

## **Contribution of Fish Trade to Sustainable Livelihoods of Female Headed Households in Three Major Markets of Kitwe, Luanshya and Ndola on the Copperbelt Province of Zambia**

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**Abstract:** *A study was conducted to determine the challenges that were faced by female fish traders, identify possible ways in which fish trade could contribute to sustainable livelihood of female-headed households, investigate measures that could be taken to improve the contribution of fish trade to sustainable livelihood of female-headed households and assess the extent to which female-headed households benefited from fish trade. The study was conducted at three major markets (Kitwe, Ndola and Luanshya) of the Copperbelt Province. A sample of 45 female fish traders were randomly selected for the study. Data was collected using both interviews and semi-structured questionnaires. Secondary data was collected by reviewing related literature from various institutions. Statistical package for social sciences alongside Microsoft Excel were used to analyse the data. Results showed that fish trade contributed to the sustainable livelihood of female-headed households despite economical and domestic challenges faced by many women, such as lack of finance, lack of support and poor supply of power. A significant number of these fish traders had their livelihood improved for the better. Most of them were capable of: affording three square meals per day; changing for the better in terms of diet diversity, paying children's school fees on time and acquiring various household assets. On the other hand, most of them indicated that healthcare remained a major challenge even after venturing into fish trade.*

**Keywords:** *Fish Trade, Sustainable Livelihood, Female Headed, House-Holds, Markets.*

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### **1. INTRODUCTION**

In the absence of financial input by husbands or other relatives, women work tirelessly to make ends meet. Most of these women have opted to venture into fish trade in order to take care of their households and in some instances end up being the main bread winner. Fish has been the world's major commodity traded for more than a thousand years and has influenced living conditions for just as long (Kaplinsky, 2000). Fish trade is one of the few livelihood activities that hold great potential for income generation and poverty reduction especially among communities or households living in rural and urban areas (Onoja, *et al.*, 2012).

Generally speaking, men's activities dominate extractive processes and women are often responsible for post-harvest activities, such as processing and trading, which frequently earn a narrower profit margin than that made by fish catchers (Béné and Merten, 2008). Women represent 47% of the fisheries workforce, mostly in the processing and trading sectors, who lead single-headed households and often in low-income (Hall, 2005; Matthews, *et al.*, 2012).

In some fishery areas women are not allowed access to fishing grounds as a fishery management practice. However, women have roles even in fishery areas as food providers; vegetable producers, producers of poultry for household consumption and carers of children (Muvwende, 2004). Women also fish throughout the world, generally with basic gear and operating from non-mechanized boats. For them, fish is the primary and sometimes the only source of income to support their livelihood and their children. Women make over 80% of all purchases in the developed world and perform a number of informal roles despite being excluded in other fisheries activities (Matthews, *et al.*, 2012). World Fish Centre (2005) maintained that the contributions of fisheries to the Millennium Development Goals (MDG's) of reducing hunger and poverty by half in 2015 are of two kinds: direct contribution to specific goals and indirect support to all the goals through enhanced livelihoods.

A *livelihood* comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base (Scoones, 1998). In the most general terms, livelihoods can be described as peoples means to secure the necessities of life. They are highly dynamic and shaped by a variety of different factors and forces that are themselves shifting constantly. The improvement of livelihoods of people in developing countries is the mission of many public and governmental institutions, and is successful when communities experience increased well-being and reduced vulnerability through higher incomes, improved food security and the more sustainable use of natural resources (DFID, 1999).

Sustainability can mean different things to different people, though most would agree that it involves three elements of futurity, equity and the environment (Pearce, 1993). In simple terms, sustainability may be taken to mean that, a specific activity can continue or a resource can be available for at least the medium, and it is not associated with or dependent upon rapidly depleting inputs (Reinertsen and Haaland, 1995).

In Zambia, it is estimated that 19 percent of households are female headed (Simona, *et al.*, 2014). The authors further reported that the head of the household is usually the provider of all requirements of the household and normally makes day-to-day decisions pertaining to the running of the household (Simona, *et al.*, 2014). However, Sakala (2006) reported that females constitute a major segment of the poorest of the poor. For instance, in 1998 Living Conditions Monitoring Survey showed that food insecurity was more prevalent among female headed households (61%) compared to the male-headed households (52%) in Zambia (CSO, 2003). The contribution of fish trade to livelihood of female headed households is not systematically assessed and addressed although the government has put up many projects in older to remedy the situation. This research, therefore, focussed on the contribution of fish trade to sustainable livelihood of female headed households operating in three major markets of Kitwe, Ndola and Luanshya.

## 2. MATERIALS AND METHODS

### 2.1. Description of Study Areas

Ndola is the Provincial headquarters and also the industrial and commercial centre of the Copperbelt province. It lies just 10 km from the border with Democratic Republic of Congo (DRC). Its geographic coordinates are 12°58'00"S 28°38'00"E. Ndola is the third largest city in Zambia with a population of 455,194 people (CSO, 2010).

