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The socioeconomics of small scale fisheries based on Eastern side of Lake Abaya, Ethiopia

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Abstract
Socioeconomic survey was conducted on small scale fisheries based on eastern side of Lake Abaya, Ethiopia. Assessment on Fish catch composition and health were made on selected landing site. In addition house hold surveys were made on selected kebeles (villages) to examine the degree of dependency on the fishery resources. The result indicated that a total of 4 species were encountered during catch assessment study and all are commercially important and; these are tilapia (*Oreochromis niloticus)* representing 68% and 39% of the catch, catfish (*Clarias gariepinus)* representing 24% and 38% of the catch, Silver catfish (*Bagrus docmac)* representing 3% and 8% and Nile perch (*Lates niloticus)* representing 5% and 15% of the catch in number and biomass respectively. Comparison of average body length of fish at harvest with the average length at first age of maturity (Lm) revealed that less fishing pressure was observed in the first three fish species while Nile perch showed higher fishing pressure. Fishing techniques are overwhelmingly artisan where fishermen use non motorized wooden boats and employ gillnets of varying net size and hook and line. The estimated Catch per unit effort (CPUE) is 26.65kg/net. Majority of the households (62.8%) were obtaining their income both from agriculture and fishing. In single terms fishing is an important source of livelihood (30.2%) compared with agriculture (7%). The mean annual fish consumption per capita for the sample respondents was 2.72 kg quite higher than the national figure (0.476kg). Owning to their significant contribution to livelihood and house food security small scale fisheries in the study area deserves better attention like other agricultural activities.

Keywords: Socioeconomics, small scale fishery, Lake Abaya, Ethiopia, Catch assessment, fish consumption.

1. Introduction

1.1 Back ground and justification

Small-scale fisheries require small capital investment, use low technology gear and vessels (often non-motorized) and catch fish for subsistence or local markets. The work is often part-time or seasonal and is a key component in the livelihoods of millions of people. It is a key livelihood strategy for millions of households in coastal and rural communities in developing countries. The latest estimates from FAO indicate that small-scale fisheries contribute over half of the world's marine and inland fish catch of about 140 million metric tonnes, nearly all of which is used for direct human consumption (FAO, 2008) [18]. They play a vital role in contributing directly to food and livelihood security, poverty reduction, wealth creation, foreign exchange earnings and rural development especially in developing countries. Despite this significant contribution to food security, the position of small-scale fisheries and how they fit into the multiple activities of the rural economy remains poorly understood. Unlike large-scale industrial fisheries, they have a low visibility and receive little attention from policy-makers. They are often open access enterprises that contribute little to the national Gross Domestic Product (GDP) and command little political attention or support through research, subsidies etc. (FAO, 2004) [17]. The negligence has made small-scale fisheries to face a host of challenges, including: overfishing, illegal unreported and unregulated fishing, conflicts with industrial fisheries, and high levels of post-harvest fisheries losses.

In Africa, over 60 percent of the fish supply to domestic and regional markets, as well as export-oriented processing units, is of artisanal origin (NEPAD, 2005) [25]. The New Partnership for Africa's Development (NEPAD) recognizes the vital contributions by African inland and marine fisheries to food security and income of many millions of Africans and to

poverty reduction and economic development on the continent. Ethiopia's fisheries are entirely fresh water in its many lakes, rivers, and reservoirs, as it has no marine coastline. The capture fisheries are entirely of Artisanal in nature and fishing contributed less than 1 percent of the gross domestic product. FAO (2003) [13] reported that 15,389 Metric tonnes were caught in 2001, only 30% of an estimated potential of 51,481 tonnes. The inland capture fishery comprises: Rift Valley lakes (for example, lakes Chamo, Abaya and Ziway and the northern part of Lake Turkana) and Lake Tana, which although shallow, is the largest lake in Ethiopia; rivers; and small water bodies (reservoirs, natural ponds). There is fishing on all these water bodies, but commercial production is concentrated on the five lakes, with Chamo, Ziway and Tana particularly dominant. Capture fisheries are the only source of fish for the country and Aquaculture is still under development. With rising of human population and increasing demand for fish and fish products, the stocks in some of the rift valley lake are becoming over–exploited and already showing the sign of overfishing (Reyntjens *et al*., 1998) [28, 29].

