

Full Length Research Paper

Institutional Environment Affecting Capacity of Fish Farmer Organisations in Dowa and Mchinji Districts in Central Malawi

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Accepted 6th March, 2017

This study describes the influence of institutional environment on performance of farmer organisations to promote fish farming among local communities. Data collection comprised face to face interviews and focus group discussions with members of the farmer groups. Key informant interviews with leaders of farmer groups and extension workers were also conducted. Data were analysed using content analysis, critical discourse analysis and descriptive statistics. The study had highlighted the major influence of some of the main factors within the institutional environment which affect performance of the fish farmer organisations in the study area. These included market infrastructure, external organisations and other members within the local community where the farmer organisations operated. Another study with a larger sample of farmers and farmer organizations should be carried out as a follow-up to this study to provide more empirical findings on the institutional environment affecting fish farmer organisations.

Keywords: Institutional environment, markets, collective action, fish farming, farmer organizations

INTRODUCTION

A number of approaches have been devised to enhance agricultural development in Sub-Saharan Africa region (CAADP, 2010). Establishment of farmer organisations is one of the approaches aimed at mobilizing smallholder farmers to undertake collective action as strategy to enhance agricultural development (Akpabio, 2008). It is through the generic understanding of collective action that most of the recent agricultural development policies, strategies and frameworks in Sub-Saharan Africa have emphasized the need for robust and sustainable vibrant farmer organisations in attaining sustainable agricultural development. Further, the 2008 World Development Report on Agriculture Development places strong emphasis on promotion of farmer

organisations to help bring about what it calls a smaller holder revolution in order to improve farmers' livelihoods.

Before the introduction of decentralization policies, agricultural development and other natural resources management in most countries in sub-Saharan Africa were implemented through central governments where a centralized managed system was in place (Wood, 2008). This conventional approach appeared to be ineffective in most aspects of sustainable agricultural development and natural resources management. This was largely because most governments in Sub-Saharan Africa rarely possess enough personnel or financial capacity to implement their socio-economic policies adequately (Njaya, 2007). Farmer organisations have therefore

been one of the strategies to depart from centralized systems to decentralized approaches in agriculture development in Africa (CAADP, 2010). In this regard, (Stockbridge et al., 2003) define farmer organisation as a formal voluntary membership organisation created for the economic benefit of farmers to provide them with services that support their farming activities. Such services are reported by Wambugu et al. (2010) who assert that apart from increasing access to extension services and credit, collective action in form of smallholder farmer organisations is essential for reducing market transaction costs and consequently improving performance of rural markets. This assertion is consistent with (Hellin et al., (2007) who report that by belonging to farmer organisations, smallholder farmers attain some market power, increase access to input and output markets as well as improve their competitiveness on the market.

However, for the effective performance of the farmer organisations, there must be conducive institutional environment within which the organisations operate (Masangano et al., 2009). Farmer organisations do not operate in a vacuum. They operate in an environment where there are other institutions and institutional arrangements which may influence their performance. Institutional environment considers the economic, physical, technological and socio-cultural aspects of the environment within which organisations operate (Rout, 2013; Shiferaw et al., 2009; Stockbridge et al., 2003). Institutional environment affects the way farmer organisations can perform and it has an important bearing on the functionality and sustainability of the organisations. However, although various literature (Asiedu-Darko, 2013; Benard and Spielman, 2008; Chanrith, 2008) report on the significance that institutional environment has on performance of farmer organisations, there is inadequate empirical evidence to confirm how the institutional environment actually affects capacity as well as performance of the organisations in promoting fish farming. Lack or inadequate knowledge on the effect of the institutional environment on farmer organisations is a precursor for failure in performance and sustainability of the farmer organisations. It is for this reason that this study was conducted to determine how the institutional environment affects the fish farmer organisations in the study area.

