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The Contribution of Indigenous People towards Sustainable Exploitation and Innovation in the Lake Victoria Fishery: A Case of Seme Sub-County, Kenya

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Abstract:
Fishing by homegrown populations in Lake Victoria is a historical phenomenon located within the regions social, economic and political systems that exists today and in the past. However, it has been presented in most literature negatively, regarding the methods and management strategies, yet traditional communities are an important factor in the evolution of fishing industry both as a traditional and modern economy. Going by this apparent contradiction, there has been little research on indigenous communities' engagement in fishing in Lake Victoria basin with the overall objective of examining the socio-economic and technological transformation of the fishing industry. This paper aims at filling this information gap and provide a knowledge basis for intervention in the management of fishing among traditional communities along Lake Victoria, Kenya. Its broad objective is to analyze, using socio-economic and historical approaches, the socio-economic and technological transformation of the fishing industry in Seme Sub-County from the pre-colonial period. Articulation of modes of production theory, that describes the structure of change from pre-capitalist systems to capitalist systems of production and illustrating change as a series of interlocking developments is used to analyze the findings. Data were collected in a broad study implemented in sequential stages and employing a variety of methods. They included 196 interviews conducted in the 10 beaches of Seme Sub-County along Lake Victoria from a target population of 642 fishermen. Purposive sampling was used to identify 45 current fishermen, 9 old fishermen, 60 current fish traders, 5 old fish traders, 30 Beach Management Unit (BMU) leaders and 2 government officials from the department of fisheries and 45 cooperative members for interviews. Additional data came from unstructured and semi-structured interviews of the leaders of 4 co-operatives using participatory rural appraisal (PRA) techniques. Qualitative data analysis methods were applied, including content and thematic analysis. This paper argues that Seme fishers had their own indigenous techniques of fishing, modes of preservation and systems of management that ensured sustainable utilization of fisheries but both British colonialism and the independence government introduced new policies which encouraged the Seme fishers to partly break with their pre-colonial arrangements and adopt new ways of responding to modern demands in fishing market.

Keywords: *Fishing, Socio-Economic Transformation, Technological Transformation, articulation, modes of production, Seme*

1. Introduction

This paper examines the fishing practices in Seme Sub-county, Kisumu county, Kenya, during the pre-colonial period. It looks at the methods of fishing, fish species, fish trade, role of gender in fishing, the evolution of boat making and preservation of fish in Seme in Lake Victoria, Kenya. The objective of this paper is to investigate the traditional methods of fishing and conservation used by the fishers in Seme sub-county on Lake Victoria, and to understand how they exploited fish sustainably

1.1. Background Information

Fishing is an ancient practice. Consumption of freshwater fish has been seen as a practice as per the Isotopic analysis. Sea foods have been seen essential for human survival (Griffiths et. Al, 2004). In Africa the fishing has been practiced for period back. It was one of the major ways to live life (Shraga, & Lundbeck, 2012).

According to Thieme & Olson, 2005), Africa is the richest continent in terms of the biodiversity of its fresh water lakes with over 90% of cichlid species being endemic to Lakes Malawi and Tanganyika. Recent rapid changes in the climate and land use practices in Africa have resulted in endangering specific parts of the continent's biodiversity, most dramatically in lake fish species where eutrophication and anoxia have sharply reduced species numbers. In the pre-colonial era, the mesh size and catch of traditional papyrus nets were carefully controlled. A fisher could catch enough fish of a good size to meet his subsistence needs within a short time (Odada & Karimumuryango, 2004). Fishers have

developed some clan- based rules for fishing by using the low-level technology and less developed preservation techniques of drying (Oduor-Otieno, & Ryan, 1978). High fisheries potentials (Njifonjou & Njock, 2001) are present in the water of African region.

Hessler (2019) argues that the arrival of European fishing economic units took place during colonialization (Njifonjou & Njock, 2001). The development of cities and wage-earning population which provides monetary resources in the development of national markets and regional exchanges (Thiele, 2002). The diversity in catches has resulted in development of great economic importance to certain fish species (Kelleher, & Arnason, 2009).

