

Assessment of vulnerability of climate change on coastal fishery of Sri Lanka and adaptation strategies

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Coastal fishermen in Sri Lanka are facing various risks due to climate change. This research attempted to evaluate the vulnerability of the coastal fishery of Sri Lanka and to develop adaptation strategies. Primary data on relevant parameters for assessing climate change social vulnerability were collected from eight fisheries districts. Two hundred fishermen were selected for face-to-face interviews by using a pre-tested structured questionnaire. In addition to that eight focus group discussions were conducted with fisheries community leaders, office bearers of fisheries organizations, and relevant officers of various government institutes relevant in developing an adaptation plan. After assessing vulnerability the adaptation plan was prepared based on the adaptation toolbox of FAO. Through the brainstorming sessions of FGDs possible options were identified for an adaptation plan and appraised those options to implement practically. Storms and cyclones, flash floods, storm surges, beach erosion, inundated lowlands, and saltwater intrusions were identified as major climate change induced hazards which have a great impact on the coastal fisheries of Sri Lanka. The identified major climate-related risks for fishermen are life risk, reduce fish harvest, damage to boats, fishing gears, landing sites and other infrastructures, increase postharvest losses, reduce the number of fishing days, and increase the cost of production. The results showed that 67% of fishermen are highly exposed to climate-change induced hazards and extreme weather events and 61% of them are sensitive to those hazards and 34% have taken measures to adopt those hazards. Both fishing gear diversity and income diversity have negatively correlated with climate change vulnerability (spearman correlation -0.512** and -0.663**). Improving predictability and effectiveness of early warning systems, organizing volunteer disaster response teams to each landing sites, providing first aid kits, life jackets and other safety equipment for the fishermen, improving skills to response adverse weather events, constructing climate-smart infrastructure and designing boats to operate safely under adverse condition and introducing alternative livelihoods are recommended adaptation measures to minimize climate change vulnerability.

Keywords: exposure and adaptation, climate change, coastal fishery, sensitivity

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