Luanshya is a mining town in Zambia, in the Copperbelt province near Ndola. It was founded in the early part of 20<sup>th</sup> century by an explorer, William Collier who shot and killed a Roan Antelope on the banks of the Luanshya River, discovering copper deposit in the process. The geographic coordinates are 13°08'S 28°24'E and it has a population of 153,117 people (CSO, 2010).

Kitwe is located in the heart of the Copperbelt. The geographic coordinate are 12° 25'40"S, 49°16'23"W. It is one of the nation's largest urban communities and a leading copper-mining and processing centre. The population of Kitwe is 504, 194 people (CSO, 2010).

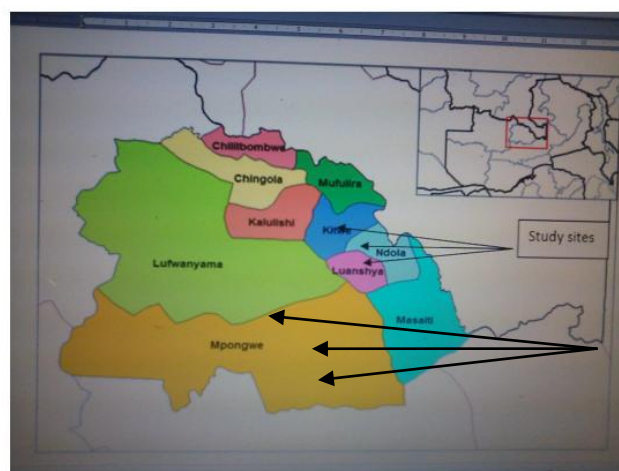


Fig1. Map of the Copperbelt Province, Zambia showing the study sites.

Source: <http://maps.google.co.zm/maps>

### **3. RESEARCH DESIGN**

#### **3.1. Sampling**

Simple random sampling was used in this research to select forty-five (45) female headed households operating as fish traders, 20 from Chisokone market in Kitwe, 15 from Masala market in Ndola and 10 from Roan market in Luanshya.

#### **3.2. Data Collection**

- *Primary Data*

The survey involved interviewing women using semi-structured questionnaires on the contribution of fish trade to sustainable livelihood of female headed households. Observations were made to supplement data that was collected through questionnaires such as the influx of buyers, type of fish bought and why they did so.

- *Secondary Data*

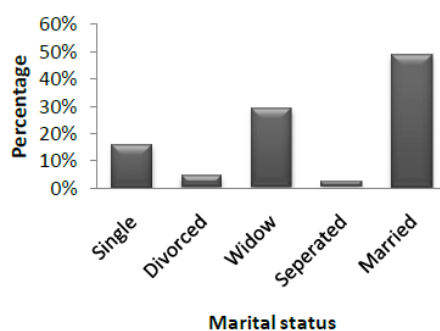
Secondary data was collected by reading and reviewing publications, journals articles, books and the internet. In addition, a number of documents, including annual reports from FAO, Department of Fisheries and international and local publications related to aquaculture and fisheries were reviewed.

#### **3.3. Data Analysis**

The collected data was analysed using the statistical package for social sciences (SPSS version 15.0). Each response was given a numerical code to enable data to be standardized and processed using statistical methods. After variables were made, data on each variable was entered then analyzed in form of frequency tables according to Sarantakos (2004). Microsoft Excel 2010 was also used in the explorative analysis of data as well as to come up with graphs and charts.

### **4. RESULTS AND DISCUSSION**

This survey focussed only on female fish traders and the results obtained, indicate that 48.9% of the respondents were married, 28.9% were widowed, 15.6% single, while 4.4% were divorced and 2.2% were on separation (Figure 2).

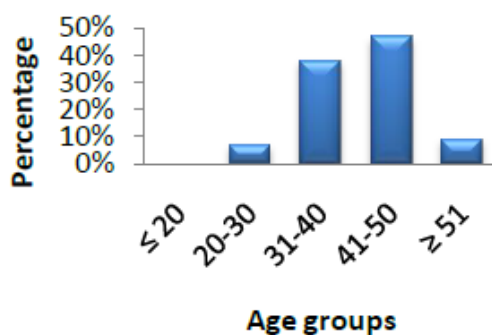


**Figure2.** *Marital status of the respondents*

In the case of the married, two husband types existed; those who partially contributed to the welfare of the home and the ones who never did anything. In households where the husband did not contribute anything, it became a challenge for the wife to provide for the family despite assuming the role of breadwinners, which made it difficult for them to grow their businesses. Most of their profit went to taking care of the household instead of re-investing in fish trade. According to Firebaugh (1994) and Niehof (2004), a female-headed household may either be 'de jure' or 'de facto'. In 'de jure' female headed households a female person is the breadwinner and legally owns the household resources. These women are usually widowed, abandoned or divorced (Horrell and Krishnan, 2006). Female headship results from a variety of causes: widowhood, divorce and de facto headship, arising, for instance, from the illness of a spouse or in the case of temporary migration to an urban area to find work: and consequently does not map directly into poverty and deprivation or a polygamous relationship where the male rotates between the households of his wives (Safilios-Rothschild, 1985;