In Eastern Africa, large majority of fishers are small-scale fishers. The major types of fish in Lake Victoria are the Nile perch and Nile tilapia. Nile perch is mainly for export and tilapia for local consumption. Freshwater fisheries in Lake Tanganyika produce a variety of freshwater fish while the small-scale coastal fisheries mostly target coastal demersals (fin fish, molluscs and crustaceans) but also pelagics (De Graaf, & Sibbing, 2006). Industrial fisheries target mostly tuna and other pelagics through use of purse seiners and long-lines. In order to manage over fishing in East African lakes and the decline of major species such asnile perch some management strategies have been put in place for instance Spatial (area) restrictions and closures such as Marine Protected Areas (MPAs) or Marine Reserves. Other temporary measures include gear size restrictions and gear type restrictions (Charles, 2008). The Luo of Seme (jo-Seme) who live along Lake Victoria in Kisumu county have relied on fishing. Access to the Lake has been increased before colonialism by the fishers. They were unimpeded by the modern state include gear boundaries. They were also free to catch fish and interchange their catch in entire portion of the Lake. Fishing in the pre-colonial period was a major economic activity especially for those clans. In each of these clans, fishing beaches have been established where trade is conducted, for instance Nyamrwaka, Arongo, Konam, Kobudho, Asat, WathBao, Othany, Nanga andKaloka. For these clans, fishing promoted commercial exchange and interaction between neighbouring clans and communities through trade. Rashid (2005) highlighted that fishing is one of the most common strategy to remove the uncertainty of some of the other occupations. According to Ogot (1978), Seme community prefers to club fishing with farming. This is in tandem with comments from Geheb and Binns (1997). A unique style of fishing has been observed among the Luo of Seme. These groups also have their own indigenous methods. Ochieng' (1974) asserts that by 1850 fishing was main livelihood for Lake Victoria region. Doug Wilson (1987) explained that fishers had 'certain [common] assumptions about how environmental issues should be defined. Bokea (2000) explains that this is linked to the fact that the fishing community had traditional and territorial rules and regulations. The unique feature of the Pre-colonial fishing in Seme was mainly subsistence in nature (Ellis, 1988). Over the pre-colonial period, fishermen in Seme Sub-County mainly used the indigenous fishing methods to catch fish. Balirwa (2003) explains that by then there were high quantities of fish harvested coupled with a variety of fish species. The good catch that was realized was adequate to sustain the livelihoods of the community. However, with the emergence of the modern fishing methods, unsafe fishing techniques were developed. This led to the depletion of the fishing stock and the extinction of a number of fish species from Lake Victoria resulting into food insecurity in the Sub-Cunty; an issue that required serious attention.

2 Problem statements

Most literature on fishing in Lake Victoria in Kenya has focused on the Luo community generally and not the specific unitslike Jo-Seme. This form of approach may be limiting in terms of objectivity because, the historical experiences around fishing may not have been the same across all of the Luo communities in Kenya. Furthermore, the few scholars who have examined peasant fishing communities in Kenya (Atieno-Odhiambo, 1974).

This paper interrogates how the Seme community like other Luo fishers responded to the new technologies and policies introduced by colonialism, and how capitalist production affected them. The historicization of fishing in Seme will illuminate patterns of interaction of this community and non-fishing communities in the region within the context of traditional and capitalist modes of production.

3 Study Area

This study was carried out along the beaches of Lake Victoria in Seme Sub-County. Seme Sub-County is located in the southwestern part of Kisumu County within the Nyanza region of Kenya. It is within longitude 30^0 20'E and 35^0 20'E and latitude 0^0 20' South and 0^0 50' South. The Sub-County is inhabited mainly by the Luo ethnic group called *Jo-Seme* and a few immigrants *(Jodak)* from neighboring clans such as Jo-Asembo, Jo-Kisumo, Jo-Gem, and Abaluhya, especially the Banyore. The outstanding physical features in the Sub-County include low ridges, seasonal rivers, Lake Victoria, and scalps. There are also huge overhanging granitic rocks and the legendary Kit Mikayi (Stone for the first wife).

The mean annual rainfall varies with altitude and proximity to the highlands along the Nandi Escarpment. The Sub-County has a mean annual rainfall of about 163mm. the Sub-County has two rainy seasons, with long rains occurring in April / May. During the short rains (August / September) the average annual rainfall ranges between 450mm and 600mm. Their reliability is low and the rains are distributed over a long period, making the cultivation of the second crop difficult. Although there is no dry month, the peak generally falls between March and May, with a secondary peak in September to November.

