Unfolding the Contributions of Small-Scale Fisheries to the Sustainable Development Goals

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The effects of climate change are hindering the ability of the world to achieve the Sustainable Development Goals (SDG) by 2030. In particular, the success of SDG 2 (Zero hunger) is threatened by the impacts of climate change on global food production, leaving over 20% of the world's population at risk of food and nutrition insecurity. Fisheries, particularly small-scale fisheries (SSF), play a crucial role in future global food security. With the constant increase in demand for aquatic food products and its key role in nutrition in many coastal contexts, sustainable fishery production is essential to ensure healthy food while protecting the health and function of marine ecosystems. Despite its importance for livelihoods and nutrition for millions of people, SSFs remain poorly acknowledged in global policies. Social-ecological relationships in SSF are complex and poorly understood, making it difficult to formulate policies that could improve and preserve the contributions of SSF to sustainable development. Here, we developed an expert-based rapid appraisal framework to identify and characterize the contribution of SSF to SDGs. We implemented a flexible scoring system for data-limited situations, usable with natural resources users, managers, and scientists. Our structured approach is not limited to SDG 14 and target 14.b; rather, it provides insights into SSF's contributions to 11 other SDGs. This research discusses the

findings from the application of the Rapid Appraisal framework to 60 SSF case studies in eight countries across Africa, Europe, and Latin America. Our findings indicate that SSF have consistent potential to advance certain SDGs and targets, especially targets 1.4, 12.3, 1.1, 8.5, and to a lesser extent targets 14.2, 14.1, and 16.7. SSFs impact on other targets are variable and dependent on local contexts, especially some targets of SDGs 5 (targets 5.5 and 5.A) and 8 (targets 8.7, 8.8, and 8.9). Our work reveals that unlocking SSFs potential to advance SDGs, requires understanding them not only from the marine resource perspective (SDG 14) but also from its social and economic components. Our study provides the first comprehensive approach for assessing the multiple contributions of SSFs to SDGs, allowing for a global assessment of SSF across diverse contexts, and analyzing key trends and variations in their contributions to the SDGs. As SSFs supply about 40% of the global fish catch and 90% of the employment in the capture fisheries sector, we argue that SSFs play a critical role in policies leading towards the SDGs.