Despite being sources of livelihood for many people residing near water bodies small scale fisheries in Ethiopia are usually marginalized and limited studies were conducted as result few reliable data are available about them. Therefore the current study was initiated with purpose of investigating the overall socioeconomic condition of the small scale fisheries based on eastern side of Lake Abaya, Ethiopia.

1.2 Objectives

The research was conducted with the following Specific objectives

- ☞ To examine fishing activity in the lake
- ☞ To investigate catch composition of different commercially important fish from the lake
- ☞ To assess the impact of fishing pressure on the different fish species present in the lake
- ☞ To assess fish post harvest activities (preservation and handling)
- ☞ To assess the fish marketing chain
- ☞ To assess the degree of dependency (in terms of food security and income) of the nearby community on the fishery resources.

2. Materials and Methods

2.1. Description of study area

The study was conducted on small scale fisheries based on Eastern Side of Lake Abaya which is located in southern Ethiopia. Lake Abaya is the largest of the Ethiopian rift valley lakes and it is Located North of the Lake chamo, coordinates of 6°02' N. According to the information from the federal fishery management the lake is known to occupy an area of 1070km^2 with average and maximum depth of 7.1m and 13.1m respectively. The lake is characterized by its permanently high turbidity due to a heavy colloidal suspension of ferric oxide (FAO, 1985). The water and sediment levels of the lake are increasing due to dramatic population growth, clearing of forest and bush land and change in cultivation manners (B. Schutt and S.Thiemann, 2006) [10].

The fish fauna of Lake Abaya is essentially abundant and is the most varied of the Ethiopian lakes. According to Paranzan (1941), who first conducted experimental fishing on the lake, Lake Abaya contains 20 species belonging to 11 genera. The fisheries of the lake have been also studied by Riedel (1962) [27] and Schroder (1984) [30] who reported that *Lates niloticus* was abundant in the lake and that the genera Bagrus, Barbus, Clarias and Labeo were also of commercial importance. The lake is estimated to have fishing potential of 600t/yr.