There are various activities undertaken by various households to generate income. These include employment in salaried jobs, small scale farming of maize, millet, sorghum, and beans. Fishing is a major preoccupation of the clans who border the shores of Lake Victoria. A section of the population also engages in Jua Kali (Hot sun / these include small businesses along the streets and in open sheds) sector while the rest is in small scale businesses.

The Sub-County Borders Gem Sub-County on the north, Kisumu North Sub-County on the east, Rarieda Sub-County on the west, and Lake Victoria on the south.

This study was conducted in three administrative locations within Seme Sub-County, South West Seme, East Seme, and South-Central Seme. The study was conducted in 10in the selected sub-locations in Seme Sub-County (Asat, Kaloka, Arongo, Nyamarwaka, Kosimbo, Kanyango, Kagwel, Kobudho and Bao. The 10th beach (Kotieno beach) was, however, used for pilot testing of the research tools and was, therefore, not used during the actual study**.**

4 Theoretical Frameworks

African socio-economic studies have for a long time been based on three theories. They include; modernization, dependency, and articulation of modes of production theories. For this study, the articulation of modes of production theory as expounded by Mafeje (1981), was used in analyzing the socio-economic and technological transformation of fishing in Seme sub-county, Kenya, 1895 to 2015. The theory asserts that when the Capitalist Mode of Production (CMOP) is introduced in a non-capitalist mode of production, it does not automatically replace the existing mode of production. Rather the CMOP will gradually align with the non- capitalist modes of production and use them to its benefits.

For purposes of this study, it implies that the indigenous fishing production system lays the foundation of fishing in pre-colonial societies, thus the impact of colonial and post-colonial policies on fishing in different communities would be understood by analyzing the relationship between the two modes of production. For the case of this study, colonial rule bequeathed new policies based on the demands of capitalism that to some extent affected the traditional modes of fishing production in Seme. This continuous process of subordination of the traditional mode of production witnessed the domination of the CMOP over the non- capitalist mode particularly in respect to marketing, modern forms of fish harvesting, regulation of fishing enterprise and commercialization of fishing. But in as much as local fishing economy is concerned, the pre-capitalist mode of fishing production (traditional) is not completely eliminated. This mode of fishing keeps on reproducing itself alongside the capitalist mode of production.

Goodman and Redcliff (1981:60) thus note, regardless of the introduction of the capitalist mode of production, the traditional(pre-capitalist) mode of fishing continues to exist in the colonial and post-colonial periods alongside capitalist mode of production to carter for traditional needs and systems through traditional preservation and exchange. Going by the tenets of this theory, it was employed in this study to investigate the transformation of socio-economic and technological fishing in Seme within the interface of traditional and capitalist modes of production.

A mode of production is seen in this theory as a system of production or social form of economic organization. It mainly involves itself with the means of production and the attendant social relations of production. Articulation is, therefore, a double-edged concept where certain sectors of the traditional economy are integrated into the capitalist economy. For instance, the Seme pre-colonial system of fish production has been able to survive, though subordinated by the colonial and national system of regulatory policies and new technology. The pre-colonial labor system of fishing parties has survived in Seme Sub- County regardless of the impact of and subordination by wage labor system. The theory also explains why men continued to embrace new fishing technologies while women continued to perform pre-capitalist fishing preservation processes. Just as the capitalist mode of production has preserved the traditional (pre-capitalist) sector to utilize and exploit it, so has been the relationship between men to women fishers in Seme. Men use modern fishing tools while women perform their traditional fishing roles, but even then, men utilize women's labor in fishing in all their endeavors. From these examples, the articulation of modes of production theory was taken as the most appropriate theoretical perspective in this study.