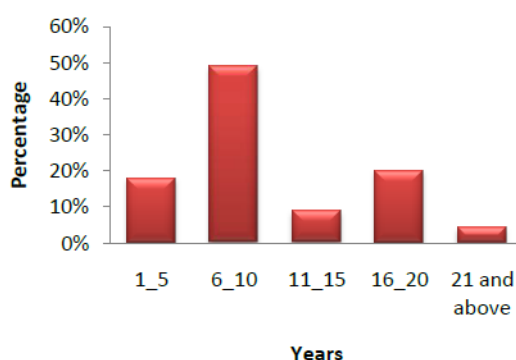
Horrell and Krishnan, 2006). The ‘de facto’ female-headed households, are regarded as not as vulnerable as the former as they may be economically better off due to regular remittances from their migrant husbands. However, the economic activities of ‘de facto’ female headed households are more often constrained by their lack of access to resources (land) that are still formally owned by the husbands (Firebaugh, 1994; Niehof, 2004).

Most of the respondents were very mature individuals, falling in the age groups of between 25 and 50 years (Figure 3). Women are key players throughout the fisheries value chain from extraction through consumption, but they are marginalized from decision-making and resource management processes (Matthews, *et al.*, 2012). Fish trading was therefore, one of the few areas where women easily ventured into as a form of livelihood in which they put in the best to earn a decent life.



**Figure3.** *The age ranges of the respondents*

Furthermore, the study revealed that a larger proportion of the traders had been in business for 6 to 10 years, whilst those who had been in fish trade for over 20 years recorded the lowest percentages (Figure 4). According to Be´ne´ and Merten (2008), small-scale fisheries and related activities such as fish processing and trading have long been recognized to provide a safety net for the ‘‘poorest of the poor’’ in rural communities in developing countries. Similarly, Onoja, *et al.*, (2012) reported that fish marketing is one of the few livelihood activities that hold great potential for income generation and poverty reduction especially among communities or households living near water resources. In their quest to provide for their households, women engaged in various businesses (Babb 2001; Clark 2001; Lessinger 2001). Women who were widowed or divorced were often forced to take up fish processing because of lack of alternatives available to support themselves or their families (Mathews *et al.*, 2012). These women frequently enter the market as an extension of household tasks they perform as well as to make possible the economic survival of those households and, particularly, to secure the survival of their children. As such, women played a pivotal role in their households; they made sure food was made available to their dependants.



**Figure4.** *How long female fish traders have been selling fish*

However, no one was willing to answer the question regarding ‘‘fish-for-sex’’ if at all vice existed. Recently, however, an increasing number of documents— essentially, but not exclusively, from non-governmental organizations—have been drawing attention to a ‘‘new’’ phenomenon: the occurrence within these small-scale fishing communities of what has been termed ‘‘fish-for-sex’’ transactions. The term refers to particular ‘‘arrangements’’ between female fish traders and fishermen, in which the fish traders engage in sexual relationships with the male fishers to secure their supply of fish, which

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they then process and sell to support their families. In a large number of fishing communities where these fish-for-sex practices occur, and more widely in the surrounding societies, this type of transactional sex is frequently compared to prostitution (Be´ne´ and Merten, 2008). The authors further reported that “in the camps it is known that traders, be it male or female, have to wait for many long hours if fish is scarce, sometimes for days, and that female traders who do get sexually involved with a fisher have a much better opportunity to get hold of a good catch. Most of the time it is elder women, either divorced or widowed, who get engaged with fishers, although unmarried younger women with children might do the same (Be´ne´ and Merten, 2008).

Although a lot of women in this study had attained some form of education, 64.9% went up to primary level, 24.3% up to secondary school, 10.8% reached college and none attained university level (Figure 5). With such level of qualifications, women had challenges to find jobs in the province where the major source of employment was the mining sector and other related male dominated industries. Women found it very difficult to penetrate in the mentioned industries because of their demand for higher qualification and high literacy levels, thus reducing women to trading, which required little start-up capital and low literacy levels. According to De Silva (2011), women hold less lucrative positions, whereas males mainly fill the supervisory roles in companies. Similarly, GRZ (2004) reported that female-headed households experienced great labour shortage compared to male-headed households.

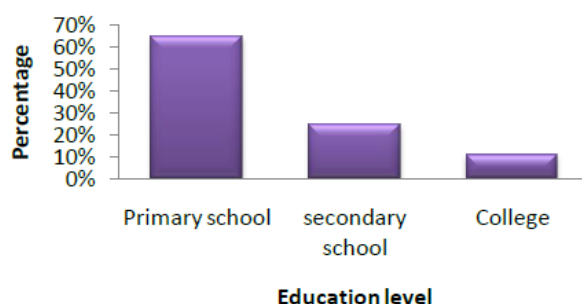


Figure5. Education status of the respondents

### 5. SOURCES OF CAPITAL

The study revealed that the respondents obtained their capital from friends and family members (Figure 6).

