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Group-based aquaculture systems in Ghana: A collective action assessment

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Abstract

As climate change and declining capture fisheries place increasing pressure on food systems, aquaculture is emerging as a key pathway for building resilient and multifunctional agro-ecosystems in Ghana. Fish accounts for about 60 % of animal protein consumption, yet declining domestic capture fisheries have driven fish imports exceeding \$200 million annually. This widening gap highlights the potential of aquaculture particularly among smallholders and youth to strengthen food security, livelihoods, and climate resilience. In response, the Government of Ghana introduced the Aquaculture for Food and Jobs (AFJ) programme in 2018 to promote sustainable aquaculture and employment, especially for youth and women. Building on this initiative, group-based aquaculture has been implemented in small reservoirs, ponds, and lakes across multiple regions of Ghana. However, evidence on how these collective action arrangements influence performance and sustainability remains limited. This study unpacks lessons from different experiences of youth group-based aquaculture in 14 communities, which are either supported by government or development partners. Using Elinor Ostrom’s collective action design principles, it analyses the institutional, social, and economic factors shaping their performance and sustainability. Our findings show that even though technical capacity building, institutional support and initial capital support are essential, social dynamics such as group cohesion, group composition and enterprise development trainings are very critical for the long-term viability of these projects. In community-managed reservoirs, local legitimacy and acceptance by traditional and community leaders are also decisive. Across cases, key constraints include theft, flooding, high feed costs, and weak market linkages. The study highlights the need for context-specific institutional arrangements that integrate both technical and social dimensions, stronger private sector engagement, and innovative financing and risk management mechanisms, including insurance. More importantly, it demonstrates that the success of aquaculture systems and their contribution to climate-resilient, multifunctional agro-ecosystems depends not only on technology and inputs, but fundamentally on effective collective governance and social organisation.

Keywords: Aquaculture, collective action, food security, institutional governance, youth groups