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Subject: Bangladesh: Climate Change Pioneer

Below is an op-ed by Tahseen Ali, a professor of South Asian history at BRAC University, about Bangladesh's pioneering efforts to combat climate change. [Bangladesh will present its "climate prosperity plan" to lessen the effects of climate change on the economy at the forthcoming U.N. climate talks in Glasgow.](#)

[Bangladesh: Climate Change Pioneer](#)

By Tahseen Ali

Climate change is a theoretical problem to many, but not in Bangladesh. A single degree rise in temperature will increase sea levels by about a meter, enough to flood a fifth of Bangladesh and force nearly 30 million of its citizens to abandon their homes. If global temperatures continue to increase at their current pace, Bangladeshis will likely make up more than half of South Asia's "climate migrants" by 2050, according to the World Bank.

It's no accident, then, that Bangladesh Prime Minister Sheikh Hasina is a leading advocate of climate-change mitigation. At the United Nations General Assembly in September, she **reiterated** Bangladesh's commitment to low carbon, climate-resilient development. She also called on other world leaders to join her in that campaign.

Bangladesh has pioneered some of the world's cleverest and most meaningful approaches to energy conservation and reforestation, both of which reduce the carbon emissions that cause climate change. For example, Bangladesh now boasts the largest off-grid solar power program in the world. The Hasina government massively underwrote affordable, off-grid renewable energy production, including the installation of solar-home systems, generating electricity for more than 20 million people.

To guard against rising sea levels, Bangladeshi islanders **began planting oysters and oyster-encrusted reefs**. This so-called eco-engineering helps smooth out ocean waves before they reach shore, which reduces coastal erosion and keeps the sea away from neighborhoods. The reefs, once grown, completely dissipate waves of less than 20 inches in height and decrease the force of waves that are more than 40 inches tall. The reefs also protect the shore during catastrophic weather. During Cyclone Roanu in 2016, the reefs blocked what would have been highly destructive tidal surges. A bonus is that oyster reefs provide a welcoming habitat for other animals, improve water quality, and enhance seagrass growth.

On mainland Bangladesh, mangroves have been replanted in large quantities to increase oxygen production and hold down the damage caused by severe weather. The mangroves' roots, trunks and leaves obstruct the flow of water, decreasing its velocity. Trees are used in similar ways. Bangladesh's Social Afforestation Program encourages people to plant and raise trees in both urban and rural settings, which has resulted in the planting of millions of young trees. The government plans to plant at least 72 million saplings this year alone. Bangladesh has tripled its forest coverage from 7 percent in 2005 to 22.5 percent this year.

Bangladesh has partnered with scientists to increase the diversity and resiliency of crops in ways that reduce flooding. **Floating gardens** constructed of paddy straw and aquatic plants create organic islands capable of producing squash, okra, and gourds, which are effective in withstanding flood waters. **Salt-tolerant seeds** allow Bangladeshi farmers to plant potatoes, carrots, grounds, red beets, cabbages, and Indian spinach in soil that contains high quantities of saline.

Bangladesh also pursues cutting-edge, high-tech solutions to climate change. To meet its rapidly increasing power needs, for instance, Bangladesh has embraced nuclear power. It started construction of its first nuclear power reactor, Rooppur 1, in November 2017. The unit is scheduled to come online in 2023. Construction on a second reactor began in July 2018.

As far back as 2009, Bangladesh's leaders initiated the “Bangladesh Climate Change Strategy and Action Plan.” It laid out 44 programs that Bangladesh pledged to implement in six major categories including food security, disaster management and carbon mitigation. Bangladesh forged partnerships with several organizations such as the United Nations Development Program and the World Bank to complete these plans.

The fund has grown to \$450 million, which has supported 789 climate projects. These include reforestation of 6,922 hectares of land, installation of nearly 11,000 solar home systems, and the construction of 16 solar power plants. It also provides funding for cyclone-protected housing, dams, and solar-powered water purification plants. The government has poured billions of dollars into protecting the nation’s environment and has even amended its constitution to require ecological protections.

Thanks to these and other efforts, Bangladesh emits relatively little carbon dioxide, the major cause of climate change. But it bears a disproportionate share of the danger that climate change presents. Its initiatives that reduce carbon emissions and fight the impacts of climate change deserve notice and should be seen as a model for the rest of the world.

Tahseen Ali holds a doctorate specializing in the history of South Asia. He is an assistant professor at BRAC University and was a member of the full-time faculty in the Houston Community System.

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