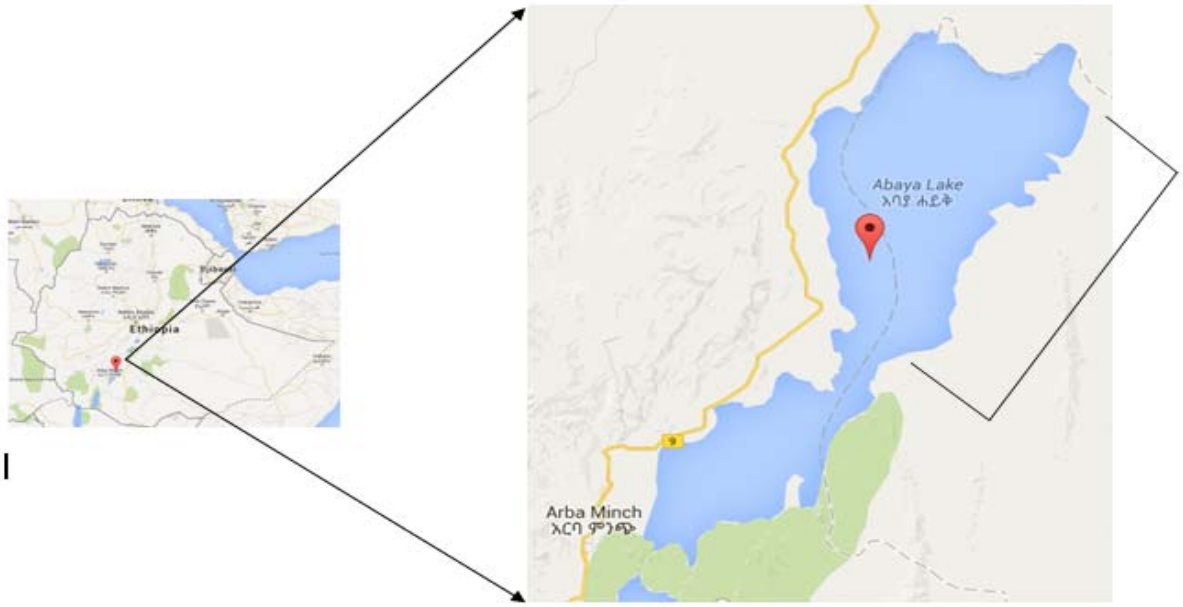

Fig 1: Map of Lake Abaya and rough scathes of the study area indicated by rectangular curve on the right side of the map (source: Google map http://itouchmap.com/?c=et&UF=-602228&UN=-848740&DG=LK).

2.2 Data Collection

The study was made from March-May 2013. For the study different methodologies were employed including review of survey guidelines for small scale fisheries and other existing relevant literatures, field assessment, consultation and exchange of information, ideas and opinion with relevant institutions and individuals.

Catch assessments were made for selected three landing sites

early in the morning (6-8am) to identify fish catch composition, identify commercially important fish species and determine the health of the fish stocks. Body lengths were determined by taking fork length for Bagridae fish and total length for the rest. Body weight measurements were taken with the help of suspension weighing scale 25kg capacity. The measurements for both parameters were made to the nearest 0.1cm and 0.1g, respectively.

In addition structured questionnaire and/or interviewees were used to gather detail information on fishing activities by fishermen, house hold fish consumption by selected villagers near the lake, post-harvest fish handling and losses and marketing information. To study house hold fish consumption and dependency of the surrounding community on the lake's fishery two kebeles namely Ledo and Dibicha were selected purposively based on their proximity to the lake.

2.3. Data Analysis

The bulk of the data were analyzed using descriptive statistics. For the analysis the latest version of SPSS was used for socioeconomic and biological data. In addition the following parameters were determined with the help of formula derived from various sources.

Determination of fish consumption per capita (kg/year per person) (Fpcf) of the sample respondents

$$F_{pcf} = \frac{\text{finfish net weight consumption per year (Kg)}}{\text{Total Number of people in the sample house holds}}$$ ----------equation 1

Determination Total fish consumption of the study area

$$F_{tot} = \frac{\text{finfish net weight consumption per year (Kg)}}{\text{Total Number of people in the sample house holds}} \times$$ *number of people in total population ----equ2*

The formulas were after Kronen, M. *et al.*, 2007 [24]. However in this study while determining fish consumption per capita correction for different age group was not considered.

For ease of data presentation the results of fish catch assessments were combined for the three fishing sites. It was found that determination of fish harvest with a particular net size was difficult as there were ranges of nets size available for harvest from the lake, for this reason Catch per unit effort (CPUE) were determined by simply dividing average landing per day with average number of nets stretched in a day for three landing sites combined. Finally CPUE was given as kg/gill net.

3. Result and Discussion

3.1. Result of Catch stock assessment

As part of the objective of this research fish catch assessments were made to describe the composition of commercially important fishes in the catch and to assess the health of the fish stock based on total and/or fork body length measurement for each species and comparing the result with average body length at first age of maturity obtained from literatures. Accordingly four fish species had received commercial importance in the lake; these are tilapia (*Oreochromis niloticus)*, catfish (*Clarias gariepinus)*, Nile perch (*Lates niloticus)* and *Bagrus docmac* (Table.1). Among the four species indentified tilapia is the predominant fish both in number and total biomass 68% and 39% respectively while catfish take the second largest share 24% and 38% respectively. Nile perch was ranked in third place while Silver catfish took the least share Fig.2a&b. Similar findings has been reported in lake zuway, one of the major rift valley lakes in Ethiopia, where *Oreochromis niloticus accounted for* 31 % while *Clarias gariepinus* 24 % of catch biomass respectively (Lemma A., *et al.*, 2014). Studies showed that Nile tilapia is the dominant fish species in Ethiopian fishery, representing 60% of the catch, (Brueil 1995; Reyntjens and Wudneh 1998) [9, 28, 29] and demand is also very high for this fish in the country. More over the average body length observed were 29.96±3.43 for tilapia, 53.38 ±10.55 for catfish, 56.67±2.87 for Silver catfish and 59.76 ± 9.58 for Nile perch. As seen from the standard deviation higher distribution in size class was observed in Catfish and Nile perch while Tilapia and Silver catfish showed the lowest figure (table 2). J. Vijverberg *et al.* (2012) [22], who studied fish species richness of nine major Ethiopian lakes, has reported the presence of large fish species (*Lates niloticus* and *Bagrus docmac)* in the lake which is in agreement with the findings of this paper.