METHODOLOGY

This cross-sectional study was carried out in Mchinji and Dowa districts. The sampling frame comprised five fish farmer organizations which operated under Community Action Research Programme (CARP) Fish Project. The farmer organizations comprised a total

of 68 fish farmers. Considering the farmers' experiences in fish farming as a result of the previously implemented fish farming projects, it was assumed that members of the fish farmer organizations would be in a position to provide necessary information for the study. Purposive sampling method was therefore employed to select the five fish farmer organizations and the members of the farmer organizations. Both qualitative and quantitative data were collected in May 2014. The data collection methods comprised focus group discussions (FGDs), key informant interviews and face to face interviews. The FGDs were carried out among members of the farmer groups. Key informant interviews with leaders of the farmer groups and the District Fisheries Officers (DFOs) were further conducted to collect data on insights of the challenges affecting the organizations. Lastly, face to face interviews were conducted in order to understand perceptions of farmers on challenges affecting the farmer organizations. Data were analysed using content analysis, critical discourse analysis and descriptive statistics.

RESULTS AND DISCUSSION

Market infrastructure

Results (Table 1) show that there were various market outlets for the fish which the farmers harvested. These were the farm-gate, local trading centres and Dowa and Mchinji townships. Face to face interviews with fish farmers showed that most of the fish were sold at the farm-gate. The farm-gate was therefore regarded as the main market outlet for the fish in all the farmer organisations under study. During the study, key informant interviews with the District Fisheries Officers revealed that during harvesting, 90% of the fish were sold at the farm-gate. This was attributed to lack of proper storage facilities and transport which could enable the farmers to sell their fish at more viable markets in Lilongwe city which was about 120 kilometres from both Mchinji and Dowa. The farm-gate was also considered a viable option because of the low quantities of fish that members of the farmer organisations obtained from their harvest. The low quantities of fish that members harvested acted as a disincentive for the members to explore new markets to sell the fish. Hence, the farm-gate was considered the best option. Inadequate inputs invested into fish farming, scarcity and high cost of fingerlings for pond stocking as well as high prices of fish feed and generally poor management of the fish ponds were major factors which were attributed for the low productivity of fish among members of the fish farmer organisations in the study areas.

Table 1: Fish market infrastructure in the study areas

Farmer organisation	Type of markets	Distance to market (km)	Main mode of transport	State of the road
Khumbirani	Farm-gate Dowa town	- 10	- Bicycle headload	- and Poor
Nthawinchuma	Farm-gate WalilANJI trading centre	- 20	- Bicycle	- Poor
Phindulathu	Farm-gate WalilANJI trading centre	- 15	- Bicycle	- Poor
Gwirampini	Farm-gate Mchinji town	- 22	- Bicycle and motor vehicle	- Good
Chikondi	Farm-gate Mkanda trading centre Mchinji town	- 12 35	- Bicycle Bicycle and motor vehicle	- Poor Good
Mean distance (n = 6)		18.5		

However, selling the fish at the farm-gate had its shortfalls. According to focus group discussions with members of the fish farmer organisations, the major drawback encountered with selling the fish at the farm-gate was that the price of the fish was low and most of the harvest was sometimes just offered for free to relatives within the local communities. In addition, some of the fish was sold on credit and often the money was not paid back in time or not paid back at all. Since at the farm-gate the fish was generally sold to relatives, the fish farmers did not have the power to negotiate for better prices that would ensure the realization of optimal profit from the fish sales. This mode of selling the fish posed challenges to the fish farmers to create an entrepreneurial culture within rural communities. This was attributed to the fact that selling of the fish at the farm-gate often demanded that the farmers sold the fish on an individual basis which resulted in low prices for the fish since the farmers could not have power to determine appropriate prices as would have been the case if they sold the fish as a group. This is one of the factors which make fish farming appear not to be a viable investment among the rural communities (Shitote et al., 2012; Kapanda et al., 2003) which also constrain performance of the farmer organisations in achieving the objective of promoting fish farming. Farmers as a group can often negotiate higher prices for their output and lower prices for their inputs (Stockbridge et al., 2003). Therefore, farmers would have increased benefits from the fish

sales if done in groups rather than selling the fish on an individual basis as they did at the farm-gate.

Further results showed that apart from the farm-gate, a small amount (about 10% of the harvest) of fish was sold to townships and trading centres. For Khumbirani group, some of the fish were sold at Dowa township (10 kilometres from the fish farms) while for Nthawinchuma and Phindulathu groups, some fish was sold at WalilANJI Trading Centre (20 kilometres from the fish farms). For Gwirampini group, some of the fish harvested was sold at Mchinji township while for Chikondi group, some of the fish was sold at Mkanda Trading Centre and Mchinji township. In such markets, marketing challenges were inevitable. High transport cost to the markets, long distances and poor road network to markets and lack of storage facilities were some of the challenges.