5. Methodology

This study was conducted on 9 landing beaches covering 9 clans in Seme Sub-county from August to November 2018.Purposive sampling technique was used to identify 10 beaches based on the level of activities. The 10 beaches selected were the most active in the region and each of them was selected from the 10 clans in Seme Sub-County. Data was collected using an open-ended survey questionnaire on fish production, Group discussion; personal interviews were also carried out. A stratified random sampling method was used to select beaches for field survey. The beaches were categorized into small, medium, and large size based on the number of boats registered on that beach. Small beaches had 1-25 boats; medium beaches 26-50 boats and large beaches had more than 51 boats. Random sampling method was used to select respondents for the interview. Out of the 10 beaches, 1 was used for pilot testing. 9 beach leaders were interviewed based on their experiences in fishing history in Seme Sub-County. 18 fishermen, 2 from each of the 9 beaches representing the 9 clans in the Sub-County were interviewed. Out of 200 current fish traders, 20 were interviewed as well as 10 old fish traders. All the 2 government officials, the County Fisheries Officer and the Sub-County Fisheries Officer were interviewed. A total 59 respondents were successfully interviewed. There was special consideration when picking the respondents. Priority was given to the very old male and female fishermen who are believed to have rich information on fishing history in the Sub-County. Proximity to the lake was another factor as those closest to the lake were preferred. The length of stay in the fishing activity was highly considered with those who have stayed the longest given preference.

6. Results/Research Findings

6.1. Indigenous Fishing Practices in Seme During the Pre-Colonial Period

By 1850 Jo-Seme practiced traditional modes of fishing and resource management and had a rich culture, based on fishing, simple crop production, and increased craft specialization to subsidize agricultural production. Before colonialism, Seme fishers gained access to the Lake through membership of a lineage group or a clan. They were

unconstrained by the modern nation-state boundaries and free to fish and exchange their catch in any part of the Lake and the produce from fishing was aimed at benefiting the family and the entire population.

Before 1920, fishermen in Seme used to adopt variety of methods for fishing like different types of nets depending on fish and the depth of water. Papyrus was being considered as the most important material to prepare the net. This method was usually practiced mainly in the shallow parts of the lake. Seining was another method used in this region before 1920 to produce fish from the lake. At this particular point in time, much of the fishing activities, as explained by the old fishermen, were concentrated in the shallow waters along the shores of Lake Victoria.

6.2. Fish Species up to 1920

According to the field interviews along the beaches in Seme Sub-County and the data obtained from the Kenya National Archives, (PC/NZA/1/1/21: Annual Report, 1926), most of the fish species found in SemeSub-County were also common to other parts of the lake within the region. It is also important to note at this point that not all the fish species available were edible. *Kamongo* (mudfish) and *ningu* (*labeovictorianus*) were so delicious and that they were respected as food fit for marriage ceremonies. *Seu* (Bagrus) was not desired by the people and was despised because it was believed that it was the carrier of skin diseases as well as Sexually Transmitted Diseases (STDs) such as gonorrhoea.

The most prized species when it came to the quality of flesh was the *ngege*(tilapia). There were however, variants and varieties of tilapia, such as *esculenta* and *nilotica*. It was a substitute for meat whenever respected visitors came to a home, especially during funeral and marriage ceremonies (Aseto and O. Ong'ang'a, 2003). The other fish species in Lake Victoria's Seme region included lungfish, (mumi) or *clearismossambias*, fulu (haplochromis), ochong' an (*engraulicypinsargentus*), mbiru (*oreochromis variabilis*), Cat fish (Duru), *Clariasgariepinus,* Fuani/odhadho (*Barbusaltrialis sp*.) Fulu (*Haplochromis sp*.) Ndhira (*Xenoclariassp),* Indigenous tilapia (Ngege) *Oreochromis esculentus sp*., Nile tilapia (Nyamami) *Oreochromis niloticus sp.* Okoko (*Synodantisafrofescheires sp.)* Omena (*Restriobelaargentus),* Osoga (*Alestesjacksoni sp.),* Sire *Schilbemystus sp.,*and Suma (*Momyruskannume sp.).* (*Aseto, & Ong'ang'a, (2003).*

6.3. Fish Trade up to 1920

Most of the old fish traders interviewed could recall stories from their ancestors that fishermen from Seme would exchange fish mainly with agricultural commodities produced by farming clans in the neighborhood and this was largely localized within certain clans, and limited to a distance that fishmongers could reach on foot. According to old fishermen and government officials, some groups, existed long before the coming of colonialism. The varieties of fish species found in the Lake offered a rich variety of fish products that in turn encouraged trade between different communities in the Lake region as explained here above. However, the bulk of the catch was consumed locally, among the fishing families. This information is also corroborated by the data obtained from the Kenya National Archives in Nairobi through the District Annual Report of the Committee on the Control and Development of Fishing in Kenya (DC/KSM/1/32/14: 1918).

