

A CONCEPTUAL FRAMEWORK FOR QUALITY MANAGEMENT IN SHRIMP SUPPLY CHAIN

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ABSTRACT

This paper presents the conceptual framework used for quality management in shrimp supply chain. The conceptual model gives a clear picture of the structure of the study and shows how the theory is linked to practice. Subsequently, we present the methods used for the study: case study and questionnaire survey. It is concluded that a combination of qualitative and quantitative approaches provides a comprehensive understanding of how small-scale farmers can be involved in the shrimp export supply chain. It encompasses the choice of the research design, the methods of data analysis, and credibility of the results.

Keyword: Shrimp supply chain, Small-scale farmers , Shrimp export supply chain

1. INTRODUCTION

Quality management is studied from a chain perspective. Several studies that address quality management at chain level focus on governance structures and business relationships (Lazzarini, 2001; Hobbs, 2001; Han et al., 2006), while others focus on the use of proper technologies in primary processes and quality assurance (Henson and Loader 2001; Unnevehr, 2000; Dolan and Humphrey, 2000). Both approaches address relevant questions but may fail to address crucial aspects of channel design if these are beyond the scope of the chosen partial approach. For example, the quality standards in the export markets will require the introduction of new technologies. However, in order to make these changes successful, the quality management system and the prevailing governance structures coordinating business relationships, have to be fine-tuned simultaneously. The conceptual framework is depicted in section 3. The paper focuses on the small-scale farmers, but to understand their position, it is necessary to describe the way quality management is executed in the chain. The dimensions of the research are quality control, quality assurance, and business relationships between the supply chain actors.

2. RESEARCH DESIGN

This section describes the research design that has been developed to answer the research questions regarding the involvement of smallholders in fish export supply chains in Vietnam. The research design is the framework for the study, providing useful guidelines for collection and analysis of data. Our research design is problem solving in nature. To collect the necessary data, both qualitative (case study) and quantitative (survey) research methods have been utilized.

The research started with a study (in-depths interviews) that concerned stakeholders in the Shrimp industry. The results of this study showed the general picture of the Shrimp value chain and gave us insight in the issues to focus on later.

After having evaluated this, we developed the conceptual framework (see Figure 1). The second stage of the project involved a multi-case study of smallholder fish farming systems. The multi-case study confirmed the conceptual framework. It led to deeper insight in the critical issues of smallholder practice in export supply chains. Then, the third stage of the research was a survey to acquire more quantitative results on these issues. This stage focused on fish disease prevention and disease treatment and fish quality management in general, at farm level. The results of this survey showed the differences in farming practices between traditional and more advanced production systems. The results of the first three research stages made it possible to draw conclusions on changes in smallholder practices that are required to have a sustainable position in export supply chains. This led to the fourth stage of research. This stage aims at evaluating farmers' awareness of necessary changes, and farmers' willingness to work on these changes.

2.1 In-depth interviews

The first stage has been devoted to a description and appraisal of the different stakeholders in the shrimp industry. In-depth interviews with knowledgeable people and experts of the fish industry have been carried out to gather information about the major issues in the supply chain. The author interviewed actors in the Shrimp supply chain including hatcheries, fingerling traders, fish farmers, traders, retailers, processing/export companies, fishery associations, and researchers. Furthermore, institutions in Ca Mau city, in the province of Ben Tre, in the province of Bac Lieu, and in the province of Soc Trang were approached as these regions supply the most cultured Shrimp in the MRD. In addition, many documents related to fish culture ranging from operations at primary production and processing to distribution have been studied.