Table 1: Commercial important fish in Lake Abaya

No.	Family	Scientific name	common name	Local name
1	*Cichilidae*	*Oreochromis niloticus*	Nile Tilapia	Koda
2	*Clariidae*	*Clarias gariepinus*	African Catfish	Ambaza
3	*Centropomidae*	*Lates niloticus*	Nile perch	Nech Asa
4	*Bagridae*	*Bagrus docmac*	Silver catfish	Kerkero

Table 2: Average of fish body length in three landing sites

Site	Fish Species average body length (cm)							
	O.niloticus	***STDV(±)***	***C.gariepinus***	***STDV(±)***	***B.docmac***	***STDV(±)***	***L.niloticus***	***STDV(±)***
Bafeno1	29.9	3.3	52.5	11.3	56.5	3.0	59.4	6.5
Bafeno 2	29.9	3.4	53.4	9.9	55.8	2.2	58.4	8.8
Dekera	30.1	3.7	54.2	11.2	58.3	4	62.3	11.3
Average	29.96	3.43	53.38	10.55	56.67	2.87	59.76	9.58

Statistically no significant different was observed in body length measurement between the three landing sites for fish belonging to the same species. However, difference was observed on yield or harvest between the fishing sites for each fish species. With largest and smallest harvest for tilapia and Nile perch seen in Bafeno1 (53.kg and 24.6kg) and Dekera (22.05kg and 10kg) respectively. The harvest for catfish and silver catfish were the highest in Bafeno2 (58.45kg and 9.5kg) and the lowest in Dekera (18kg and 5.7kg) respectively (Fig2).

The study also addressed fishing pressure on various fish species present in the lake. Average body length of each of the four species at landing was compared with length at first age

of maturity under tropical condition (Table 3). Average body length measurements at first age of maturity (L_m) were obtained from fishbase.org. Accordingly, body length at landing is higher than L_m for three species namely *Oreochromis niloticus, Clarias gariepinus* and *Bagrus docmac* i.e, all are caught after the age of maturity suggesting there is less fishing pressure on these species. In contrary to the three species body length at landing is lower than Lm for *Lates niloticus* which means on average this fish was harvested before attainment of sexual maturity. Consequently, this research suggests there might be fishing pressure or overfishing on *Lates niloticus*. High fishing pressure on this fish species could be because of high consumers demand and the related higher price (table 4). According to Reyntjens *et al.* (1998) [28, 29] before 15-20 years Nile perch used to contribute about 20% of the total fish landings from Lakes Abaya however, at this moment this is reduced to a very small proportion due to overfishing and the lack of proper fisheries management. Moreover Nile perch is among heavily exploited fish species in East Africa fresh water lakes for example this have been noticed in Lake Victoria, the largest fresh water lake in east Africa (Munyaho, 2004) [31].