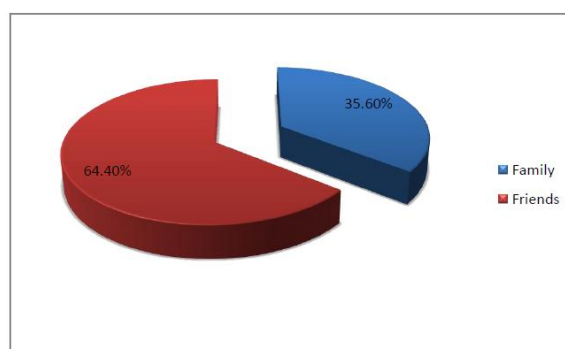


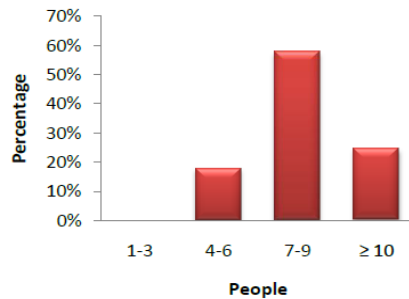
Figure6. Sources of capital for respondents

From this study, 64.4% of the traders obtained capital from friends and 35.6% from their family members. None of them indicated that government, NGOs or banks were their source of capital. Although loans were important for them in the absence of easy access to other sources of capital, financial institutions hardly played a role in facilitating loan disbursement to the traders in Kitwe, Luanshya and Ndola. Hence, none of them indicated that government/NGO or banks were their main source of capital probably because they lacked collateral since they were generally considered not “bankable.” When traders did not have enough capacity to realise capital, they resorted to borrowing from family members, friends and other associates on the basis of trust, so as to remedy the situation. Capital was one of the factors of production; which was very cardinal in fish trade and other

businesses. Financial capital was the most versatile kind of asset because it could easily be used to acquire other types of assets such as fish for processing and trade, equipment, land, houses, access to education or vocational training, and to support diversification efforts or alternative sources of income (Kleih *et al.*, 2003). The amount used as capital determined the success or failure of fish trade.

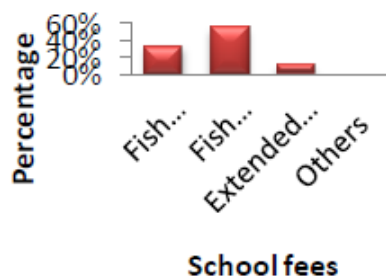
**5.1. Household size and number of school going children**

The majority of the fish traders had at least a house hold size of 7-9 people (Figure 7), most of whom were children of school going age.

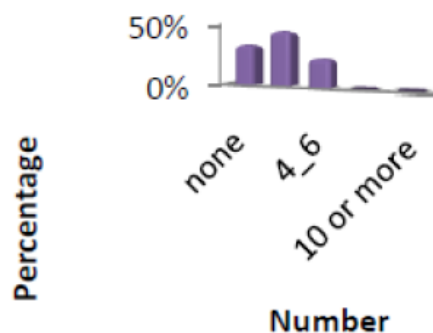


**Figure7.** Respondents' Household size

One of the reasons for their engagement in fish trade had to do with the aspect of wanting to generate income to meet children's school fees and other educational requirements (Figures 8 and 9).



**Figure8.** Who paid for school needs of children



**Figure9.** School going children/household

Results of the survey showed that school fees were mostly the responsibility of the respondents and other family members because they valued education very much and encouraged their children to pursue that direction. They sent their children to school so that they would not end up as fish traders like them, a thing they disliked but got into it as a last resort. The respondents believed that if children went far in school and completed university level, chances were that they would get better jobs to support themselves and their children.

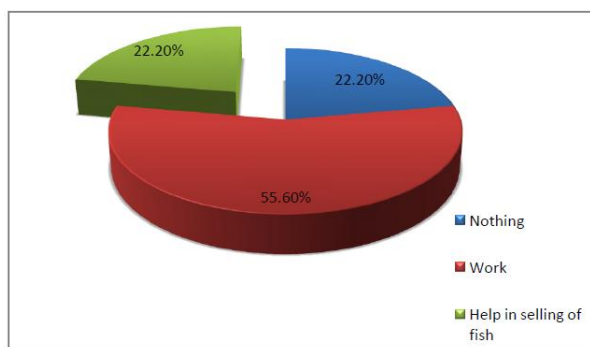
This was a clear indication that money realised from fish trade was put into good use and contributed to sustainable livelihood of their households. It was further noted that these women had the ability to maintain children in school and pay their school fees for them. In addition they provided for feeding



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and upkeep of their children, an indication of success both in the household and in the fish trade business, because without adequate income from the trade, it was impossible to achieve both.

Those who faced challenges in realising more money failed to send their children to school although some children were not interested in going to school due to lack of motivation from parents. Parents revealed that the children who did not go to school opted to do other things, some were working, a thing their parents applauded as they considered it a far much better prospect than being in school and become jobless after completing the same. Figure 10 shows what roles the out of school children played in society. About 55.6% worked elsewhere, 22.2% helped in fish trade and the rest were unable to take up jobs they had no interest in.



**Figure10.** *Activities for non-school going children*

**5.2. Food Provision**

Despite the many challenges they faced, female headed households managed to provide up to three meals to their families per day (58%), while most of them indicated that they ate at least twice per day (35%) (Figures 11 and 12).