These interviews were based on convenience sampling meaning that selected persons were likely to give useful information. It should be clear that the resulting sample shouldn't be regarded as a representative cross section of the population. People working in the Shrimp sector on a daily basis were approached. Interviews were semi-structured and often involved group discussions which include fishery experts, local authorities in MRD, fish farmers, fishery associations and managers of fish companies. These discussions deliberately took place in public meeting places in the provinces or villages giving them an open and accessible character. During these discussions, names of informants playing an important role in the Shrimp industry were suggested by other participants and extension agents. Hence during the course of these visits extensive discussions were held with all key individuals about the major problems, types of governance interventions, and the areas of focus in the Shrimp value chain. Consequently, the author became acquainted with the Shrimp industry and the chain actors. In the process, the author was as well introduced to the community and the grassroots farmers. The stage resulted in a report describing the Shrimp supply chain in Vietnam. It concluded that the involvement of small-scale farmers and the required quality assurance mechanisms are pressing issues for policy makers and processing firms. As a result of this pilot study we decided to focus on these issues and in particular on the combination of primary processes, quality control and quality assurance and business relationships at farm level.

2.2 The multiple-case study

The purpose of the multiple-case study is to replicate findings across cases. It enables the researcher to explore differences within and between cases. Because comparisons will be drawn, it is crucial that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Yin, 2003). Case study research is especially useful to investigate real life situations and provide rich insights into a research object (Miles and Huberman, 1994). This method helped us to “investigate a contemporary phenomenon within its real-life context, as the boundaries between the two were not clearly defined” (Yin, 2003). The case study method enables us to gain access to various data sources, and to cope with an extensive variety of material, such as documents, artefacts, transcripts from interviews, and observations. Moreover, case study research is a suitable method for gaining insights into areas in which little research has been conducted. Our case studies had a focus on Shrimp quality control practices in different small- scale farms system. The purpose of our case studies was to investigate to what extent the findings support the conjectured relationship of primary processes and quality control at farm level, quality assurance and business relationships.

The second stage has been conducted by using multiple case studies for Shrimp production at farm level as our data collection strategy. A small group of 6 farmers has been followed for a period of 6 months: the length of one production cycle. Every two weeks they were interviewed to discuss their primary activities at farm. During this period a larger group of 20 farmers was interviewed twice in order to cross check the information. These farmers were living in Ca Mau, Soc Trang, Bac Lieu, or Ben Tre provinces with long experiences in Shrimp industry. The author regularly visited the specific farms (6 farms) during the field research periods. Issues that emerged from observation during these visits were used to guide interviews and discussions with fish farmers. The case protocol was used to investigate the elements of the theoretical framework. Each interview lasted, on average, one hour. The transcripts of the digitally recorded interviews were analyzed for each farm.

In order to cover diversity in farming systems, we tried to find at least one case for each of the three Shrimp culture systems. In addition, we intended to cover some of the diversities that exist in Shrimp farming.

