Stakeholder learning in transdisciplinary research: application in the mangrove fisheries in Madagascar

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In the context of the FAO's Small-Scale Fisheries (SSF) Voluntary Guidelines, inclusive management and participatory research approaches to SSF have been encouraged. To date such initiatives have been limited at the sub-national and national levels. The European CORECRABE action research project (2019-2023) addressed that challenge in mangrove crab export-fisheries in Madagascar. Our study aimed at assessing local stakeholders' learning and participation in the processes of collaborative management of these fisheries through this transdisciplinary research. We first evaluated the technical and relational learning of 52 stakeholders who participated in the project's regional working groups and/or the national workshop organized from 2020 to 2022. Then, in 2023, we interviewed 300 local SSF actors (fishers, buyers, and community leaders) within 77 focus groups (separated by occupation, age, and gender) in 12 coastal villages involved or not in the project activities. Their fishery knowledge, project participation, social network construction, and management perceptions were collected. The actors' learning from the project workshops and village-based *in situ* activities was analyzed, as well as the transfer of knowledge to and from the local communities at the regional and national levels. The study highlights the best practices (e.g., fishery diagnostic co-production) and the challenges (e.g., limited diffusion within villages) of transdisciplinary approach associated with learning mechanisms at varying scales for operationalizing SSF co-management.