

Assessment of the performance of the aquaculture fish marketing chain: A case of Dowa and Mchinji Districts in Malawi

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Abstract

This study was carried out in Dowa and Mchinji Districts in the Central Region of Malawi. The main purpose of the study was to improve the marketing system of the small scale fish farmers for increased income with particular focus on assessing the socio economic factors that affect supply of fish marketed by smallholder farmers, assessing the structure and conduct of the fish market by estimating economic returns and to identify the best marketing channels and strategies for the small holder fish farmers. A total of 159 producers that included fish and non fish farmers, 49 traders, 59 consumers, were interviewed through focus group discussions. Interviews were conducted with 20 key informants from actors along the fish value chain. Results from preliminary findings show that most fish farmers do not add value to their product due to a number of factors. Facilities at fish markets are minimal, with poor hygiene and sanitation. There are rarely any standard practices for handling, washing, sorting, grading, cleaning and icing of fish. Despite this, economic returns show that the fish farmers can increase income if more investment is made in the sector.

Key words: Fish, markets, socioeconomic, value chain

Résumé

Cette étude a été réalisée dans les districts de Dowa et Mchinji dans la région centrale du Malawi. Le but principal de l'étude était d'améliorer le système de commercialisation des pisciculteurs à petite échelle pour l'augmentation des revenus avec un accent particulier sur l'évaluation des facteurs socio-économiques qui affectent l'offre de poisson commercialisé par les petits exploitants agricoles, l'évaluation de la structure et le comportement du marché de poisson en estimant les rendements économiques ; d'identifier les meilleurs canaux et des stratégies de commercialisation pour les petits pisciculteurs. Un total de 159 producteurs qui inclut les pisciculteurs et les non-pisciculteurs, 49 commerçants, 59 consommateurs ont été interrogés par le biais de groupes de discussion. Les entrevues ont été menées avec 20 informateurs clés des acteurs le long

de la chaîne de valeur du poisson. Les résultats préliminaires montrent que la plupart des pisciculteurs n'ajoutent pas de valeur à leur produit en raison d'un certain nombre de facteurs. Les installations de marchés de poissons sont minimales, avec une mauvaise hygiène et un mauvais assainissement. Il y a rarement des pratiques normalisées pour la manipulation, le lavage, le tri, le calibrage, le nettoyage et le glaçage du poisson. Malgré cela, le rendement économique montre que les pisciculteurs peuvent augmenter le revenu si plus d'investissement est réalisé dans le secteur.

Mots clés: Poisson, marchés, socio-économique, chaîne de valeur

Background

While the demand for fish and fish products is steadily growing in Malawi, it is still in short supply. The fisheries resource base in Malawi comprises two sub-sectors, capture fisheries which is dominant and aquaculture which holds a very small portion. The most important source of fish in volume and value for Malawians is represented by fish capturing producing an average of 70,000 tons/yr (GoM, 2011). With increase in human population, per capita consumption has reduced for about 14kg/person/year to less than 5kg/person/year recently. Aquaculture in Malawi is the greatest potential for restoration and enhancement of fish supplies. Aquaculture development in Malawi is constrained by the poor fish marketing chain including handling and marketing system. Therefore, majority of the fish farmers produce and sell raw fish, receive low value from sales such that they fail to recover production costs. To develop policies aimed at improving marketing of small scale farmer produced fish, this study was carried out to assess performance of the aquaculture fish marketing chain in Dowa and Mchinji districts in Malawi.

Literature Summary

An efficient fish marketing system could eliminate some of the depressed pockets of malnutrition by supplying fish at reasonable prices to people living on subsistence level (Rao, 1983). Engel *et al.* (2006), however argues that although the aquaculture products offer the advantage of controlled year round supply, the products must compete within the volatile wild fishes market. If not planned well, marketing of farmed fish can therefore be a challenge. Fish farming mainly involves mostly small-scale farmers who frequently sell their fish to nearby households with very little processing, thus limiting the range of markets to explore. The small-scale farmers are scattered since pond

construction can only be done in particular areas, thus organisation and distribution of the fish is done individually. As a result, farmers cannot bargain for a good market price for their products. Van Anrooy (2003) argues that the market performance of fishery products can be measured by their returns and their marketing margins. According to Barrett (2009), the performance of the fish market is therefore crucial in attaining food self-sufficiency and security in Malawi. However for small holder fish farmers, markets fail as they cannot explore distant markets due to low marketable output, high perishability and bulkiness of material, high heterogeneity in size and weight among species. Other marketing limitations are high cost of storage and transportation, failure to guarantee quality and quantity of commodity, low demand elasticity and high price spread (Ravindranath, 2008).