Table 3: Average size of fish at harvest compared with the average length at first age of maturity (Lm)

No.	Scientific name	Average Size (cm) Of fish in the catch	Standard deviation (±)	Lm (cm)
1.	*Oreochromis niloticus*	29.96	3.43	18.6
2.	*Clarias gariepinus*	53.38	10.55	30.8
3.	*Bagrus docmac*	56.67	2.87	22.3
4.	*Lates niloticus*	59.76	9.58	74.3

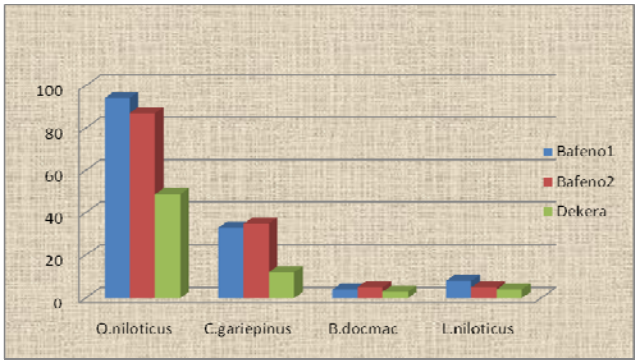

Fig 2a: *Catch composition in count for the three landing sites*

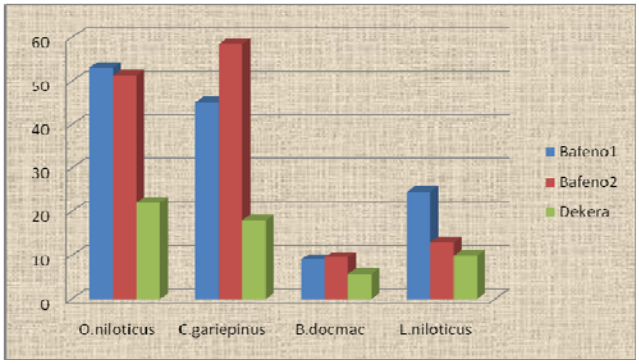

Fig 2b: *Catch composition in biomass (kg) for the three landing sites*

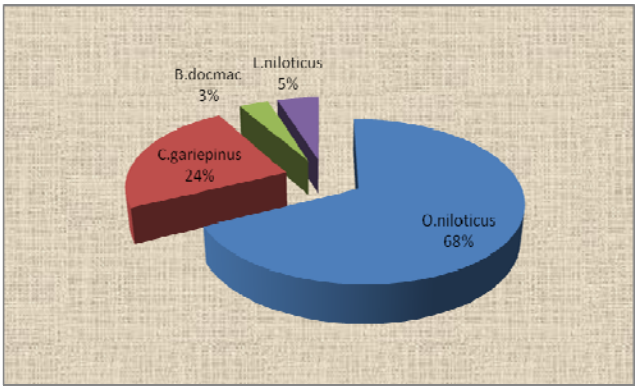

Fig 3a: *Over all fish catch composition in count*

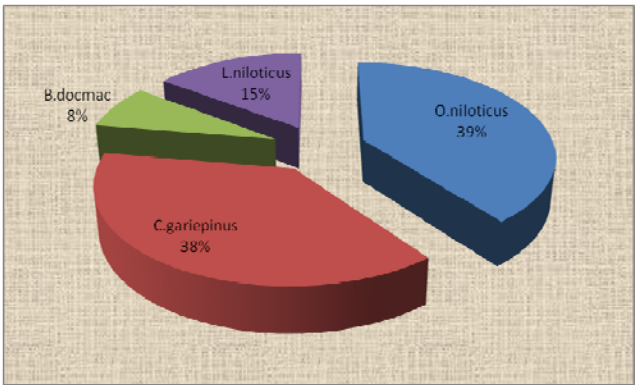

Fig 3b: *Over all fish Biomass composition*

3.2. Fishing activities and post-harvest handling

3.2.1. Fishing gears and crafts

In Ethiopian fishery fishing techniques are overwhelmingly artisan, with very few motorized boats (limited to a very small number on Lake Tana and on some of the southern lakes). Gill nets are the most common, but there is also some use of beach seines, cast nets and line-fishing (the latter for Nile perch) (Breuil, 1995) [9]. Likewise in this study the major fishing gears used by fisher folks in the lake are mainly gillnets and hooks and the line. A range of mesh size has been used for fishing different fish species from the lake these includes 12, 13, 14, 17, 18, 19, 20, 22, 23, 24, 26, 28, 30 and 32cm. The smallest fishing nets are mainly used to catch tilapia while nets sizes above 22cm are used for catching Nile perch. Due to their aggressive nature catfish in the lake are mainly harvested with the hook. Fishing nets are made locally by fisher folks themselves by using nylon fibers purchased from Arbaminch town. Canoes made from locale trees are the only fishing craft available in the area. Fishing from the lake is conducted twice a day mainly early in the morning and late afternoon. According to the information obtained from the fisherman there is no strict regulation on fishing activities in the lake.