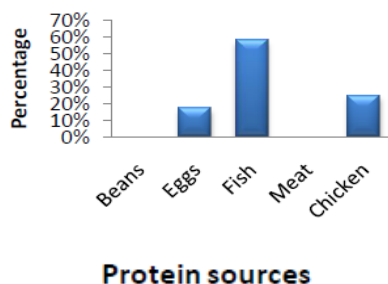


**Figure11.** *How often children took their food*



**Figure12.** *How often female fish traders ate food*

In this study fish trade contributed directly and indirectly to food security. In terms of direct contribution, some of the fish was taken home for family consumption, thus providing the much required main source of protein. Most of them (57.8%) consumed fish, 24.4% chicken and none of them mentioned beans and meat as their most preferred sources of protein (Figure 13).

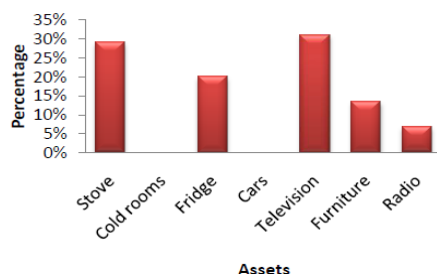


**Figure13.** *The most consumed protein sources*

When the traders had realised a lot of money from fish trade, they tended to buy other food stuffs such as chicken and vegetables, thus significantly contributing to food security in the household. Income generating opportunities are necessary because cash is the basis of food security within households. However, access to cash and the manner in which it is distributed in a household is the single most important aspect of securing food; food availability is the second most important (World Fish Centre, 2005). To maintain household food security, it is just as important to manage fisheries for income generation as it is for productive capacity. Fisheries generate income for poor households in multiple ways such as catch sales, fish processing and trading (FAO, 2004).

### 5.3. Major Assets Acquired

The study revealed that the women’s livelihoods had changed for the better since they started fish trading. The traders acquired a number of assets from fish trading, an indicator of wealth in the society. Most of them, acquired assets such as stoves, furniture, radios, television sets and refrigerators, which they did not have before (Figure 14).

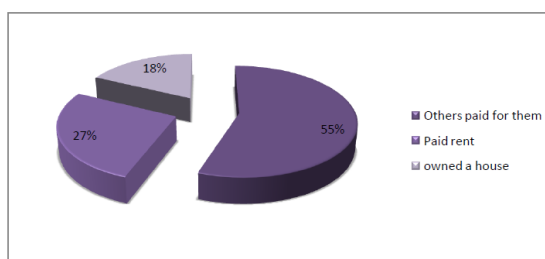


**Figure14.** *Major assets acquired as a result of fish trading*

This was contrary to FAO (2004) findings, which established that female headed households (in general) experienced a sharp decline in economic assets.

### 5.4. House Ownership/Rentals

Payment of house rentals and other utility bills, which was previously perceived to be the sole responsibility of a man, was no longer the case. In this study, it was established that in fact some traders owned houses while, others managed to pay rentals for houses they occupied using the money they realised from fish trade (Figure 15).



**Figure15.** *House ownership/Rental Payment*



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Of course, for some traders who were married, their husbands helped in paying house rentals. Others were assisted in paying rentals by friends and relatives.

### 5.5. Time Spent Selling Fish

The study has also shown that the fish traders devoted most of their working hours (9 hours per day) to their economic activities, with little time left to do house chores (Figure 16). That kind of freedom enjoyed by children was usually the cause of teenage pregnancy and immoral behaviour by young boys and girls who lacked parental guidance.

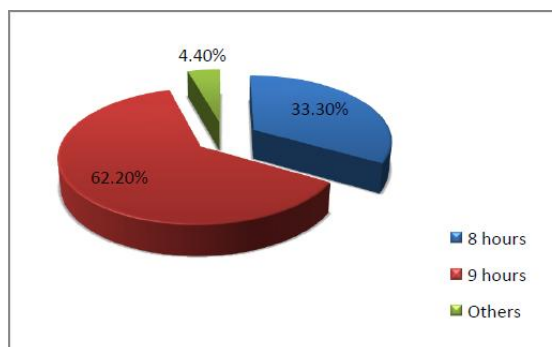


Figure16. The amount of time spent on fish trading

### 5.6. Savings

Although financial institutions were important in safe guarding and increasing the investment portfolio for traders, this study revealed that only few women took their money to the bank for safe keeping because most of them alleged that they were not making enough money (Figure 17). The fish traders failed to keep some of their profits at the bank where it could earn interest but instead opted to keep it home.

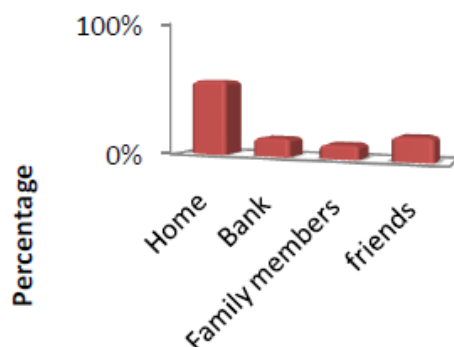


Figure17. Where traders kept their money

### 5.7. Other Businesses

This study has clearly demonstrated that other businesses which were owned by fish traders were mostly funded by the profits realized from fish trade (Figure 18).