An old fish trader at Bao Beach, observed that 'perishability was a major issue with the fish caught. This is because much of the catch could decompose quickly before it was consumed by humans. Preservation was, therefore, an important task that was done immediately the fish arrived on the beach. To address this issue, he said, fish was immediately split and dried into *obambla* (dried fish). The traditional methods for preserving fish catch, he said, are still in use today and the main methods used were smoking, drying, and/or salting. Interestingly, most respondents said that preservation was mainly done by women. Sun drying, the domain of women, was mainly practiced for small haplochromis, which were merely washed, and stacked in series that were about 2 feet long.

6.4. The Role of Women in Fishing

Among the Seme community, fishing mainly preserved for male members. Many reasons were also present behind this. Starting from discomforts and dangers of Lake fishing, demands of childcare and taboos against men and women are some of the important reasons behind this (Okello, 2017). After the participation of women in the fishing activity along with men and youth, all of them showed vital role to play. Women did a wide range of activities like cleaning, scaling, and splitting the fish after they were landed by male fishers on the beach.

For women, fishing in the lake is not considered as an easy activity. Fear of crocodile, a hippo, or a floating dead human body refrain them. If any accident happens during fishing at the lake, the body was not taken to the home. As it was believed as a bad omen. The dead body treated as having abandoned the civic. For men, the active engagement of women causes threats. Most of the women work as fishwives, scrubbing, and pottering. In the fishery, not all the men being treated equally. The system used to share the fisheries was used to legitimize increased exploitation.

6.5. Evolution of Fishing Boat among the Luo of Seme

Before the arrival of colonialists, the usage of fishing boats and canoes have started. The style and technology of preparing boats change over time. From single log canoe on the river Awach and Asat Beach, to the current (Ssese) canoes, it has been changed. Ochieng' (1988) supports the canoe-making technology. Boats never being made by the Seme fishers. Lake fisheries from the time the people of Seme settled in the Lake Region at Winam Kagombe. Luo of Seme was being treated with high priority. Luo of Seme, was a slimmer vessel and was easy to handle. *Ober* (*albiziacoraria*) and *onera* (*taminaliabrauni*) were the mostly used timber. By 1885, Seme fishers used to craft dugout canoes. The seine nets, used in the boats made form papyrus stalks. According to Ehret (2011), along with time the boats become U-shaped and then to the V-shaped bottoms.

6.6. Native Methods of fish Preservation

Avoidance of waste can be made either by sharing large catch or conserving it. Perishability was not a big issue for the fisherman. The neighboring Luhya Bantu were ironmongers and sold the iron to the Luo of Seme. The fishes being caught by them, either consumed locally or exchanged for grains. For communities who live far from the lake, have to travel long for visiting marketplaces of Kaloka, Akado, Holo, and Kombewa, Kisumu, Maseno and Lwanda. Fish traders have to deal with dried fish such as tilapia in the hinterland (Opondo, 2011). Daramola & Adeparusi (2007) highlighted the use of smoking as a preservation technique for food.

7. Socio-Economic and Technological Transformation of Fishing in Seme

The establishment of the colonial rule in Kenya had significant effects on the transformation of fishing practices in Seme due to the colonial policy of capitalism which saw the introduction of new fishing technologies, regulation of management systems, and transport systems. The British colonial regime introduced very restrictive policies and programs to the local fishermen in Seme which were contradictory to the traditional modes of production. According to Opondo (2011) the need for improved revenue collection through taxation influenced the nature of restrictive policies on fishing. The attention given to small-scale fishing was therefore very meager. According to the colonial reports on laws and ordinances filed at the Kenya National Archives in Nairobi, (KP/8/24: 1939-1945, KNA), it is argued that the colonial policies 'were intended to serve the declared aim of raising the standards of income and living of the colonial people through the promotion of agriculture as the major mode of production for both subsistence and exchange, therefore, the colonial administration did not show much interest in the fishing sector in Nyanza.