For instance, the average distance to the markets from locations of the farmer organisations was 18.5 kilometres. This was quite a long distance considering that fish are highly perishable particularly under poor storage. In all the study areas, the main means of transport was a bicycle. This included the farmers' own bicycles or hired ones. Sometimes open van motor vehicles were also used (*matola*) by members of Gwirampini and Chikondi farmer groups. Results also showed that some members of Khumbirani group carried the fish as head load to the market. Using this mode of transport, it took about 1 to 2 hours to reach the market.

Consequently, most of the fish got damaged upon reaching the market.

The condition of all the roads was generally poor except for Gwirampini and Chikondi farmer organisations which had access to a tarred road going to Mchinji township. Otherwise, for the other farmer groups, there were a lot of pot holes and huge stones on the roads which were used to transport the fish. This posed challenges in achieving effective marketing and selling of the fish. These challenges had a significant negative influence on fish farming since inadequate access to good markets was a disincentive to some of the farmers to maintain their commitment in fish farming activities as well as their participation in their organisations. A similar finding was reported by (Eliasi et al., 2009) who stressed that access to markets for their products provides a major impetus to farmers to participate in collective activities.

The results indicate that there were no reliable markets existing in the areas of the fish farmer organisations. The reliable and more profitable markets that could be used by the fish farmer organisations were far from the farmers. The roads used to reach these market places were in poor conditions. The cost of reaching these market places was high. This means that market infrastructures in the study areas were generally poor. This affected the provision of market services in smallholder farmer organisations. It also constrained the farmer organisations to operate as business entities. This consequently affected the performance of the farmer organisations in promoting fish farming. This finding shows that poor market infrastructure was one of the limiting factors which affected capacity and performance of farmer organisations to promote fish farming.

Other external organisations

Other external organisations at the local level can have a significant influence on performance and capacity of the farmer organisations to promote fish farming among local communities (Adong et al., 2012; Kaunda et al., 2010; Barham and Chitemi, 2009). The external organisations have thus positive as well as negative interactions and impacts on farmer organisations which in return may affect the capacity as well as performance of the farmer groups in promoting fish farming. During the study, key informant interviews with the DFOs and the leaders of the farmer organisations mentioned the external organisations which were involved in various activities in the study area and which also had ties with the fish farmer organisations (Table 2).

Results show that apart from CARP and its partner organisations, both Government and Non Governmental

Organisations existed in all the study areas. These external organisations provided services related to inputs, extension and markets. All the fish farmer organisations in the study areas on average worked with about 5 external organisations. Phindulathu group had more external organisations working with it with 6 external organisations while Gwirampini and Chikondi had the second highest number of external organisations working with them with each having 4 external organisations. The common external organisation was the Ministry of Agriculture and Food Security. This is because the ministry operated national wide and farmer organisations were one of its adopted strategies for reaching out to farmers (Government of Malawi, 2000).

Results further showed that Mchinji Innovative Fish Farmers Network Trust (MIFCNT) was one of the external organisations which worked with the four fish farmer groups in Mchinji district. The main objectives of the MIFCNT were to facilitate knowledge and information sharing in the aquaculture value chain among the local communities, to carry out farmer to farmer innovative fish farming extension and to facilitate market information research and dissemination among the fish farmers at the local level. The MIFCNT provided technical backstopping of the fish farmers with a bid to promote fish farming within the local communities.

The District Assemblies in both Dowa and Mchinji districts were the other institutions which worked with the farmers in promoting fish farming. The assemblies through the Local Development Fund (LDF) assisted all the fish farmer organisations within the study areas with funding to enable the farmers to construct additional fish ponds with the aim of increasing fish production. Therefore, through the LDF, the District Assemblies assisted the farmers with financial resources in order to improve fish production within the local communities.