A total of 53 fishermen were reported to be actively involved on fishing which are under the control of two big fishery cooperatives constituting mainly the local peoples (the Guji oromo's). The real fishermen are coming from western side of Lake Abaya mainly from Arbaminch and Gidicho area. The fishermen are expected to pay ¼ of their fishing income for the two cooperatives. According to the report from FAO (2003) [13] an estimated 15 000 fishermen are available in Ethiopia of which about 5 000 are active and the remainder part-time and occasional fishers.

According to this survey on average three fishing nets and one

fishing boat exists per fisherman and on average fisherman spends 250 days on fishing per year. Catch per unit effort (CPUE) were determined simply dividing average landing per day from the three fishing sites with average number nets per fishermen. The total landing from three landing sites is 319.78kg and average landing in each site is 79.95kg.

$$\text{CPUE} = \frac{\text{Average landing per day}}{\text{Average number of nets streached}} = \frac{79.95\text{kg/day}}{3\ \text{nest}}$$
= 26.65kg/net/day

Catch per unit effort is an important parameter in fish stock assessment. It is a time series data to determine the health of the fish stock in a lake meaning the state of overfishing, under fishing or sustainable fishing in a particular lake so as to undertake corrective measures. The decline in CPUE mean the fish population cannot support the level of harvesting. Increase in CPUE may mean that the fish population is recovering and more effort can be applied (Constantine S., 2002). Published records on landings are scarce from Ethiopian lakes. For most lakes catch and effort data are not available. However, few available data on fishing effort in some of the lakes indicates there is an increasing effort coupled with decline in catch, for instance in lake hawasa, two decades ago, the catch per net of tilapia was about 25 to 30 fish/net. But currently, it rarely exceeds 5 fish per net. Hence, tilapia is the most endangered stock from the increased fishing efforts and reliving part of the fishing pressure from this stock is urgently required.

3.2.2. Post-harvest handling and marketing of fish

Improving food security requires making better use of fish produced by reducing post-harvest losses and increasing the percentage of fish used for direct human consumption. According to the report from FAO (1981) [15, 16] the post-harvest lose is very worse in developing nations where losses could reach up 50% of domestic fish production. The most obvious means of increasing supply of fish, even without increased landings, is by reducing post-harvest losses of what is presently caught. As part of its objective this study addressed post-harvest handling activities of fish in the lake. Accordingly, the same post harvest handling activities were observed in all of the fishing sites under the study. The post-harvest handling methods observed were short term measure which helps the fishermen to keep the quality until they present their product to the market. This involves gutting, washing with water from the lake (of course non hygienic) and keeping under the shed. Under conditions of low market availability making strips of fish fillet and drying it under the sun (mainly for catfish and silver catfish). According to the survey higher fish post-harvest losses were observed in the rainy season associated with bad weather roads and lack of proper storage facilities. Distant location of the landing sites from market could also complicate the situation. The kind of loss observed in the area could be categorized mainly as physical loss, a lose which happens due to spoilage and in the study area this occurs mainly in the rainy season as a result of the reasons discussed. However, traditional processing methods could also contribute to the quality losses (unhygienic filleting, gutting and washing as well as drying) (Asma A., 2008) [4].

