

RESEARCH BRIEF

February 2025

Topic

Based on the EfD Discussion Paper entitled “Factors affecting compliance with rights-based fisheries management in Vietnam” by Bui Bich Xuan, Quach Thi Khanh Ngoc, Claire W. Armstrong, Kofi Vondolia & Pham Khanh Nam.

Research question:

What are the determinants of compliance with fishing regulations in the artisanal fisheries in Tam Giang Lagoon, Vietnam?

Key Messages

- Proportions of fishers engaging in illegal fishing activities in the lagoon: The use of destructive fishing gears and fishing in protected areas had low rates of non-compliance, but the use of illegal mesh size nets was much more prevalent, with over 50% of fishers engaging in this illegal activity.
- Motivations of compliance: Fishers' awareness of the negative consequences of illegal fishing and their perception of the legitimacy of the regulations were key factors that increased compliance, particularly with the mesh size regulations. Whereas, social norms and instrumental incentives did not significantly influence compliance with the mesh size regulations. Additionally, certain fishers' characteristics, such as younger fishers and more experienced fishers, are more likely to violate regulations, while those with higher education show better compliance.
- Policy implications: some policies can be implemented to improve adherence to regulations: 1) Improve coordination and communication between the Fishery Associations (FAs) to better address poaching from outside the lagoon communities; 2) Encourage fishers to participate in monitoring and patrolling activities, while ensuring their safety; 3) Improve the collaboration between the FAs and government entities to enhance the effectiveness of sanctioning and stopping violators from outside the lagoon communities; 4) Enhance fishers' perception of the legitimacy of the regulations by involving them more in the decision-making processes related to the design and implementation of the management system; 5) promoting awareness campaigns among fishers about the dangers to future fish stocks of harvesting large quantities of small fish through the use of illegal nets; 6) the effective implementation of measures regarding instrumental incentives, such as increasing fines as well as the probability of being caught and sanctioned; and 7) enhancing the important role of the provincial government in supporting and guiding fishers to participate in emerging industries such as ecotourism and community-based tourism.

Background and Methodology

Small-scale fisheries (SSFs) are crucial for coastal communities' livelihoods but face challenges from overexploitation and illegal fishing, which harm marine resources and create social tensions (Battista et al., 2018; Lewis, 2015; Mackay et al., 2020; Song et al., 2020). Territorial Use Rights for Fisheries (TURFs) were introduced as a solution,

giving fishers clearly defined property rights to encourage sustainable resource management (D'Armengol et al., 2018).

However, illegal fishing remains a significant challenge to TURF systems (Andrachuk et al., 2019; Oyanedel et al., 2018; Thanh et al., 2021a, 2021b). Hence, understanding why fishers comply or don't comply with regulations is crucial for two reasons: (1) it informs

the development of effective strategies to promote adherence to the regulations, ensuring **sustainable** fishing practices and conserving fish populations, and (2) it identifies the weaknesses in existing regulations and enforcement, enabling improvements for better management outcomes.

The Tam Giang Lagoon in Vietnam has a long history of human utilization and is a vital source of food security and livelihoods for local communities. However, it has experienced significant resource degradation due to overfishing that is further impacted by the prevalence of illegal fishing, negatively affecting the livelihoods of local villagers (Andrachuk et al., 2019; Andrachuk & Armitage, 2015; Thanh et al., 2021a, 2021b). Hence, it is vital to better understand what drives fishers' non-compliant behaviors in Tam Giang Lagoon, Vietnam, which can be used to inform and guide targeted interventions to combat illegal fishing in this area.

Research on illegal fishing often faces social desirability bias, where respondents give socially acceptable rather than truthful answers. The randomized response technique (RRT) helps overcome this challenge. In studying illegal fishing in Vietnam's Tam Giang Lagoon, both RRT and direct questioning were used to verify response accuracy and binary logistic models were used to identify factors influencing fishers' compliance with regulations.

Results

Proportions of fishers engaging in illegal activities

The study used both RRT and direct questioning to estimate the proportions of fishers engaging in different illegal fishing activities. The results show that while the two illegal activities, fishing using destructive gears and fishing in the protected areas, had very low shares of non-compliance, the estimate of non-compliance for the use of nets with mesh size smaller than the requirement were high (around 55%). The similarity between RRT and direct questioning results, along with high respondent comfort (84%), suggested honest answers.

Determinants of compliance

Motivations of compliance: awareness of illegal fishing consequences and perceived legitimacy of regulations positively influenced compliance with mesh size regulation, whereas instrumental incentives and social norms didn't significantly affect compliance, possibly because illegal mesh-size use had become normalized and enforcement was weak.

Demographic factors: Younger fishers and those with more fishing experience were less compliant, while higher education increased compliance. Gender and household characteristics showed no significant impact.

Policy Implications

Some policies can be implemented to improve adherence to regulations:

1) Despite the absence of the use of destructive fishing gear in the three surveyed villages Outside offenders have been recorded anecdotally, but enforcement remains challenging. Hence, it is necessary to improve coordination and communication between the Fishery Associations (FAs), a collaboration between the FAs and government entities, as well as encourage fishers to participate in monitoring and patrolling activities, while ensuring their safety, in order to better address poaching from outside the lagoon communities;

2) Developing effective management strategies focused on motivations of compliance. For instance, enhance fishers' perception of the legitimacy of the regulations by involving them more in the decision-making processes related to the design and implementation of the management system, promoting awareness campaigns among fishers about the dangers to future fish stocks of

harvesting large quantities of small fish through the use of illegal nets, and implementing effectively the measures regarding instrumental incentives, such as increasing fines as well as the probability of being caught and sanctioned;

3) Improvements in education and labor skills, as well as the creation of alternative jobs, are necessary for encouraging villagers to engage in alternative livelihoods. This highlights the important role of the provincial government in supporting and guiding fishers to participate in emerging industries such as ecotourism and community-based tourism.

The Environment for Development initiative is a capacity-building program in environmental economics focused on international research collaboration, policy advice, and academic training. It consists of centres in Central America, Chile, China, Colombia, Ethiopia, Ghana, India, Kenya, Nigeria, South Africa, Sweden (University of Gothenburg), Tanzania, Vietnam, Uganda, and the US (Resources for the Future). Financial support is provided by the Swedish International Development Cooperation Agency (Sida).