The Impact of Coral Bleaching on Fisheries, Nutrition, and Stunting in East Africa

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Abstract

A potential avenue for climate change impacts is damage to ecosystems relevant to human well-being. A prime example for such an ecosystem is the coral reef, which is both vulnerable to coral bleaching driven by climate change and provides resources for fisheries. Based on a novel large-scale coral bleaching dataset created using satellite imagery and relying on long-term sea surface temperatures as instruments, this paper analyzes whether coral bleaching impacts fish catch, household consumption and adaptation as well as child malnutrition in East Africa. Results confirm the hypothesized chain of consequences; coral bleaching significantly reduces fish catch, leads to a reduction in protein consumption and forces households to reduce assets. It furthermore causes exposed children to be too short for their age, which is an indicator for early childhood malnutrition. These results show that climate-induced coral bleaching presents a considerable threat to the economic well-being of coastal communities.