

## **Is Sustainable Climate Adaptation Possible in Indonesia?**

Cornell is involved in discussions with Indonesian partners to develop practical strategies to reduce the impacts of climate change in Indonesia. The CCSF and the Office of the Vice Provost for International Relations are convening this topical to brainstorm ideas that merit consideration should this opportunity come to pass. Climate change poses severe challenges for Indonesia in the form of reduced agricultural productivity due to drought, decreased catch of fish due to warmer ocean temperatures and coral reef degradation, and greater risk of flooding of entire islands and low-lying coastal areas due to compromised wave barriers and higher sea levels. Changes in marine conditions also threaten biodiversity. Practical approaches to reducing Indonesia's contributions to climate change and to developing strategies at the village, island and national levels are needed to avert these dire consequences. Fortunately, the Indonesian government and people are aware of the threats and have taken steps to reduce use of fossil fuels by eliminating subsidies and to reduce greenhouse gas emissions. However, these commitments will come to naught without a well-defined strategy to address specific issues related to climate change and without the expertise to design and implement these initiatives. Thus, this concept note emphasizes research, outreach and capacity building.

Indonesia is the third largest contributor in the world to CO<sub>2</sub> emissions, based on its current rate of deforestation. This same deforestation is the greatest threat directly to coastal biodiversity and fisheries yields. The clear solution is to use REDD funds to slow deforestation, make sure it is patterned to minimize soil loss (i.e. bands of deforestation, alternating w forested areas), take advantage of so-called blue carbon credits to add in extensive mangroves both as wave breaks and filters to coastal ecosystems. Instituting marine spatial planning will involve establishment and management of marine protected areas to protect fishery source habitat and populations and care with siting the new aquaculture.

The key climate change threats to Indonesia include increasing sea surface temperatures, increasing ocean acidification, sea level rise, longer and more intense floods and droughts, more intense cyclones, loss of mangroves, sea grasses and coral reefs, synergism between these and local stresses such as over fishing, destructive fishing, deforestation and land-based pollution.