Environmental and Economic Entanglements: Tuning Social Relations, Technology, and the Nature of the Coastal Aquaculture

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ABSTRACT

Aquaculture is an important livelihood for many people in coastal southern Taiwan. However, since the industry relies on groundwater, aquaculture is highly susceptible to land subsidence and related environmental problems. Meanwhile, the industry is now facing declining profits and fluctuating growth rates. Given that in Taiwan, aquaculture has predominantly involved smallholder households, these trends beg the question: how have smallholders constructed such a highly developed industry that is simultaneously both economically and environmentally vulnerable? To answer this question, this study explores how social, technical, and natural conditions interact in coastal areas of Southern Pingtung, where export-oriented aquaculture both thrives and grapples with environmental and economic threats. By pointing out how social actors cannot be fully aware of or contain non-human conditions that play a key role, such as nature and techniques, this study argues for a nondualistic, enmeshed relationship between the environment and economy. In this entangled relationship, the more smallholders try to leave the situation, the more they become involved, thus exposing themselves to environmental and economic risks. Despite this, some smallholder fish farmers further invest in the entangled relationship: instead of exiting the industry, they practice 'tuning' (a concept drawn from Andrew Pickering), and adapt their own aquaculture practices to social, technical, and natural conditions. Thus, this study suggests that when we consider non-human conditions to be potential actors as much as the active smallholders, we may discover a different perspective on the difficult relationship between the environment and economy. This line of inquiry brings a new perspective to studies of smallholder fishers and fish farmers, and the environmental and economic issues involved in the development of aquaculture and nature-based industries.