



## Can start-up motives influence social-ecological resilience in community-based entrepreneurship setting? Case of coastal shrimp farmers in Sri Lanka



Iroshani M. Galappaththi<sup>a,\*</sup>, Eranga K. Galappaththi<sup>b</sup>, Sarath S. Kodithuwakku<sup>c</sup>

<sup>a</sup> 203-1051, Rue Ducas, Montreal, QC, Canada H8N 2K5

<sup>b</sup> Department of Geography, McGill University, Burnside Hall, Room 705, 805, Sherbrooke Street West, Montreal, QC, Canada H3A 0B9

<sup>c</sup> Department of Agricultural Economics & Business Management, Faculty of Agriculture, University of Peradeniya, Old Galaha Road, Peradeniya 20400, Sri Lanka

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### ABSTRACT

The aim of this paper is to understand the extent to which the start-up motives can influence social-ecological resilience in community-based entrepreneurship setting. The case study approach was used to study five coastal communities in northwestern Sri Lanka. Shrimp farmers' start-up motives include both the desire to capitalize on opportunities to utilize their resources and skills (opportunity-driven) and the need to establish satisfactory sources of income (necessity-driven). They have come up with diverse entrepreneurial responses to face various stressors and shocks by using their existing capital types and their willingness for collaboration. Farmers' coping capacity is demonstrated through their individual responses whereas adaptive and transformative capacities are demonstrated mostly through their community cooperative work. Findings also reveal that the start-up motives of small-scale shrimp farmers are less influential on their social-ecological resilience in the community setting. Instead, the key to social-ecological resilience lies with the understanding of the nature of stressors and their commitment for collective action.

### 1. Introduction

Entrepreneurship plays an important role in social transformation towards sustainability [1]. Entrepreneurial motives and qualities are recognized as central elements for building any business activity, including small-scale fisheries and aquaculture [2,3]. Fisheries and aquaculture and the associated activities support millions of livelihoods and contribute to food security and wellbeing of coastal, freshwater systems and beyond [4]. The contribution of the small-scale producers dominates the global aquaculture production [5,6], particularly in the Asian region [7]. Sri Lanka is considered a small-scale producer of aquacultured shrimp in the Asian region and has earned a reputation for producing high-quality shrimps (*Penaeus monodon*) since the late 1970s [8].

The aim of this paper is to understand if the start-up motives can influence social-ecological resilience in the context of community-based entrepreneurship (CBE) of small-scale shrimp farmers in northwestern Sri Lanka. Motives are the personal intention(s) that triggers entrepreneurial activity and provides insight into the future potential of business [9]. Resilience is defined as the capacity to cope, adapt, and transform in the face of multiple stressors and shocks to maintain desirable dynamics of a system [10,11]. CBE is defined as “a community

acting corporately as both entrepreneur and enterprise in pursuit of the common good” [12: 310]. The study focuses on their start-up motives, stressors, and how they have responded over the years. The following sections present a review of scholarship on resilience and CBE together with aquaculture literature to understand how start-up motives can (or not) influence social-ecological resilience within the CBE setting.

According to Ruiz [13], entrepreneurship refers to any of the following three activities undertaken by an individual, group or an established private or public entity: any attempt at new business or new venture creation (e.g. founding a new business or self-employment, expanding an existing business); any attempt at creating a new public initiative or expanding such an existing organization; and any attempt at innovation (e.g. launching new products or services, a new way of organizing resources, catalyzing social development or any other action that adds social and economic value). Entrepreneurship leads to building individual and social capacities [14]. Unlike traditional entrepreneurship that is focused mainly on the economic development [15,16], sustainable entrepreneurship has a wide array of goals to manage social, economic, and environmental dimensions [1]. As Belz and Binder [1: 2] define, sustainable entrepreneurship is a recognition, development, and exploitation of opportunities by individuals to bring into existence the future goods and services with economic, social, and

\* Corresponding author.

E-mail addresses: [imtennakoon@yahoo.com](mailto:imtennakoon@yahoo.com) (I.M. Galappaththi), [eranga.galappaththi@mail.mcgill.ca](mailto:eranga.galappaththi@mail.mcgill.ca) (E.K. Galappaththi), [sarathsk@pdn.ac.lk](mailto:sarathsk@pdn.ac.lk) (S.S. Kodithuwakku).

ecological gains. Entrepreneurship and small-scale enterprises have positive impacts towards community development [17].

There is an emerging body of scholarship on CBE. Peredo and Chrisman [12] describe three main characteristics of CBE. First, CBE is developed based on available community skills while the previously developed skills/experience influences the nature of the entrepreneurial activity. Second, it involves multiple goals and intentions. CBE recognizes the diverse needs of the community, including that of the entrepreneurs, by emphasizing the need to simultaneously achieve social, economic, environmental, and cultural goals towards sustainability. Third, CBE depends on community participation. Building innovative and effective forms of community involvement mechanisms related to decision-making towards common challenges is a key activity in CBE. Korsgaard et al. [18] point out that the rural entrepreneurship has a high degree of engagement with place and space. Historically, there have been limited studies on entrepreneurial motives, with a place-based and cultural focus in developing settings, including Sri Lanka [19,20].

