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The cluster panacea?: Questioning the role of cooperative shrimp aquaculture in Vietnam

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ABSTRACT

This paper analyses the role of 'clustering' as a form of cooperative production to improve the environmental performance of shrimp farmers and facilitating them to upgrade their position in the global value chain. Comparing intensive and extensive shrimp farmer clusters in Ca Mau province, Vietnam, we explore how this form of cooperative production can enable small-holders to upgrade both functional and relational dimensions of production to meet new requirements for participation in the global shrimp value chain. The results show that by facilitating horizontal coordination between producers clusters can improve the management capacity of both intensive and extensive producers for meeting international production standards. However, the success of clusters also depends on the type and strength of vertical coordination with other actors along the value chain for both the provision of inputs and marketing of outputs. The paper concludes that for improved extensive shrimp farmer clusters to take further advantage of production-oriented quality standards the Vietnamese government needs to play a greater role in the development of production infrastructure and create a legal framework for private sector-led cluster formation.

1. Introduction

Shrimp farmers are increasingly being challenged to 'upgrade' their production by meeting a range of (environmental) production standards required for entry to international markets, while at the same time managing their vulnerability to economic, regulatory and environmentally related production risks (Bush et al., 2010; Hatanaka, 2010; Islam, 2008; Vandergeest, 2007). Despite more than 30 different sets of standards available to shrimp producers, including government-led Better Management Practices (BMPs) (Corsin et al., 2007), adoption and compliance by small-holders remains limited because individual practices are often not (if ever) reflected in collective practices such as irrigation (Mohan and De Silva, 2010). As outlined by Kassam et al. (2011), organising small-holder aquaculture farmers into some form of cooperative production is therefore seen as an effective means of fostering a requisite level of financial and technical capacity needed to cope with state and private (environmental) production requirements (see also Mohan and De Silva, 2010; Umesh, 2008), as well as the added demands of record keeping and product traceability (e.g. Zhang et al., 2011).

Cooperative production is generally seen as a means of improving small-holder capacity to improve product quality, as well as their bargaining power, capital investments and management skills (Coles and Mitchell, 2011). Recognising these benefits, the Vietnamese government has promoted cooperative production through the 2003 and 2006 amendments to the Cooperative Law; both of which promote the organisation and operation of so-called 'new-style cooperatives'. In doing so the government explicitly aims to transcend the connoted failures of collectivisation (*hợp tác xã*, see Fford and Huan, 2001; Nghiem, 2008) by tailoring new style cooperatives to improve the economic and managerial performance of producers through 'service oriented' small-holder 'clusters' (*tổ hợp tác*). However, the promotion of shrimp farming clusters in Vietnam does not reflect the failed experiences of cooperative production in other sectors and countries (see Chirwa et al., 2005; Stringfellow et al., 1997; Valkila and Nygren, 2010). How Vietnamese style clusters can promote economic and environmental performance of aquaculture producers therefore begs further analysis.

Through a comparison of intensive and extensive clusters in Ca Mau province this paper analyses how 'new style' shrimp farmer clusters in Vietnam provide a vehicle for 'upgrading' production practices to comply with emerging demands set out by private and state production standards and, consequently, improve their performance in global value chains (GVCs). By doing so we respond to Kassam et al. (2011) who call for input to the nascent global debate over the value of group formation for commercially oriented small-holder aquaculture.

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Our analysis takes its lead from Ponte and Ewert (2009) who argue that upgrading should not only refer only to a normative notion of 'moving up' the chain, but should also include a wider set of strategies and enabling conditions for firms to enhance rewards and/or reduce risk in global markets. Analytically, the process of upgrading then includes a range of relational strategies, including vertical and horizontal forms of coordination that influence the performance of production (Bolwig et al., 2010; Gibbon, 2001), and functional strategies, including the integration or specialisation of production functions (Bolwig et al., 2010; Giuliani et al., 2005; Humphrey and Schmitz, 2002). Vietnamese new style cooperatives, and in particular farmer clusters, are therefore expected to combine both relational and functional dimensions of upgrading small-holder aquaculture farmers: by stimulating a form of horizontal coordination they are expected to improve the capacity for complying to private and state production standards, which in turn improves vertical access. Using the concept of upgrading we explore how small-holders are able to meet these combined goals through the kinds of clustering currently being promoted by the government and international organisations alike.

The following section provides further detail on global value chain literature and upgrading small-holders. The paper then gives a short history of aquaculture cooperatives and clusters in Vietnam before presenting the empirical case studies of intensive and improved extensive shrimp farmer clusters in Nhi Nguyet and Tan Long hamlets respectively. Finally the paper turns to an analysis of the challenges and possibilities of clustering for promoting sustainable shrimp farming.

