



The fragile Sundarbans mangrove ecosystem (dark green in this satellite image) is threatened by increased development in Bangladesh.

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Saving the Sundarbans from development

The Padma Bridge construction project in Bangladesh is near completion (1). The 6.15-km-long bridge, costing nearly US\$4 billion (2), will connect the northern and eastern parts of the country to the southwest Khulna division, which includes the Sundarbans—the world’s largest mangrove forest stretching over 10,000 km² in Bangladesh and India (3). The bridge, when commissioned, is expected to boost Bangladesh’s gross domestic product by as much as 1.2% (4), but it will also put the fragile Sundarbans mangrove ecosystem at risk.

Bangladesh has already lost the Chakaria Sundarbans, one of the oldest mangrove forests in South and Southeast Asia, as a result of the rise of commercially profitable shrimp farming (5). The same could happen in the Khulna division, where the bridge construction has exacerbated increasing land prices and expanding development of real estate, fisheries, tourism, and resorts near the Sundarbans (6). The bridge will also facilitate greater access to the busy Mongla Port and likely accelerate forest clearing and land grabbing in the area.

Although economic gains are important, ecological and environmental issues must be considered in long-term development plans. The Sundarbans mangroves region is a UN Educational, Scientific, and Cultural Organization World Heritage Site, a Ramsar site, and a Class 3 tiger conservation landscape of global priority (7). At least 355

species of birds, 49 species of mammals (including the globally endangered Bengal tiger), 87 species of reptiles, 14 amphibians, 291 species of fish, and 334 species of plants have been recorded in the area (3). The Sundarbans region is situated on the highly active Ganges-Brahmaputra delta, the third largest river basin in the world after the Amazon and the Congo (8). One-third of the Sundarbans consists of rivers and streams, which act as a nursery for fish and other aquatic life, including Asia’s last two remaining freshwater dolphin species: the Ganges river dolphin and Irrawaddy dolphin (9).

More than 3.5 million people depend on the Sundarbans ecosystem for their livelihood and income (10). The world-renowned mangrove forest regularly protects human lives and habitation from cyclones and tidal surges (11). The Sundarbans region also plays an important role in regulating key ecological processes, including carbon sequestration, storage, and cycling (12).

The Sundarbans forest already faces many challenges, including sea-level rise, salinity intrusion, habitat degradation, and biodiversity loss (3). The government’s plan to establish a coal-based power plant has also threatened the region’s sustainability (11). Once traffic begins entering Khulna by way of the Padma Bridge, the risks will only increase. The Government of Bangladesh should provide clear guidelines for development, including strict regulations on land clearing, landfilling, waste disposal, and wastewater discharge. To protect the Sundarbans, any development in the region should also comply with policies that conserve local ecosystems and livelihoods.

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Aggregating data from COVID-19 trials

In their Policy Forum “A strategic approach to COVID-19 vaccine R&D” (29 May, p. 948), L. Corey *et al.* discuss the importance of coordinating randomized clinical trial (RCT) protocols to facilitate the evaluation of coronavirus

disease 2019 (COVID-19) vaccines, and they highlight the ACTIV (Accelerating COVID-19 Therapeutic Interventions and Vaccines) public-private partnership as one example of productive collaboration. We agree that coordination across RCTs is crucial to ensure that evidence for the treatment and prevention of COVID-19 is adjudicated and disseminated as quickly and reliably as possible. In the absence of coordination, false positives from underpowered and uncoordinated collections of redundant trials could fuel the proliferation of ineffective and potentially dangerous treatments. ACTIV provides infrastructure to coordinate efforts by pharmaceutical companies developing vaccines and novel compounds; a similar platform is needed for voluntary collaboration by diverse partners on the full spectrum of research questions.

To increase the power of RCTs, we have created a pilot repository for RCT protocols led by principal investigators who are open to various levels of collaboration. On the COVID-19 Collaboration Platform (CovidCP), researchers can submit their draft or completed protocols and find collaborators. Together, they can initiate new multi-site trials, work to create collaborative protocols that can be used at multiple sites but as independent studies, admit new research sites under the existing trial and Institutional Review Board, share anonymized interim and final data with sites that choose to conduct a trial under a similar but not identical protocol, and collaborate on data collection tools, data standards, and case report forms.

Organizing multi-site RCTs and, where that is not possible, combining data from separate but similar trials with the use of appropriate subject-level or meta-analytical methods, will produce answers faster and more accurately than conducting each trial independently. Every patient participating in an RCT has the right to have their data used as efficiently and meaningfully as possible. Streamlining protocols can help researchers make full use of data even from trials that are stopped early as a result of a change in standard of care or local epidemic waning, from trials that are small and possibly underpowered, and from single-arm trials.

We trust that the clinical research community will share their work and knowledge in the service of developing all possible tools for fighting this pandemic, and we invite additional input and partnerships to maximize the effectiveness of CovidCP. By working together to determine how a cooperative platform such as CovidCP can most benefit researchers, clinicians,

policy-makers, and patients, we can address the COVID-19 pandemic and prepare for future global health emergencies.

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COMPETING INTERESTS

B.E.B., E.L.O., and D.O.S. are members of the CovidCP executive committee. R.B., C.C., N.E.D., V.D.G., S.S.E., M.E.H., D.F.H. Jr., J.K.L., and R.W. are members of the CovidCP advisory board. S.S.E. serves on the Research Oversight Committee for COVID-19 trials conducted at the Perelman School of Medicine, University of Pennsylvania, and serves on a data monitoring committee for two trials of COVID-19 treatments being conducted at Stanford University.

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Brazil undermines parks by relocating staff

In May, in the midst of the coronavirus disease 2019 (COVID-19) pandemic, Brazil's Ministry of Environment issued a series of new acts dismissing and relocating the heads of National Parks administrated by the Federal Agency for Conservation of Biodiversity (1). The new management model will relocate experienced technical staff of all National Parks and Reserves into a few Management Centers (NGIs), often far from the Protected Areas (PAs) they oversee. This remote management strategy will result in a substantial reduction of the country's ability to preserve key ecosystems, such as those located in the Brazilian Atlantic Forest of northern Rio de Janeiro state, where the last populations of the highly threatened Golden Lion tamarin (*Leontopithecus rosalia*) live, along with

many other endangered species (2, 3).

NGIs were originally designed to integrate and strengthen similar PAs, but few meet this criterion. The Golden Lion tamarins live in tropical forests, but the designated NGI for that region will also include the Restinga de Jurubatiba National Park (4), formed by coastal lagoons and sandy plain shrublands. Long-term ecological studies that have been conducted in this park for decades (5) are now on hold because of uncertainties posed by the implementation of NGIs. This park is located in one of the most populated regions of South America (6), and proper conservation of its unique biota is also in severe peril. Illegal hunting and fishing are common in all Atlantic Forest PAs, despite the presence of PA staff. Removing the staff from the local region will impair effective responses to these activities, likely increasing the loss of rare and threatened species of birds and mammals.

The Brazilian Atlantic Forest is also a potential hotspot for emerging diseases (7) given the severe biodiversity impacts of rampant deforestation (8). Instead of dismantling the management structure that protects PAs, Brazil should increase the technical and financial support needed by its parks to foster tourism, education, science, and conservation.

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