Various studies have probed into entrepreneurial intentions and start-up motives to understand the primary cognitive driver(s) for venture creation [20–23]. The predominant types start-up motives discussed in literature include: opportunity- and necessity-driven entrepreneurship [20,24]. Opportunity-driven business start-ups are triggered by the entrepreneur's desire to exploit a business opportunity whereas necessity-driven start-ups emerge due to poverty, lack of choice or satisfaction in work. Langevang et al. [25] go beyond opportunity- and necessity-driven entrepreneurship to study young entrepreneurs in Uganda. Their study unfolds the diversity and complexity inherent to the decision-making process to start a business and questions the common representation of categorization of entrepreneurs as necessity- or opportunity-driven. Langevang et al. [25] adopt the notion of 'social embeddedness', which refers to the impossibility to detach the actor (entrepreneur) from the social structure (community), while emphasizing the entrepreneurial motivations and aspirations that are intimately linked with socio-economic, environmental, and cultural aspects. Social embeddedness leads us to the concept of resilience thinking, while acknowledging the connections between entrepreneurship and resilience in literature [26,27].

Berkes and Folke [28] started using the term 'social-ecological systems' (SES) as an integrated approach to human-in-nature and associated SES to the concept of resilience [29: 48]. The SES provides a lens for probing into complex problems for better understanding the dynamics of complex adaptive systems [28,30]. The two sub-systems of SES—social and ecological—are interconnected but partly distinct by integrating the studying of people and nature [28,30]. The SES approach puts its emphasis purely on neither ecosystems nor societies; rather, the SES is a unit of study [28,30,31]. Resilience is often described as the capacity of an SES to undergo change by absorbing disturbance/stressors and re-organizing in a way that the system predominantly retains the same function, structure, and identity [32: 6]. This definition emphasizes resilience as a system's property and indicates that a resilient system can withstand shocks and re-build itself.

Drawing upon the recent work of Bene et al. [10,33,34] and Brown [11], resilience is viewed as the combined result of coping, adapting, and transforming in response to disturbance/change. Thus, a resilient system demonstrates three types of capacities—coping capacity (CC), absorptive capacity (AC), and transformative capacity (TC), leading to persistence, incremental changes, and transformational changes respectively. Responses vary and depend on the intensity and nature of change. First, at lower intensities, persistence is likely to occur, whereby the impact is absorbed by the system using existing skills and experiences without any noticeable changes in its function, identity or structure [10,35]. The system maintains its stability and remains status quo. Second, when the CC of a system is exceeded, various incremental changes occur at various levels (e.g. household, community, and region)—using AC [29,36,37]. The system continues to function without

any major changes in its identity and structure; however, becomes more flexible. Third, when the system's AC is at the highest state and when the system is undesirable, transformational change starts to occur—using TC. Here, system's primary function, identity, and structure shifts to, possibly, a desirable state, and the transformation occurs at various levels [37,38]. Concept of SES resilience also includes the capacity of humans to anticipate and plan for the future [39].

In a community context, social, economic, human, natural, and political capitals are seen as the determinants of resilience capacity [40–43]. Social capital refers to trust, norms, and networks within the community, which leads to a high level of coordination and cooperation that may facilitate access to resources [44]. Income, savings, and investments by the community members are referred to as economic capital. It increases their resilience capacity by enhancing wellbeing and reducing poverty [40]. Education, skills, and knowledge addresses the human capital, which facilitates their understanding of the challenges and increases the ability to develop creative strategies to overcome common challenges [45]. Natural capital refers to natural resources such as soil, water, and air that help to sustain all forms of life and their activities [40,46,47]. Furthermore, in this paper, the term political capital is used—referring to the context-specific power and social status that increase the ability to influence towards social change [48]. Together, these capitals shape SES resilience capacities among entrepreneurs in community setting [27,49].

In Sri Lanka, shrimp production is undertaken by small-scale farmers in the communities along the northwestern coastal belt. Sri Lanka has a history and tradition of collective action, particularly in fisheries, aquaculture, and agriculture sectors, for managing shared resources collectively [50]. This has been done mainly through community cooperatives [51]. Shrimp farming process involves breeding of postlarvae (baby shrimps) in hatcheries and growing them in human-made ponds using brackish water as the growth medium. The brackish waters available in the northwestern Sri Lanka is an interconnected water system of three natural lagoons (*Puttlam, Mundal, and Chilaw*) and a set of small streams that are linked by the Dutch Canal—a human-made canal constructed during colonial times to transport goods.

Historically, Sri Lankan shrimp sector has been hampered by issues such as disease outbreaks, and ecosystem changes. These issues are being further aggravated by the impacts of climate change in the form of droughts, unusual monsoon patterns and floods, and unexpected temperature fluctuations [8,52]. Furthermore, these impacts vary depending on the farming area where the southern part of the northwestern coastal region has relatively wet conditions (rains and floods) and the northern part has relatively dry (drought) conditions leading to variations in water salinity levels in each region. Unexpected extreme weather events such as floods (e.g., May 2016 floods) damages shrimp farming infrastructure such as ponds and canals. Despite these challenges, Sri Lankan national shrimp production volumes shows an incremental growth since 2005 [53].

Social and environmental impacts associated with shrimp farming at the global level, has gained plenty of attention in aquaculture literature [54–56]. However, dynamics of the system and its capacity to survive and grow in the face of stressors has not been studied sufficiently, particularly in shrimp aquaculture [8]. Sri Lankan small-scale shrimp farmers in CBE setting and their performance over the years, provides a unique study context in this regard. In the recent past, Sri Lankan shrimp aquaculture sector has received scholarly attention, particularly in natural resource governance scholarship [51,56–60].

This paper answers the following research questions related to the resilience of small-scale shrimp farmers in Sri Lanka: what motivated them to start shrimp farms; what are the stressors they have encountered and how did they respond; and did their motives help them be resilient in their entrepreneurial journey. The analytical direction of this paper is guided by the conceptual framework (Fig. 1). The significance of this study is mainly due to the novel approach taken in this study to understand the motives and SES change of shrimp farming

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