Study Description

The study was conducted in Mchinji and Dowa districts in Kasungu Agricultural Development Division (KADD), central Malawi. These districts have the highest potential in aquaculture production in the central region. Data collection methods included a household survey, focus group discussions, household and key informants' interviews. A total of 159 producers that included fish and non-fish farmers, 49 traders, 59 consumers, 5 lecturers and 3 students were interviewed. Focus group discussions were held with about 50 fish and non-fish farmers in the study areas. Interviews were conducted with 20 key informants from the organisations that are directly or indirectly involved along the fish value chain.

Research Application

Preliminary results of the research show that fish marketing is a challenge for fish farmers because of low production and poor quality fish. Table 1 shows the gross margins of fish farming in the study area.

Results on the markets showed that 49% of the fish farmers in Mchinji and 44% in Dowa do not sell fish to big markets but rather at household level. At the primary market level, the main constraints for the fish farmers are a lack of bargaining power and market information. The marketing infrastructure, including cold storage, ice and transport facilities are generally not available and transportation to markets is generally a problem. The main form of selling fish in the districts is in the fresh form as sales are made directly from the pond. There is therefore little or no value addition to fish before it gets to the market. Results also show that there is no processing of fish in

Table 1. Gross margins for the fish farmers in Dowa and Mchinji districts.

Costs components	Units	Number of units	Unit costs	Total sales/costs
Mchinji district				
Sales ¹	Kg	45.58	850	38743
Total sales				38743
<i>Costs</i>				
Fingerlings ²	Unit	400	20	8000
Feed ³	Month	6	480	2880
Labour ⁴	Pond	1	2324.29	2324.29
Manure ⁵	50kgbag	1	6599.05	6599.05
Total costs				19803.34
Gross margin				18939.66
B/C				1.96
Dowa district				
Sales	Kg	33.12	900	29808
Total Sales				29808
<i>Costs</i>				
Fingerlings	Unit	400	20	8000
Feed	month	6	1000	6000
Labour	Pond	1	5411.54	5411.54
Manure	50Kg bag	1	7269.99	7269.99
Total costs				26681.53
Gross margin				3126.47
B/C				1.12

¹ The average production and price of fish in the area is used in the calculation. Fish is harvested partially for household consumption therefore the production for the total harvest is doubled. The assumption is that the fingerling death rate is 20% due to poor pond management and low quality of feed.

² The recommended stocking density is 5 fish per m². The average stocking density of 2 fish per m² for the two Districts has been used in the calculations.

³ Most of the fish farmers in the area use locally available feed at low or no cost hence the feed prices varies significantly in the two Districts.

⁴ Labour costs are fixed because most of the farmers use household members but there are some who still use hired labour. The average costs of hired labour per pond are used.

⁵ The average cost of fertilizer is used for calculating gross margin. Malawi Government is implementing fertilizer subsidy where a bag is sold at MK500 therefore the cost of fertilizer in the local markets vary.

the project districts. Grading of fish is done according to size for some species of fish such as Chambo (*Tilapia*) in the local markets but most of this fish comes from the local traders in the lake shore area. The fish farmers do not sell fish per kg because most of them do not have weighing facilities. The price of the local *Oreochromis. shiranus* (makumba) fish ranges from MK200-500/kg depending on the size. This is different from prices offered by other bigger fish companies like MALDECO and Shoprite which offer MK800-1000/kg. The prices of fish in the areas are also erratic depending on the demand, quality, market availability and consumer incomes.

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