be perilously unstable, allowing precise and timely evacuation warnings.

Simple ideas, widely disseminated, can make a difference. In the crowded slums of Mumbai, which can be five degrees hotter than the fancier neighbourhoods nearby, NGOs have found that teaching people to plant shade-giving trees on wasteland can reduce heat stress and give children a cooler place to study. In the long run, better schooling would help, too. Research suggests that education fosters the cognitive skills and curiosity that help people adapt more deftly to the new situations that climate change inevitably throws up—so, even after controlling for income, the well-schooled cope better.

On incentives, India has great scope for improvement. It is the most water-stressed country in Asia, yet hardly anyone pays a sensible price for the stuff. As in many countries, farmers tap groundwater free—often using subsidised electricity to power their pumps. Urban households are charged little for water, and many fail to pay their bills. The result is reckless waste, as farmers switch too slowly to drip irrigation and cities fail to capture rainfall efficiently.

A hint of how sharper incentives would help can be gleaned from the behaviour of big private companies, which are typically charged much more than other customers for water. An ▸▸

entire ecosystem of firms has popped up to offer them smarter sensors, analytical tools to improve water efficiency, filters that can clean toxic wastewater, and so on. If water were properly priced for everyone, far more Indian ingenuity would be applied to conserving it.

India has lots of energetic green NGOs and innovative local fixes. Many cities have water kiosks to cool gasping passers-by; a nifty scheme in Bangalore channels urban wastewater to replenish rural aquifers, thus helping farmers feed the city. But only the government has the power to set broad incentives, and India's lacks urgency (as do others: see Americas section). Neither the ruling Bharatiya Janata Party nor its main rivals talk much about the climate, and no one wants to pick a fight with farmers over water. At the state and local level, authority is often confused. In Mumbai, for example, streams, storm drains and sewers are each overseen by a different department.

India needs a more joined-up approach: heat-resilient building codes to encourage shade, ventilation and better materials; proper planning for the millions whom climate change will push to migrate internally; better information-gathering; and a price for water that makes people use it with care.

The diabolical air in Delhi, though mostly unrelated to climate change, might encourage greener policies. So might geopolitics. On December 25th China confirmed plans to build the world's biggest dam, high up in the Tibetan Himalayas (see China section). Such a dam would let a giant, prickly neighbour, with which India has come to blows, constrict the flow of the mighty Brahmaputra river. The threat should not be overstated: most of the rain that feeds the Brahmaputra falls on the Indian side of the border. But if the shock jolts India's government into taking climate adaptation more seriously, it might yet prove to be a well-disguised blessing. ■