In Ethiopia fish consumption and marketing is mostly limited to areas near water bodies (lakes) except for bigger cities like Addis Ababa where there is big demand (FAO, 2003) [13]. The result of this study showed two basic roots of fish delivery to consumers (fig.4). The primary root involves exclusive marketing of fish to Addis Ababa town. This is the major root of delivery for Nile perch and tilapia fish. The former is sold as a fillet while the later as gutted whole fish. In this root fishes are transported first to a temporary store present in Dilla town and then distributed to hotels and restaurants present in Addis Ababa. According to the information obtained from producers and middleman there is high market demand for fillets of Nile perch and price at landing site (table 2) is higher for this fish (40birr/kg) and tilapia also receives considerable demand. The second root involves delivery of fish to the local market by the producers themselves. Catfish and Silver catfish are most commonly presented to the local market as a whole fish and dried stripe.

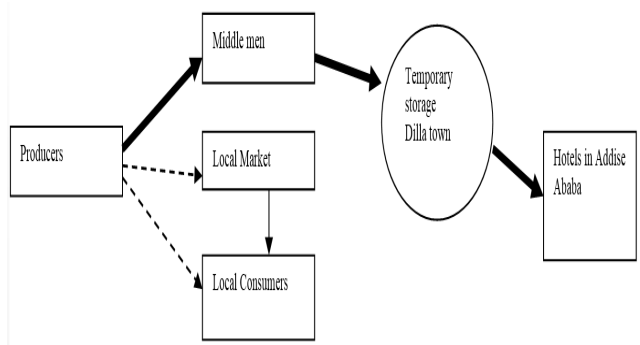

Fig 4: Fish marketing chain in the study area

Table 4: Market price of freshly sold fish at the landing site

No.	Scientific name	Common name	Local name	price/kg (birr)	$USD
1.	*Oreochromis niloticus*	Nile Tilapia	Koda	7	0.35
2.	*Clarias gariepinus*	African Catfish	Ambaza	25	1.26
3.	*Lates niloticus*	Nile perch	Nech Asa	40	2.02
4.	*Bagrus docmac*	Silver catfish	Kerkero	15	0.76

(Price rates are based on the rate in March, 2013)

In Ethiopia fish consumption is also heavily weighted towards fasting days (Wednesdays and Fridays) and fasting periods (55 days in March/April, 15 days in August, as well as other periods which may be less widely observed) (Ann G. *et al.*, 2007) [3]. Therefore fish production in the study area could be affected with season and price could get higher and lower depending up on the demand.

3.3. The result of household survey

3.3.1. House hold source of income

As Ethiopia is an agrarian country, the rural livelihoods generally depend primarily on agriculture as the major source of income (Cervantes-G and J. Dewbre, 2010) [12]. Fish is often an important source of protein in local diets and fishing and related activities provide jobs and income. Seasonal or occasional fishing can also provide a vital supplement to other livelihood activities, in times of difficulties or as a recurrent side-line activity (Béné *et al.*, 2007) [8]. To study the degree of dependency of the surrounding community on Lake Abaya fisheries household survey were conducted. House hold source of income and fish consumption patterns were used to assess the dependence on the lake fisheries. According to the result of

the survey there are three main sources of household income in the study area. Earned income includes income from Agriculture, fishing and combination of both (table.5).

Table 5: Number of consumers by income sources

Income sources category								
Sample	**Fishing**		**Agriculture**		**Both**		**Total**	
Respondents	No_	%	No_	%	No_	%	No_	%
Consumers	13	30.2	3	7	27	62.8	43	100

Source: *own survey data, 2013;*

The survey result revealed that among the total respondents, 30.2% and 7% of respondent's income sources were fishing and Agricultural activities respectively. While the remaining 62.8% of respondent's income sources were both agriculture and fishing activities. Therefore, this indicates that most of sample respondents were obtaining their income from both agriculture and fishing activities. However, compared with agriculture, fishing was the major source of income to the sample household in the study area. Moreover, only males are involved in the fishing activities from each sample households (table.6).