Further results showed Churches Action in Relief and Development (CARD) as one of the external organisations which worked with farmers of Phindulathu and Gwirampini fish farmer organisations in Mchinji district. It was involved in provision of agricultural inputs and extension services to local communities through implementation of Sustainable Livelihood Improvement Programme (SLIP). One of the specific objectives of SLIP programme was to promote livestock production, management and utilisation at household level. It was therefore under livestock production where fish farming was also promoted in the area. The major activities under SLIP included the following: Conduct sensitisation meetings on fish farming, site reconnaissance and verification on potential fish pond construction areas, conduct training on fish pond construction and management and supply inputs, tools and equipment e.g. wheelbarrows and shovels to fish farmers. Implementation of such activities enhanced capacity of

Table 2 External organisations existing in areas of smallholder farmer organisations

External organisations existing in areas of fish farmer organisations	Farmer organisations				
	<i>Khumbirani</i>	<i>Nthawinchuma</i>	<i>Phindulathu</i>	<i>Gwirampini</i>	<i>Chikondi</i>
MOAFS	Yes	Yes	Yes	Yes	Yes
MIFFNT	No	Yes	Yes	Yes	Yes
District Assembly	Yes	Yes	Yes	Yes	Yes
CARD	No	No	Yes	Yes	No
TLC	No	No	Yes	No	No
World Vision International	Yes	No	Yes	No	Yes
Total number of external organisations	3	3	6	4	4
Mean number of organisations per fish farmer organisation	5				

MOAFS = Ministry of Agriculture and Food Security; MIFFNT = Mchinji Innovative Fish Farmers Network Trust; CARD = Churches Action in Relief and Development; TLC = Total Land Care; CADECOM = Catholic Development Commission in Malawi. In Table 2, 'Yes' indicates that the organisation in question existed while 'No' implied that the organisation did not exist within the local community.

the members of Phindulathu and Gwirampini farmer organisations in undertaking fish farming activities.

The other external organisation having an influence on performance of the fish farmer organisations in the study areas was Total Land Care (TLC). This organisation worked with Phindulathu farmer organisation in Mchinji district. During the study, TLC's mandate was to improve the livelihoods of smallholder farmers among local communities with a focus on community based approaches to increase agricultural production, food security and incomes. Its main focus was the provision of extension services on agricultural production and natural resources management. One of the strategies for accomplishing the TLC's mandate of increasing agricultural production, food security and incomes was the promotion of fish farming at the local level, hence the provision of extension services by this external organisation to members of Phindulathu fish farmer group during the study.

World Vision International (WVI) was the other external organisation working on fish farming in Dowa and Mchinji districts. During the study, WVI was involved in various activities focusing on enhancing food security and fighting against HIV/AIDS. The organisation was also involved in promoting fish farming activities as a strategy for enhancing food security among the local communities. As depicted in Table 2, this external organisation worked with members of Khumbirani farmer group in Dowa and Phindulathu and Chikondi farmer groups in Mchinji through provision of extension services and inputs such as fingerlings and fish feed in order to enhance fish farming among the local communities.

The results indicate that the fish farmer organisations in the study areas operated in an environment that had external organisations providing

services essential for their operations. The services mostly provided by the external organisations were related to inputs and extension on improved agricultural production. However, apart from MIFFNT, most of the external organisations were not involved in the provision of marketing services. This implies that the few market service providers existing in the study areas were failing to satisfy the market needs of the fish farmer organisations. A similar finding was reported by (Chirwa et al., 2005) who found that in Malawi, one of the challenges affecting cooperatives is that there were few organisations that provided market services for various agricultural products at the local level.

Further, focus group discussions and causal discussions with members of the fish farmer organisations suggested that despite the provision of various services by the external organisations to the fish farmer organisations, there were a host of problems facing the collaboration of the fish farmers and the external organisations. These challenges included uncoordinated promotion of fish farming through most of the organisations in the process of delivery of extension messages on fish farming and institutional development. As a result, the farmers were left confused by many extension officers who visited and provided varying information. Furthermore, it was noted that some of the external organisations notably CARD and WVI provided various incentives such as money and food to local communities to motivate community members to participate in fish farming. This posed disincentives for the community members to equally participate in the CARP Fish Project which did not equally provide the incentives.