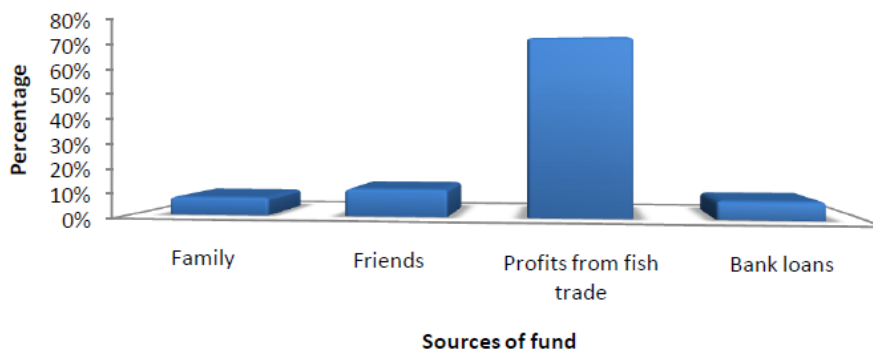
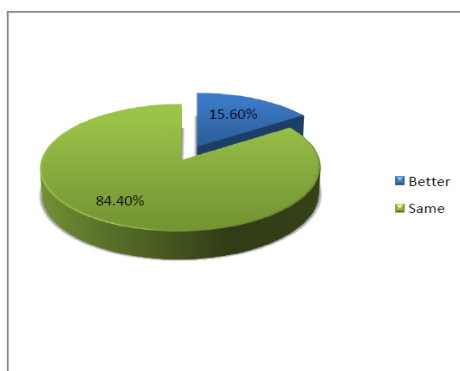


Figure18. The source of capital for other businesses

Through diversification in other businesses such as selling vegetables, chicken, eggs and other essential goods, enabled them to earn more income. Those who did not want to re-invest in other businesses expanded their fish trade by buying more fish and increasing the number of fish species offered to the public, thereby expanding their operation.

### 5.8. Healthcare Issues

Although healthcare remained the same as before venturing into fish trade (Figure 19), their overall welfare improved as they ate more fish and other food stuffs thereby contributing to the dietary health of their households.



**Figure19.** Livelihood quality change on healthcare

The improvement in the health status of their households was reflected in the ability of the fish traders to afford better medical care and transport fare to ferry their sick relatives to the hospital.

### 5.9. Major Challenges Faced by the Traders

Despite the contribution of fish trade to livelihood of female headed households, a number of constraints were revealed in this study. The major problem (75.6%) faced by fish traders was shortage of electricity. Frequent power cuts by ZESCO affected ice production which in turn affected the storage of fresh fish. That made the traders to sell fish at lower prices in the evening to prevent it from going over night and to prevent it from going bad. This is in agreement with Kolawole *et al.*, (2010) whose study, revealed that a high degree of fish spoilage occurred due to the absence of storage facilities, which experts described as a major constraint to the development of the fishing industry. Volkman (1994) also reported of a similar situation of fish sellers in Indonesia selling their fish below market value to ensure sales before the product spoils. These findings indicated that lack of proper storage facilities may be a widespread problem.

About 68.9% of the respondents considered lack of finance as a major hindrance in their business. Most of the women fish traders did not have enough working capital to grow their business. The largest portion of the profit realised was used to support the livelihood of their household. Women fish traders had also difficulties in renting a shop or a stand for selling fish from stand owners who acquired them from council.

Other problems they faced included lack of support from their spouse and children, long distance between the point of sale and their homes, higher transport costs, insufficient supply of ice, unhygienic conditions in the market, which to some extent led to disease outbreaks.

## 6. CONCLUSION

It was evident that fish trade contributed to the sustainable livelihood of female-headed households whose livelihood qualities were worse off before venturing into the business. Overall, those who flourished in fish trade were single women, who had few responsibilities and people to take care of. However, almost all of the fish traders had their livelihood quality changed for the better in terms of diet diversity, payment of school fees and possession of household assets. Despite fish trading in Kitwe, Luanshya and Ndola being very competitive in view of the huge gap between demand and supply, women fish traders did grow their business to a large extent. Lack of support, difficulties in renting a shop/stand, poor supply of electricity and lack of storage places, made women to struggle for them to grow their businesses. Regardless of many challenges they faced, fish trading was still lucrative and enabled them to provide for their households.

