

adaptation to change for all living things—including us humans. Mark Erdmann, a marine biologist with Conservation International in Indonesia, gave me a mini-lecture about this in March 2008, as we sat on a beachfront overlooking the Lombok Strait, on the island of Nusa Penida in Indonesia. I had gone there to learn about CI's work to save the diversity of marine life in the Indonesian archipelago.

"Change is the one constant in life, and without diversity—of species, cultures, crops—adaptation to this change becomes much more difficult," Erdmann explained. "Talk to the farmer who grows just one crop and a disease wipes out his whole farm. Talk to the financial adviser who puts all his money into a single stock . . . In a nutshell, diversity bequeaths resilience—and we're gonna need all the resilience we can muster to deal with the global changes rapidly descending upon us." Who knows what catastrophic diseases lie in wait in our future? If we have plowed up our tropical rain forests for palm oil and sugarcane ethanol, it will be like emptying our tool kit of natural medicines. "We need diversity precisely because change is constant, and diversity provides the raw material we need to adapt to change," added Erdmann.

In a world that is hot, flat, and crowded, where all kinds of things are going to be moving and shifting much faster than in ages past, the last thing we want to lose is the tools we need to adapt to change.

When we speak about preserving biodiversity, what exactly does that include? I like the definition offered by the dictionary Biologyreference.com, which defines biodiversity as "the sum total of life on Earth; the entire global complement of terrestrial, marine, and freshwater biomes and ecosystems, and the species—plants, animals, fungi, and microorganisms—that live in them, including their behaviors, interactions, and ecological processes. Biodiversity is [also] linked directly to the nonliving components of the planet—atmosphere, oceans, freshwater systems, geological formations, and soils—forming one great, interdependent system, the biosphere."