

Even farm animal diversity is declining as accelerating species loss threatens humanity

May 27 2013

The accelerating disappearance of Earth's species of both wild and domesticated plants and animals constitutes a fundamental threat to the well-being and even the survival of humankind, warns the founding Chair of a new global organization created to narrow the gulf between leading international biodiversity scientists and national policy-makers.

In Norway to address an elite gathering of 450 international officials with government responsibilities in the fields of biodiversity and economic planning, Zakri Abdul Hamid offered his first public remarks since being elected in January to head the new [Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services \(IPBES\)](#)—an independent body modeled on the [Intergovernmental Panel on Climate Change](#).

Dr. Zakri, a national of Malaysia who co-chaired 2005's landmark Millennium Ecosystem Assessment and serves also as science advisor to his country's prime minister, cited fast-growing evidence that "we are hurtling towards irreversible environmental tipping points that, once passed, would reduce the ability of ecosystems to provide essential goods and services to humankind."

The incremental loss of [Amazon rainforest](#), for example, "may seem small with shortsighted perspective" but will eventually "accumulate to cause a larger, more important change," he said. Experts warn that ongoing climate change, combined with land use change and fires, "could cause much of the [Amazon forest](#) to transform abruptly to more

open, dry-adapted ecosystems, threatening the region's enormous biodiversity and priceless services," he added.

"It has been clear for some time that a credible, permanent IPCC-like science policy platform for biodiversity and [ecosystem services](#) is an important but missing element in the international response to the [biodiversity crisis](#)," Dr. Zakri told the 7th Trondheim Conference on Biodiversity.

The Millennium Ecosystem Assessment "demonstrated that such an intergovernmental platform can create a clear, valuable policy-relevant consensus from a wide range of information sources about the state, trends and outlooks of human-environment interactions, with focus on the impacts of ecosystem change on human well-being. It showed that such a platform can support decision-makers in the translation of knowledge into policy.

"The Millennium Ecosystem Assessment provides our baseline," he said. "The IPBES will tell us how much we have achieved, where we are on track, where we are not, why, and options for moving forward. It will help to build public support and identify priorities."

The structure of IPBES mimics that of the [IPCC](#) but its aims go further to include capacity building to help bridge different knowledge systems.

"IPBES will reduce the gulf between the wealth of scientific knowledge on declining natural world conditions, and knowledge about effective action to reverse these damaging trends," he said.

Even barnyard diversity is in decline

Some scientists have termed this the "sixth great extinction episode" in Earth's history, according to Dr. Zakri, noting that the loss of

biodiversity is happening faster and everywhere, even among farm animals.

He underlined findings by the UN Food and Agriculture Organization that genetic diversity among livestock is declining.

"The good news is the rate of decline is dropping but the latest data classify 22% of domesticated breeds at risk of extinction," Dr. Zakri said.

Breeds become rare because their characteristics either don't suit contemporary demand or because differences in their qualities have not been recognised. When a breed population falls to about 1,000 animals, it is considered rare and endangered.

Causes of genetic erosion in domestic animals are the lack of appreciation of the value of indigenous breeds and their importance in niche adaptation, incentives to introduce exotic and more uniform breeds from industrialised countries, and product-focused selection.

Among crops, meanwhile, about 75 per cent of genetic diversity was lost in the last century as farmers worldwide switched to genetically uniform, high-yielding varieties and abandoned multiple local varieties. There are 30,000 edible plant species but only 30 crops account for 95% of human food energy, the bulk of which (60%) comes down to rice, wheat, maize, millet and sorghum.

"The decline in the diversity of crops and animals is occurring in tandem with the need to sharply increase world food production and as a changing environment makes it more important than ever to have a large genetic pool to enable organisms to withstand and adapt to new conditions," he said.

Biodiversity and the Sustainable Development Goals

According to Dr. Zakri, the most important outcome of last year's Rio+20 international environmental summit of nations was agreement to set new multi-year global objectives to succeed the Millennium Development Goals (2000 - 2015).

Biodiversity is expected to feature prominently in the new "Sustainable Development Goals."

For specifics, Dr. Zakri commended the Aichi Biodiversity Targets, already established through the Convention on Biological Diversity, which contain five strategic priorities and 20 specific targets internationally agreed for achievement by 2020, beginning with public awareness of the value of biodiversity and the steps people can take to conserve and use it sustainably.

"The Aichi Targets are an important contribution to the SDG process and it is up to us to ensure that they are fully considered," he said.

"I would argue, though, that advancing towards equity and sustainable development requires us to go beyond. We need to meet the fundamental challenge of decoupling economic growth from natural resource consumption, which is forecast to triple by 2050 unless humanity can find effective ways to 'do more and better with less.' There are no simple blueprints for addressing a challenge as vast and complex as this but it's imperative we commit to that idea.

"We also need measures of societal progress that go beyond Gross Domestic Product. We need the kind of vision embodied in the Inclusive Wealth Index being pioneered by Sir Partha Dasgupta of Cambridge University, Anantha Duraiappah at IHDP, and Pushpam Kumar at UNEP. As they have convincingly argued, enlightened measures of

wealth that include natural capital, not just output like GDP, offers a real portrait of sustainable development," he added.

"The idea that natural capital should be measured like this makes many nervous. And I agree that many of the services the environment provides, like clean water and air, are irreplaceable necessities.

"In theory, however, the undoubted value of these natural treasures should be reflected in their price, which should rise steeply as they become scarcer. In practice, natural assets are often hard to price well, if at all. Although this work is still in its infancy, it is worth recalling that GDP has only been measured for the last 70 years. And that originally it was a far cruder metric than today. The reality over many decades and the recent experience with the MDGs demonstrate all too clearly the limited success that even legal biodiversity-related commitments have in the absence of some sort of metric that speaks to other sectors and interests involved in the development process. We need to urge more economists to do the hard but valuable work of pricing the seemingly priceless. Ensuring these ideas are properly reflected in the SDGs could provide the type of support and encouragement needed."

Provided by Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

Citation: Even farm animal diversity is declining as accelerating species loss threatens humanity (2013, May 27) retrieved 26 April 2024 from <https://phys.org/news/2013-05-farm-animal-diversity-declining-species.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.