2. Upgrading and collective production for small-holders

2.1. Collective action and farmer cooperatives

Opportunities for small-holders to raise their income from primary production and therefore alleviate poverty depends in large part on their ability to successfully participate in domestic and international markets (Fischer and Qaim, 2012; Markelova et al., 2009; World Bank, 2007). However, small-holders typically face a range of challenges including high transaction costs and low bargaining power that limit their market access. To overcome this situation various types of collective action have been promoted to improve their competitiveness against agri-business (Thorp et al., 2005; World Bank, 2007). However this is a narrow view of the scope of cooperative production, which can be more broadly defined as any voluntary initiative taken by a group of individuals who invest time and money to pursue perceived shared interests (Markelova et al., 2009; Marshall, 1998).

The economic rationale for collective action by small-holders derives from two features of the market (Rao and Qaim, 2011; Reardon et al., 2009). First, collective action can create economies of scale in production and marketing that reduce transaction costs and information asymmetries. Second, it can build up countervailing market power for small-holders where high degrees of concentration exist in upstream and downstream markets. Small-holders are also increasingly faced with more intensive use of purchased inputs and higher degrees of commercialization, and the increased modernization of supply chains through process-oriented quality and food safety standards (Fischer and Qaim, 2012). Together these factors increase transaction costs and further aggravate power asymmetries thereby giving greater relevance to collective action to improve market access for small-holders.

Collective action designed to facilitate cooperative production is widely promoted as a means of improving the economic performance of small-holders, as well as their ability to participate in global value chains (Kassam et al., 2011; Narrod et al., 2009). Through shared decision-making and improved self-regulation small-holders have been shown to improve pre-harvest, production and post-harvest and marketing (Narrod et al., 2009). However, contrary to the received wisdom of collective action, which emphasises the willingness and ability of individuals to create positive group dynamics, the various forms of cooperative production are often conditioned by external support from government, NGOs or the private sector (Fischer and Qaim, 2012). Understanding the conditions under which cooperative forms of production are successfully developed, for whom, and through what benefit sharing mechanisms therefore remain key questions; especially for aquaculture where very little empirical evidence is available (Fischer and Qaim, 2012). Moreover, questions remain around how collective action can facilitate small-holders to upgrade their position in value chains by meeting the new demands of quality and sustainability in the global agrifood system.

2.2. Upgrading in global value chains

Upgrading is most commonly defined as a process of making better products, by either producing them more efficiently, or by moving into more skilled activities within a wider set of institutional conditions (Humphrey and Schmitz, 2002). The goal of 'doing things better' is then a matter of improving the ability of firms to generate greater profit and thus extract more value from the chain (Gibbon, 2008). The wider understanding of upgrading has been developed in globally oriented industrialised sectors in the global North, where doing things better is strongly associated with accumulating knowledge and skills to 'move up' the value chain in response to globalisation and competition (Gereffi, 1999). However, in the context of developing countries a more nuanced approach to studying upgrading is needed that takes into account the multiple dimensions and strategies of firms (Ponte and Ewert, 2009). This is especially relevant to sectors such as shrimp farming in Vietnam, which is dominated by low investment small-holder production now trying to maintain access to global markets by complying to a range of global certification schemes.

The GVC literature has traditionally focused on four types of upgrading: product, process, functional and inter-sectoral (Humphrey and Schmitz, 2002). *Product* upgrading refers to moving into more sophisticated products with increased unit value by developing and applying new knowledge, skills or design principles. *Process* upgrading is defined as achieving more efficient transformation of inputs to outputs through the reorganisation of productive activities. *Functional* upgrading refers to acquiring or abandoning the skill content of a productive activity and *inter-sectoral* upgrading involves applying skills and competencies acquired in another sector or chain. Each of these forms of upgrading has been linked to different market structures. Process and product upgrading are most likely to occur in chains where producers are locked into 'captive' relationships, often with the assistance of buyers (Schmitz, 2006). Whereas functional and inter-sectoral upgrading is likely to occur in market rather than captive transactions and involve small buyers and/or domestic markets.

Ponte and Ewert (2009) argue that although a helpful starting point, the four-type classification of upgrading becomes difficult to apply in many situations, largely because they assume a discrete separation of strategies, which often does not exist in reality. In the agro-food sector (which includes shrimp aquaculture) process upgrading often leads to new categories of products such as organic or 'sustainable'. Similarly, if process upgrading is narrowly defined as increasing efficiency, then activities like compliance to environmental standards that 'improve' production, but not necessarily lead to higher efficiency, will not be observed. They also point to cases where compliance to social/environmental production standards, and the new functions they imply, might lead to a product with intrinsically better qualities but not necessarily of higher value to the consumer. This in turn makes compliance a condition of market entry rather than the narrow goal of extracting more value from the chain (cf. Gibbon, 2008). The ambiguity of these classifications raises questions over the extent to which these upgrading classifications can help to draw out the effectiveness of small-holder strategies in dealing with the challenge of globalisation and competition, and in particular, compliance to new forms of regulation such as food safety and environmental standards.