## REFERENCES

- Ahmed, N. (2009). *The Sustainable Livelihoods Approach to the Development of Fish Farming in Rural Bangladesh*. Journal of International Farm Management. Bangladesh.
- Alexander, J. and P. Alexander (2001). *Markets as gendered domains: The Javanese pasar*. In: L.J. Seligman (Ed.) *Women Traders in Cross-cultural Perspective; Mediating Identities and Marketing Wares*, pp. 47-69. Stanford CA: Stanford University Press.
- Babb, F.E. (2001) *Market places as gendered spaces: Market women's studies over two decades*. In: Linda J. Seligmann (Ed.) *Women Traders in Cross-Cultural perspective: Mediating Identities, Marketing Ware*, Stanford CA: Stanford University Press.
- Béné, C and S. Merten (2008). Women and fish-for-sex: transactional sex, HIV/AIDS and gender in African fisheries. *World Development* 36, no. 5: 875–899. www.elsevier.com/locate/worlddev.
- Bellù, L.G. (2005), *Impacts of Policies on Poverty*. Food and Agriculture Organization of the United Nations, Rome, Italy.
- Boserup, E. (1970), *Women's Role in Economic, Development*. Earth scan Publications limited, London, UK.
- Clark, G. (2001) 'Nursing Mother Work' in Ghana: Power and frustration in Akan market women's lives. In: L.J. Seligmann (Ed.) *Women Traders in Cross-Cultural Perspective: Mediating Identities, Marketing Wares*, pp. 103-128. Stanford CA: Stanford University Press.
- CSO (2003), *Agriculture Analysis Report for the 2000 Census of population and housing*. Central Statistical Office: Lusaka, Zambia.
- De Silva, DAM (2011). *Faces of Women in Global Fishery Value Chains: Female Involvement, Impact and Importance in the Fisheries of Developed and Developing Countries*. NORAD/FAO Value Chain Project. Food and Agriculture Organization.
- Developing Countries in International Trade, (2005). *Determinants of Export Trade*. Trade and Development Index .2.
- DFID (1999). *Sustainable Livelihoods Guidance Sheets*. Department for International Development, London, UK.
- Dolan, C. (2002) *Gender and Diverse Livelihoods in Uganda*. LADDER Working Paper No. 10. ODG/DEV February.
- Encarta (2009), *Marketing*. Microsoft cooperation, New York, USA.
- FAO (2004). *The State of The World Fisheries and Aquaculture 2004*. FAO. Rome, Italy.
- Firebaugh, F.M. (1994) *Female-headed Households: Survival Strategies and Food Security*. In: K. de Hoog and J.A.C. van Ophem (Eds) *Changes in Daily Life*, pp. 89-99. Wageningen: Wageningen Agricultural University.
- Gender in Development Netherlands (1997), Vol 2.No.2. 104-112.
- Goet, A.M. (ed) (1997) *Getting institutions right for women in development*. Zed books limited: New York, USA.
- Hall, S. (2005), *African Fisheries and Aquaculture and the Millennium Development Goals*. Keynote Address in Proceedings of the NEPAD-Fish for All Summit, Abuja, Nigeria.
- Hamusonde, B.S and Mwale, M. (2004), *Gender and Development: Information Pack for Members of Parliament*. Lusaka, Zambia.
- Horrell, S. and Krishnan, P., (2006). Poverty and Productivity in Female-Headed Households in Zimbabwe. Faculty of Economics, University of Cambridge, Cambridge CB3 9DD. *Journal of Development Studies*, July 2006. 31pp.
- ILO (2003). *Working out of Poverty*. International Labour Force, Geneva Kaplinsky, R. (2000), *Spreading the Gains from Globalisation: What Can Be Learned from Value Chain Analysis?* Institute of Development Studies, Working Paper 110, Sussex.
- Kleih, U., Greenhalgh, P. and N. Oudewater (2003) *A Guide to the Analysis of Fish Marketing Systems Using a Combination of Sub-Sector Analysis and the Sustainable Livelihood Approach*. Chatham UK: Natural Resources Institute.

