

Global change and coastal threats: The Indonesian case

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Panel: Adaptation, resilience, vulnerability, and coping with change in social-ecological systems:

Linking regional dynamics in tropical coastal and marine social-ecological systems to global sustainability

(for conference theme 4 governance, polycentricity, markets and multilevel challenges)

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ABSTRACT

A Issues

This presentation seeks to link global and local issues, using case studies from Indonesia as a focus for a discussion of national policy and governance approaches, and to illustrate how these relate to livelihoods and to coastal and marine resource management. Climate change is a major aspect of global (environmental) change. Both are linked to the economic, social and cultural dimension of change—issues that can be treated by interdisciplinary human ecology.

In Indonesia, globalization and climate change produce repercussions on local developments and livelihoods, specifically on coasts. Epistemology suggests that scientific results depend on a preset mind-frame. The Indonesian government has set the stage for linking ocean developments and coastal threats to climate change in an apparently novel way. The contemporary “climate divide” may represent a new facet of the old conflict between the North and the South on environmental issues.

To assess human-nature relations a more holistic approach is required, in theory as in practice, as proposed by human ecology. Such an approach involves natural and social sciences in close cooperation. Multi-level social-ecological research is advocated to address the connections and feedbacks between global change and local livelihoods in an interdisciplinary mode.

B Key findings

Indonesia's coral islands are endangered by global change (sea level rise, floods and storm surges), socially aggravated by hazardous fishing methods (blast and cyanide fishing), collapsing coral ecosystems, and depleted fish stocks.

Storm surges are threatening, among other regions, the Spermonde Archipelago (Sulawesi): They severely erode the shores of densely populated small islands and may eventually swallow them.

Fish resources have been depleted in Spermonde: Fishing, the major bread winning activity, becomes more time consuming and more dangerous, partly due to the increased incidence and intensity of storms.

The islanders acknowledge that present fishing practices, if unchanged, will result in reef degradation.

There are hardly any future perspectives or visions: The conviction of a God-given destiny is ever present.

The "climate divide" between the rich and the poor, globally and nationally, appears as a recent version of the age-old "environmental divide" between industrialized and developing countries: Climate change and poverty are connected. In island communities such as those in our study area, storms exacerbate economic polarization.