It is in connection with this policy of supporting the small farmer and introducing new species and products in Africa that a great effort was made to introduce trout fish species into Kenyan rivers and lakes. According to the colonial reports on laws and ordinances filed at the Kenya National Archives in Nairobi, (KP/8/22: 1937, KNA), the first British settlers believed that trout could do better in Kenya due to climatic conditions that prevailed in the Central Kenyan Highlands that were similar to those in the United Kingdom. Consequently, the first and earliest successful stocking was done on the River Gura in Central Kenya, then later in Kisumu's Lake Victoria; and by extension, Seme.

Commercialization of fishing in Kisumu witnessed the introduction of fishing rules, mesh size of the nets, and the policing of fisheries. As a result of the use of new fishing nets, most local fishermen in Seme lost control of fishing market to Indian boat owners who could afford the new nets. Basurko & Uriondo, 2012). They explain that the continued investment in new technology in the colonial era created competitive pressure on fishing in Seme, thus the need for regulation of beach seines and management of mesh sizes in the Kisumu. Gear restrictions, closed areas and seasons, fisheries management, and limits on access were also introduced by the colonial government to regulate fishing in the region. In as much as these policies sought to reduce damage to the environment, they were mainly on fishers in Seme irrespective of their views. Restrictive policies also involved attempts by the colonial state to control the movement of fishers in Seme and other sections along Lake Victoria.

While the colonial government placed more premiums on mesh size regulation and registration of fishers, it never imagined that, to some extent, the new nets were sometimes considered an irrelevant technology by the fishers. According to this report, the fish inspector informed the DC in Kisumu in 1947 that some of the new gill nets such as 1-and 2-inch sizes could not catch *ngege* (tilapia) probably due to the size of the mesh, yet ngege(tilapia) was the most abundant and favorite species in the Lake.

Due to the Asian monopoly over the nets, only a few fishers from Seme had access to them. Following the colonial policy of net manufacture and distribution, the nets could only be obtained from the United Kingdom. These nets were available at Kisumu Bazaar by 1927 for Kenya shillings 17/- to 18/- for a 100 yards long net, with 5-inch mesh, 26 meshes deep, 35 twines 3 plies, (DC/KSM/1/32/12: 1941-1944, KNA).

According to the Provincial Annual Reports at the Kenya National Archives in Nairobi, (PC/NZA/2/17/11: 1942, KNA), Africans had no choice but to join the labor market as they were forced to pay poll and hut taxes to the colonial state. Most Africans in Seme like other parts of Nyanza, had to offer their labour in settler plantations of tea, coffee, and cotton to raise money for taxes. As Overton & Rulifson, 2007) points out, 'the state provided coercive pressure to assist settlers in recruiting and retaining laborers through decrees and circulars. Fishers on the beaches of Seme, for instance, did not have any real motive to leave the fishing to work for white farmers. Physical pressure and forced taxation were used to drive men to employment with the Europeans.

The period of World War I witnessed the increased role of the colonial state through the Provincial Administration in the policing of the fishery following the introduction of the imported nets and hooks. The interwar period also saw an increase in the demand for fish to feed both soldiers and prisoners of war. One of the manifestations of the colonial state's presence was the nature and extent to which wartime labor recruitment was done and 'the very heavy-handed means of extracting labor from the reserves' such as was witnessed in Seme area of Nyanza Region (Overton &Rulifson, 2007). This forceful conscription of solders from Seme greatly affected the labor force in the fishing sector as the majority of the fishing youth were extracted from the villages and taken as soldiers. This was corroborated by information from the District Annual Report as filed at the Kenya National Archives in Nairobi (KP/8/6: 1946-1950, KNA), which stated that 'due to the large number of youths that was extracted from the fishing community areas of Seme and Kisumu, fish production in the area was greatly affected as there was not enough labor to produce enough fish the growing demand. According to Lonsdale (1992), this labor was acquired through the collaboration of colonial chiefs such as Odera Ulalo in Nyanza. Government officials and chiefs in Seme colluded in getting African labor and that chiefs were chosen for their ability to get things done without question.