- Kolawole O.D, A.F. Awujola, and S.B. Williams (2010). *Indigenous Fish Processing and Preservation Practices Amongst Women in Southwestern Nigeria*. Indian Journal of Traditional Knowledge 9 (4): 668–672.
- Lessinger, J. (2001) *Inside, Outside, and Selling on the Road: Women's Market Trading in South India*. In: L.J. Seligman (Ed.) *Women Traders in Cross-Cultural Perspective: Mediating Identities, Marketing Wares*, pp. 73-102. Stanford CA: Stanford University Press.
- Longwe, S. and Clark, R. (2005), *Gender in the SADC Programs: The Need for Gender Mainstreaming in SADC Programs*. Longwe Clark and Associates: Development consultants, Lusaka: Zambia.
- Medard. M., F. Sobo, T. Ngatunga, and S. Chirwa (2002). *Women and Gender Participation in the Fisheries Sector in Lake Victoria*. In: *Global Symposium on Women in Fisheries*, Williams, M.J., N.H. Chao, P.S. Choo, K. Matics, M.C. Nandeesh, M. Shariff, I. Siason, and J.M.C. Wong (eds.), WorldFish Center, Malaysia.
- Matthews, Elizabeth, Jamie Bechtel, Easley Britton, Karl Morrison and Caleb McClennen (2012). *A Gender Perspective on Securing Livelihoods and Nutrition in Fish-dependent Coastal Communities*. Report to The Rockefeller Foundation from Wildlife Conservation Society, Bronx, NY.
- Muvwende, A (2004), *Review of the Legal Regime for Aquaculture Development in Zambia*. Food and Agriculture Organization of the United Nations, Rome, Italy.
- Niehof, A. (2004) *The Significance of Diversification for Rural Livelihoods*. *Food Policy* 29(4): 321-338.
- Niehof, A. (2004), *The Significance of Diversification for Rural Livelihoods*. *Food Policy* 29(4): 321-338.
- Onoja, A.O., Usoroh, B.B., Adieme, D.T. and Deedam, N.J., (2012). Determinants of Market Participation in Nigerian Small-Scale Fishery Sector: Evidence from Niger Delta Region. *Consilience: The Journal of Sustainable Development* Vol. 9, Iss. 1 (2012), Pp. 69 – 84
- Ostergaard, L. (1992). *Gender and Development*, Routledge, London, UK.
- Pearce, J (1993) *Blue Print3; Measuring Sustainable Development*. Earth Scan Publications Ltd, London, UK.
- Pennartz, P. and A. Niehof (1999), *The Domestic Domain: Chances, Choices and Strategies of Family Households*. Aldershot: Ashgate.
- Rathgeber, E (1990) *WID, WAD and GAD. Trends in Research and Practice*, Journal of Developing Areas, Vol XXIV
- Razavi, S. (1999) *Gender, Poverty and Well-Being*: Earth Scan Publications Ltd, London,UK.
- Reinertsen, H. and Haaland, H (1995), *Sustainable Fish Farming*. SINTEF Aquaculture, Trondheim, Norway. Published by A.A.Balkema/Rotterdam/Brookfield, in *The Sustainable Use of Global Oceanic Resources* by Martin Holdgate- Former IUCN Director.
- Sakala, P. (2006), *The participation of women and men in the livelihood security Programs of Concern Worldwide Zambia, in Mongu District. Master's thesis*. University of Zambia: Lusaka.
- Sarantakos, S. 2004, Social Research, Third Edition
- Scoones, I (1998), *Sustainable Rural Livelihoods: A Framework for Analysis*. IDS Working Paper 72
- Sen. A (1985a). *Commodities and Capabilities*. Elsevier Science Publishers, Amsterdam.
- Sen. A (1985b). *Wellbeing, Agency and Freedom*. The journal of Philosophy, Amsterdam.
- Simona, B.M.M., Imbwae, L.M., and Sanana M. M. Lewanika, S.M.M., (2014). Awareness of women's reality in Mongu district, Western Zambia, Southern Africa. Catholic Diocese of Mongu Development Department of Catholic Diocese of Mongu. 6p. [womensglobalconnection.org/wp-content/uploads/.../Simona.pdf](http://womensglobalconnection.org/wp-content/uploads/.../Simona.pdf)
- TCP/ZAM/2901 (2003), *Report of Proceedings of Provincial Workshop for Luapula and Northern Provinces Held at Kasama Farm Institute from 26-31 January 2003*. Fredrick S. Kafumbe, Status of Aquaculture In Luapula Province, January 27, 2003 p.2 Visvanathan. N (2002). *The Women, Gender and Development Reader*, David Philip. Cape Town, RSA.

## Contribution of Fish Trade To Sustainable Livelihoods of Female Headed Households in Three Major Markets of Kitwe, Luanshya And Ndola on the Copperbelt Province of Zambia

Volkman, Toby Alice (1994). *Our Garden is the Sea: Contingency and Improvisation in Mandar Women's Work*. *American Ethnologist* 21 (3): 564–585.

World Fish Center (2005). *Fisheries and the Millennium Development Goals: Solutions for Africa*. World Fish Center, Penang, Malaysia Young, K (1992). *Gender and Development Readings*, Ottawa: Canadian Council for International Cooperation.

### Online references

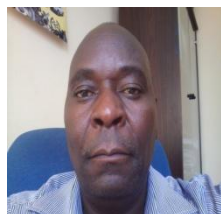
DFID and FAO (2000). *Inter-Agency Experiences and Lessons: from the Forum on Operationalizing Sustainable Livelihoods Approaches*. Retrieved from [www.fao.org/docrep/x7749e/x7749e00.htm](http://www.fao.org/docrep/x7749e/x7749e00.htm) (viewed on 15/07/2014)

FAO (2004), *Integrated Support to Sustainable Development and Food security programme-HIV/...* [www.fao.org/sd/1p/activities/hiv/impacts/impact\\_agriculture.htm](http://www.fao.org/sd/1p/activities/hiv/impacts/impact_agriculture.htm) updated (viewed on 17/10/2014) <http://davyzambia.blogspot.com> (viewed on 24/09/2014)

Matthews, Elizabeth, Jamie Bechtel, Easley Britton, Karl Morrison and Caleb McClennen (2012). *A Gender Perspective on Securing Livelihoods and Nutrition in Fish-dependent Coastal Communities*. Report to The Rockefeller Foundation from Wildlife Conservation Society, Bronx, NY. Retrieved from <http://www.wcs.org/genderfisheries> (viewed on 27/11/2014)

World Databank (2013), *World Development Indicators (WDI)*. Retrieved from <http://databank.worldbank.org/ddp/home.do?Step=12&id=4&CNO=2> (Viewed on 3/07/2014)

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