



QUALITY MANAGEMENT SYSTEM: THE FARMERS' PERSPECTIVE

Management

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ABSTRACT

This paper examines quality control practices at the Pangasius farm level. The analysis will focus on critical control point (CCP) for fish quality in order to meet the requirements of processing firms. Based on this analysis, we will conclude which are the most gaps which farmers need to control at farm level.

KEYWORDS

Quality Control, Quality Assurance, Quality Management System, Pangasius

1 INTRODUCTION

At this moment, the fish processing firms demand quality requirements related to color, size, disease and antibiotics residues of Pangasius raw material for fish traceability. To achieve these they require that that fish farmers implement quality control at farm level based on better management practices (BMPs). BMPs aim to improve taking environmental and socio-economical sustainability into consideration. According to NAFIQAD (2018) BMPs are practical norms for small-scale farms to ensure fish safety and minimize diseases occurrence and environmental pollution. In other words, they have been interpreted in the MRD as management practices for small-scale farmers (NACA, 2018). Focal to BMPs is the determination of CCPs in order to prevent or reduce food safety hazards. The model of critical control point for aquaculture production (Reilly and Kaferstein, 1997) is applied. The farmers should monitor and verify the control measures at CCPs to ensure fish quality and safety during culture process. There are four CCPs associated with Pangasius pond farming; these are (1) site selection, (2) water supply, (3) production, and (4) harvest.

2 QUALITY CONTROL SYSTEM AT FARM LEVEL

A quality control system to prevent or eliminate food safety hazards needs to take all CCPs into account. How to monitor each farming practice depends on the unique conditions that exist within each fish farm. This section will present four CCPs that affect to fish safety and quality and find out the gaps for each CCP.

2.1 SITE SELECTION

Selecting a suitable site is a critical activity before establishing a fish pond. At the moment, processing firms have no requirements for site selection of farms. However, farms should be located, designed and constructed in a way that minimizes negative impacts on other users and the environment (BMP, 2009). Poor pond site selection can lead to poor quality of water supply and inability to properly manage waste flows. There are two farming practices for site selection namely pond location and pond design and construction.

2.2 WATER SUPPLY

The quantity and quality the water supplied to aquaculture operations is a key factor in production because fish is water-dependent. The source of the water supply varies depending on the farm location and the distances over which water must be pumped. Most Pangasius farms pump water from canals or river into their ponds. Effluent water may be discharged into the same water body from which water is taken. When there is limited drainage or tidal flushing of that water body, water quality is likely to be poor. All Pangasius farms are still heavily reliant on large amount of water in the MRD at the moment.

2.3 PRODUCTION (GROW-OUT)

Pangasius production includes the selection of fingerlings and stocking density, the use of feeds and finances, and the use of chemical/veterinary drugs for disease treatment. Different hazards can be associated with the various production stages of aquaculture. Antibiotics and chemicals used during fingerling production may result in residues in fish which are problematic for public health. Home-made feeds can be biologically or chemically contaminated. Approved agrochemicals and veterinary drugs need to be used to according to manufacturers' instructions.

2.4 HARVEST

During harvest time there is strict fish quality control by processing firms. Processing firms have a set of requirements for the quality of fish. Moreover, they prefer to buy from farmers with documents for fish traceability. The small-scale farmers stated that the farm gate price is often decided by processing/export firms and fluctuation which based on the current market price Therefore, it is difficult for small-scale farmers to remain profitable.

The major gap related to harvest is the lack of fulfilling the quality requirements of processing firms of small-scale farmers. Improving the cooperation between farmers and processors seems to be a key to solve problem during harvest. Currently, small-scale farmers lack bargaining power in their business relationships with processors. As a result, it is difficult for farmers to make more profit and overcome price barriers imposed by processing/export firms

3. CONCLUSION

The gaps analysis showed there are five main differences in quality management system. These are certified fingerlings, stocking density, certified feeds, waste-water treatment pond, and certified veterinary drugs for disease treatment. Small-scale farmers have to implement quality control system at farm level to get access to the market. The experiences suggest that small-scale farmers need to cooperate in groups to share the cost of infrastructure, water quality, input quality, and market access.

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