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## **Adaptive Management Response of a Rural Fishery Community Due to Changes in the Hydrological Regime of a Tropical Coastal Lagoon**

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**ABSTRACT** In the coastal community of Chabihau, Yucatan, Mexico, hurricanes Gilbert (1988) and Isidore (2002) opened breaches in the coastal dune. The government modified these breaches with a floodgate, channels, and bridges, allowing tidal influx that has transformed the swamp ecosystem into a coastal lagoon. Our long-term research (1990-2006) has been based on participatory methods including identification of needs, introduction of technical changes, monitoring of modifications, and facilitating evaluations by local users. Researchers have documented their work with both women's and men's groups, as well as with community authorities and open assemblies of residents. Government agencies generally practice sectorial management, which focuses on a single sector or subject, even though it considers impacts and interdependencies with others (for example, fishing, road serviceability, protected areas, territorial zoning, and municipal strengthening). In contrast, this community (with its researchers/advisors) has struggled toward integrated coastal management, which focuses on guiding the necessary changes to maintain quality of life for human communities dependent on local ecosystem services, including those of coastal basins and extensive marine areas. Our findings question the accepted practice of designing conservation projects in centralized hierarchical structures that leave little space for local maneuvering and negotiation.