Table 6: Number of producers by sex category

Sex category								
Producer	**male**		**female**		**none**		**Total**	
	No_	%	No_	%	No_	%	No_	%
Fisher	31	72.09	0	0	12	27.91	43	100
Total	31	100			12	100	43	100

Source: own survey data, 2013; $\chi 2$= 24.554, df = 3 p=.000

3.3.2. Household Fish consumption

Fish is one of the known aquatic animals used for human consumption as food. Aquatic animals in general do contain a high level of protein (17-29%) with an amino-acid profile, similar to that of the meat of land animals. The flesh of a fish is also readily digestible and immediately utilizable by the human body, which makes it suitable for complementing the high carbohydrate diets. According to CSA, 2007, the average household family size is 5 at national level based on this the sample respondents were stratified into three groups namely sample household who had less than five family size and the second group was household who had exactly 5 family members. Finally, the third Household group who had greater than 5 family members. As different research result indicated that family size factor which affect household fish consumption. Therefore, it was hypothesized that household family size positively affected household fish consumption.

Table 7: Household Fish Consumption with family categories

Family size categories				
Sample Respondents	**Mean(kg)**	**S.D**	**F**	**p**
>5 family size	2.75	0.46		
=5 family size	2.25	0.89		
< 5family size	2.85	1.17		
Total	2.72	1.03	1.058	.0357

Source: own survey data, 2013;** significant

As it is indicated in Table7, the mean annual fish consumption of the sample respondents was 2.72 kg with standard deviation of 1.03gg. The mean annual fish consumption distribution among family size categories represents 2.75, 2.25 and 2.85 for household less than five family sizes, household who had only five family size and household who had greater than five family size respectively. One-way ANOVA analysis of variance was conducted to test the association of household fish consumption and family size categories and the test result shown a significant mean (F=1.058and p=.0357) difference between family size categories in relation to household fish consumption at less than 5% probability level. Compared with the national fish consumption figures the findings of this research showed higher values. According to the 1999/2000 Household income and Expenditure Survey conducted by CSA, the annual per capita household consumption of fish in the country is estimated at 476 grammes and this figure is the lowest compared with other African countries (Tvedten and Hersoug, 1992) [21]. Similar low consumption figures have also been reported by OECD-FAO (2011) [26].

The factors which account for this low level of fish consumption could be the following. First, fish has not been integrated into the diet of most of the population (Assefa M., 2014) [5]. Second, because of religious influences on consumption patterns, the demand for fish is only seasonal (Assefa M., 2013) [6]. The other factors that contribute to the low demand are the limited supply of the product and its high price. Fresh fish is produced in the Great Rift Valley lakes and in some other northern parts of the country. Price wise, too, fish is relatively expensive compared with the local prices of vegetables and grains on a unit weight basis, but it is frequently less costly than alternative animal protein sources.

4. Conclusion

Generally small scale fisheries in the study area contribute to the livelihood and house food security. Although the majority of the households obtain their income both from agriculture and fishing, in single terms fishing is the main source of income compared with agriculture. Fish consumption per person is higher (2.72 kg) compared with the national figure (476g). Generally fishing is of artesian nature in the study area where fisher men harvest fishes from the shore with the help of wooden boats and employ in efficient fishing gears. Cichilidae fish, tilapia *(Oreochromis niloticus)*, is the dominant fish in the catch followed by cat fish (*Clarias gariepinus*). Generally, comparison of actual body length at landing with length at first age of maturity under tropical condition revealed that Nile perch is heavily fished i,e. the stocks at landing encompasses young fish (juveniles) for this fish species. Furthermore there is no strict fishing regulation on the lake as it is true for most of the lake in Ethiopia i.e. there are no spatial and temporal restrictions on fishing activities, no control on mesh size and nothing has been done on awareness creation on the fishermen in the area. More over to ensure sustainable fishery production there is a need for timely stock and/or catch assessment to gather detail information on the age, size, length and number of adult and young fish in the stock. In addition the gap on fishery management should be minimized through provision of appropriate training for fishermen in the area. Moreover the sector should be given due attention like other agricultural sectors in the area. Fishermen should be supported with microfinance so that they can have access to cooling facilities with that they will have direct market access and earn better from fishing.

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