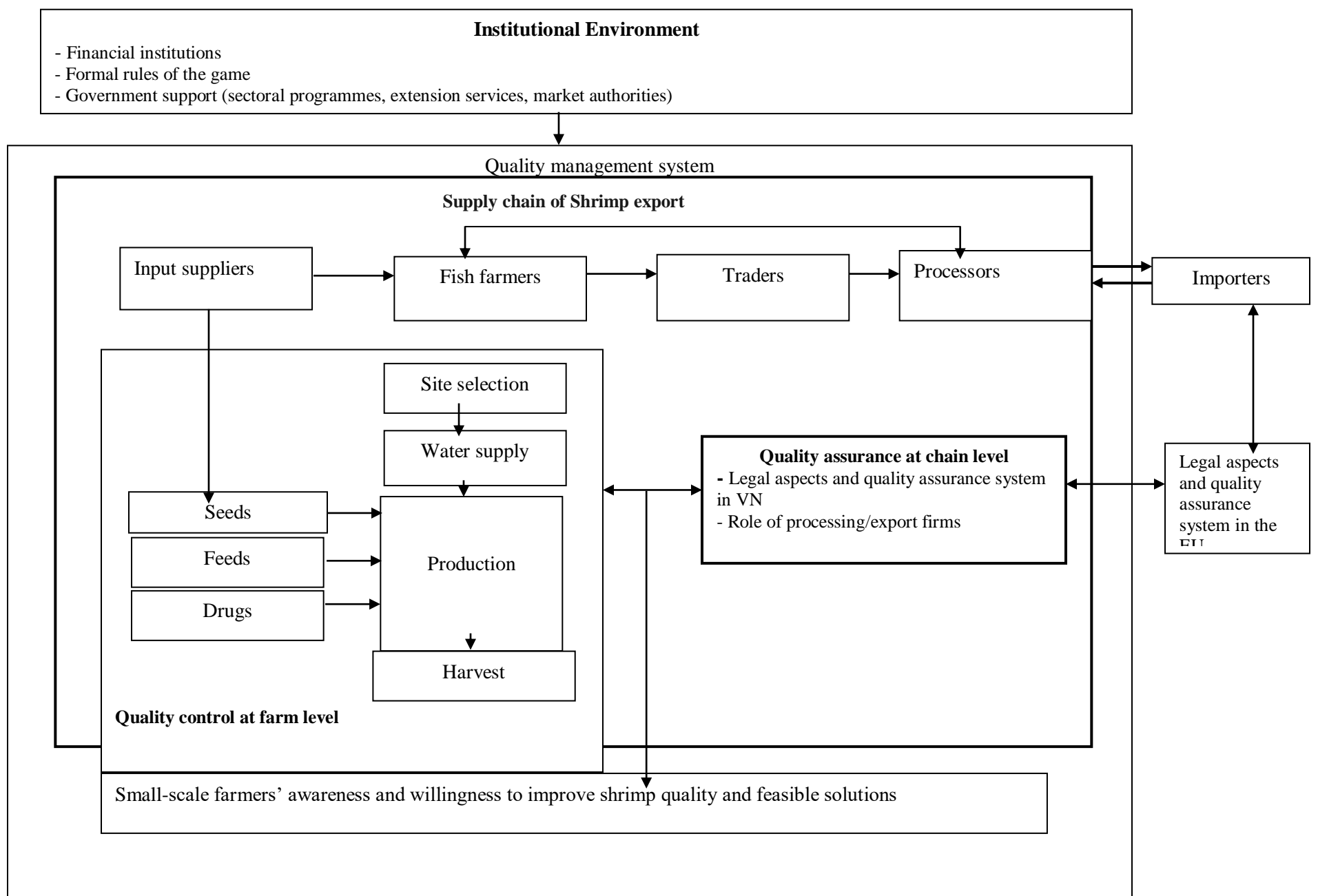
The next stage (third stage) of this research was a survey to check the results of the multiple-case study.

The survey (was based on personal interviews. The multiple case-studies provided a great deal of information about the concepts used in this study. A major part of the questionnaire was designed to collect data on fish disease treatment and prevention, and quality management at farm level. We preferred personal interview for several reasons. Firstly, we were planning to collect data on production technology, quality control, and business relations at the farm level. The questionnaire was designed based on the literature and the results of the multiple- case study. Most of the constructs are measured by multiple-item scales. Question construction and wording began with a review of the literature with special focus on generating a pool of items that tap the core elements (production techniques, quality assurance, and business relationships) in our conceptual framework. Two Vietnamese researchers who specialize in shrimp business

relationships assessed the content validity of the items. They checked the equivalence of the translation from English version of the questionnaire to Vietnamese, especially the questions related to production technologies and fish diseases. Any differences that emerged were reconciled by the two researchers.

The quality of the data may be influenced by the interviewers' attitude and the understanding of the questions. To minimize this problem, we carefully trained our fieldwork assistants to ensure they understood the research purpose and the questions in the questionnaire. All interviews were conducted at the farm. The data were collected in the selected areas in the MRD: Ben Tre, Soc Trang, Bac Lieu, and Ca Mau provinces where the most cultured Shrimp from the MRD comes from.

3. CONCEPTUAL FRAMEWORK FOR STUDY OF SHRIMP SUPPLY CHAIN QUALITY MANAGEMENT



4. ACKNOWLEDGEMENT

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