Other members within the local community

Results from key informants with the DFOs as well as leaders of the farmer organisations revealed that during CARP Fish Project, one of the conditions for becoming a member of the fish farmer organisations was that members should have a total pond area of at least 1000m². This size of fish ponds was perceived to be adequate which if well managed could enable farmers harvest optimum amount of fish for both the market as well as consumption. This condition was instituted to promote an entrepreneurial culture among member of the rural communities. The rationale was to encourage farmers to produce fish for the market rather than trying to market what they produce. This entailed shifting the fish farmers' focus from production-related programmes to more market-oriented interventions Government of Malawi (2000).

However, the DFOs and leaders of the farmer organisations reported that about 60% of the farmers did not meet or satisfy this condition. This was attributed to inadequate resources especially financial resources for pond construction, procurement of fingerlings and fish feed. This constraint was therefore observed as the major setback for increased fish production among the farmers in the study area and hence the farmers only managed to have pond areas of less than the required 1000m². The key informants further revealed that this condition or criterion for incorporating appropriate fish farmers into the fish farmer organisations appeared to segregate the relatively poor farmers within the local community. The criterion was observed by many such farmers as favouring the elites at the expense of the poor majority. Eventually, farmers with low resource endowment were dropped out.

Coincidentally, key informants further indicated that members of Nthawinchuma and Phindulathu fish farmer groups had reported that they experienced an increasing occurrence of theft of fish from their ponds especially during night time. The members of the two farmer organisations suspected their fellow members who were dropped out from the clubs to be behind the theft. Their suspicion was confirmed when one of the old members was seen illegally harvesting fish at one of the ponds belonging to a member of Phindulathu farmer organisation. The theft at farmers' fish ponds had continued to the extent that it posed a significant negative influence on commitment of the farmers to undertake fish farming activities. Their reduced commitment in fish farming activities also negatively affected their participation which consequently had a negative bearing on the capacity of the fish farmer organisations.

In addition, there were conflicts between members of fish farmer organisations and the surrounding

community members who were non-members. These conflicts occurred as a result of water scarcity. Such conflicts largely affected members of Khumbirani group. Due to the general scarcity of water in the area, some members of the community who were nonmembers of the farmer group used to divert water from the stream which also supplied the fish ponds downstream. The nonmembers used the same source of water to irrigate their crops upstream. This tremendously reduced amount of water channeled into the fish ponds. This was particularly common during the dry season. The open access character of the water resource in the area bore the potential of conflict between the members and nonmembers.

It appears therefore that although collective action theory, organisational theory and the social capital theory do not categorically specify the importance of conflict resolution and management in organisations, conflict resolution mechanisms are one of the key elements in ensuring stable and effective farmer groups. Hence, without clear and well articulated conflict resolution mechanisms, the viability of farmer organisations would be under question. The conflict resolution mechanisms should include negotiations and frequent meetings of the entire fish farmer organisation where matters of general concern within the local institutions are discussed (Kassam et al., 2011; Lobo, 2008).

Associated with the issue of conflict management and resolution, the other challenge facing fish farmer organisations is lack or inadequate punishment given to offenders once they are found guilty. This is poses challenges since in the absence of sanctions for offenders; the conflict management and resolution arenas seem to be ineffective in resolving the conflicts. In addition, even those members who obeyed the rules of their organisations see no incentive to conform to such institutional rules in the final analysis.

CONCLUSION

Results from this study were quite mixed with some factors within the institutional environment positively affecting the performance of the organisations while others negatively affected the farmer organisations. The study had highlighted the major influence of some of the main factors within the institutional environment which affect performance of the fish farmer organisations in the study area. These included market infrastructure, external organisations and other members within the local community where the farmer organisations operated. Another study with a larger sample of farmers and farmer organizations should be carried out as a follow-up to this study to provide more empirical findings

On the institutional environment affecting fish farmer organisations.

ACKNOWLEDGEMENTS

Special thanks should go to the Regional University Forum for Capacity Building in Agriculture (RUFORUM) for funding this work as part of PhD study programme (for first author) through Community Action Research Programme Fish Project. Many thanks should also go to the Technical Coordinator, Prof Emmanuel Kaunda and staff of the NEPAD Regional Fish Node at Lilongwe University of Agriculture and Natural Resources for facilitating successful implementation of the study through provision of technical assistance and invaluable advice.

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