During this period, the government delivered commands that affected fish production in numerous ways. According to Sowman (2006), subsistence and small-scale fisheries in South Africa: A ten-year review. Marine Policy, 30(1), 60-73. The colonial state failed to adequately serve the needs of the fishers in, for example, the provision of infrastructure and technical support. The colonial state did very little to reinforce the African fishing industry as it 'tried to frustrate fish production by creating marketing, licensing, and transport conditions which presented obstacles to fishing capital accumulation.

7.1. Fish Marketing and Trade in Seme up to 1963

According Bokea & Ikiara (2000), there was the expansion of trade in Nyanza Province during the colonial period. Trade at this particular time was mainly on fish, grains, baskets, mats, pottery, and other goods. This interaction was largely between the local Luo community and the neighboring communities such as the Gusii, Luhya, Kuria, and the Kalenjins (Abila, 2003). Some of the local markets in Seme where this trade thrived during the colonial period include Kombewa and Maseno. Surplus fish and other goods & products in Seme were transported to faraway markets such as Nairobi and Mombasa, and this was made possible by the use of railway transport that passed through Kisumu to Mombasa.

Njiru & Nyamweya (2018), explains that like most African economies, the trade-in fish in Seme Sub-County at this particular point in time was conducted predominantly through barter. Through this medium of exchange, fishermen would exchange fish mainly with agricultural commodities produced by farming clans in the neighborhood. Thus, up to the time the railway arrived in Kisumu from Mombasa, the fish trade was largely localized within certain clans and limited to a distance that fishmongers could reach on foot (Opondo, 2011).

Fish were landed at Kisumu from the fishing beaches in Seme, bought by middlemen (Heck, et. al. 2004). As time went by, transportation and marketing were affected by the coming of the bicycle (Pringle, 2005).

The colonial government failed to plan and organize the fishery in Kisumu. Further, a lack of refrigeration facilities probably placed the greatest limitation on fish distribution. Added to that were the poor roads and physical infrastructure generally that hampered the fishers and fish traders in Seme (Opondo, 2011). The problems regarding regulation were exacerbated by the specter of the middlemen whose role remained that of a conveyor belt for the Asians and European traders (Geheb& Binns, 1997). In the process, the fishers received little payment for their catches, partly due to the rent-seeking tendencies of the middlemen. Fishmongers and the Middlemen played an active role in the fish marketing activity in Seme during the colonial period. Their main role was that of buying fish caught by the crewmen and boat owners. They then sold the catch to the middlemen or the agents who then supplied it to wholesalers and then to big dealers owning cold storage Lorries. Nevertheless, within this chain fish marketing still had its problems.

According to Onyango (2010), before the introduction of the bicycle, the people of Seme traded by carrying fish mainly on their heads using baskets. This was mostly to nearby neighborhoods such as Maseno, Lwanda, Gem, Sakwa, Asembo, Yimbo, and Kisumu areas. The bicycle was mainly used by traders from the distant regions who could not walk to the beaches in Seme. Such regions included traders from around Maseno and Lwanda neighborhoods, Gem and Kisumu. The bicycle was mainly used by men who came in their numbers from these regions to buy fish in Seme Howard (1999) explains that bicycle ownership was the preserve of ex-soldiers and Seme migrant laborers working in urban centers who increasingly took to fish trading, investing their savings in bicycles to carry fish to markets in the towns surrounding the Lake. The lack of transport capacity such as lorries made this difficult to achieve. In effect, only the fishmongers who were able to buy, process, and store larger quantities of fish stood a chance of competing in the larger and more distant markets. Whatever their origin, the bicycle 'boys' had a great effect on fish marketing. These traders cycled for many miles from their homes and spent many days accumulating fish before taking it to the market (Geheb & Binns, 1997).

8. Conclusion

This paper underscores the fact that fishing is a major economic practice in Seme community embedded in indigenous methods of fishing, preservation and exchange. Social and traditional significantly influenced the organization of fishing economy with patriarchal prescriptions classifying the role of women and men. The community had its unique organization and management skills before the coming of colonialism which was based mainly on household and kinship ties within the clan. Trade-in fish was enhanced by the different ecological resources found in the Lake Region. Women were the primary fish traders because such activity did not involve their traveling far from home. Thus, small trading centers such developed near the Lake.

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