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Examining the contribution of fishing sub-sector to regional economy, Naivasha sub- County

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Abstract

Fishing is one of the major contributors to the growth of the economy of many countries, besides economic contribution, fishing sector also contributes to food security in most countries especially the developing countries yet it has remained underexploited for long. The present study focusses at the contribution of fishing to regional economy with specific reference to Naivasha subcounty. Descriptive survey was used where questionnaires and structured interviews were used to obtain primary data with a sample size of 100. Data was analyzed using Statistical Packages for Social Sciences Version 25. The results of the study were presented in text form and in figures. The results of the study indicate that the fishing sector is a great contributor to the economy of Naivasha Sub-County. The fishing sector contributes to a variety of sectors such as health, roads and housing sector, education, trade, job creation and attraction of external investors.

Keywords: Nakuru County, Naivasha sub- County, fishing sub-sector, regional economy

Introduction

Fish and fisheries products make one of the most traded food products in the globe. Trades amounting to approximately 10% of the total agricultural products exported ^[1]. In the developing countries ^[2], fisheries contribute a great deal by offering support to the small-scale subsistence fishers who are an important source of food supply, support regional economies and support the social and cultural values of their regions ^[3].

The 2030 agenda for sustainable development sets aims for contribution of the fisheries sector towards food security and nutrition and the use of natural resources by the sector in a way that ensures a balance between the economy ^[4], the environment and the society which is enshrined in the FAO code of conduct for responsible fisheries ^[5]. Besides the great contribution that the fisheries sector offer, this great contribution is often underestimated. This has lead to low consideration by the policy makers and therefore low improvement are made in the performance of the sector ^[3] and therefore a challenge in attaining the agenda 2030.

Millions of people around the world find their source of income and livelihood from the fisheries sector ^[6]. In the year 2016, 59.6 million people were engaged in the fisheries and aquaculture sector with 85% of the global population engaged in the fish and aquaculture being from Asia, 10% from Africa and 4% from Latin America and the Caribbean ^[7]. Total employment in the fisheries sector had a positive difference between the years 1995 and 2010, an increase that was attributed to the various improvements in the sector ^[8]. The trend in the number of people engaged in the fisheries and aquaculture sector however varies with regions where Europe and North America are registering the largest decrease in the number of people having engagement in the sector while Africa and Asia are registering a positive trend ^[9] with Latin America and the Caribbean standing somewhere constant in the involvement of the people in the fisheries sector.

Kenya has not only taken part in local fish trading but has also taken part in external fish trading since the 1980's ^[10]. The dominant fish species that is exported from Kenya is Nile perch which was approximately 92% of the total fish volume in the year 1995 ^[11]. The countries that import Kenyan fish are Netherlands, Israel, France, Germany, Singapore, Spain, Italy, Hong kong, Australia, U.S.A, Japan and the United Kingdom ^[10]. This study therefore, seeks to examine the contribution of the fishing sub-sector to the regional economy.

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2. Materials and methods

2.1 Study area

The study was conducted in Olkaria ward of Naivasha sub-County. Naivasha is a market town North West of Nairobi on the shore of Lake Naivasha and is in Nakuru County. It is located at 0° 43' 0" S, 36° 26' 0" E and is 2084 m above sea level. Naivasha is 76 km from Nairobi city, 63 km from Nakuru town and 516 km from Mombasa city. Naivasha Sub-County has a population of 18,678 people according to the 2009 Census of Kenya [12]. The temperature ranges of Naivasha is from 20-30 °C and rainfall is from 200mm- 700 mm. It has long rain season from March to August and a short rain season from November to December. The main economic activities in Naivasha is agriculture and tourism. Naivasha Sub- county, has the following political wards; Bishara, Hellsgate, Lakeview, Mai Mahiu, Maeilla, Olkaria, Naivasha East and Viwandani wards.

2.2 Research design and methodology

The study used descriptive survey. Primary and secondary data were utilized in the study. From [13], the population of Olkaria ward is 28738. Using the formula by [14] the sample size was determined as follows;

$$n = \frac{NCv^2}{(Cv^2 + (N-1) e^2)}$$

Where n= sample size
 N=population
 Cv=Coefficient of variation (take 0.5)
 e= Tolerance of desired level of confidence, take 0.05% at 95% confidence level

$$\frac{28738 * (0.5)^2}{(0.5*0.5) + (28738-1) (0.05*0.05)^2}$$

The sample size became 100.

2.2.1 Sampling design

The house hold questionnaires were administered using simple random sampling where roads and paths were used as line transects. At the two-landing beaches, that is, Karagita and Karumeni, Focused Groups Discussions (FGDs) were conducted with the fishermen and fish traders. Purposive sampling was also used to administer structured interviews with National Environment Management Authority (NEMA), Sub-County revenues collection official, fisheries department among others.

3. Results and Discussion

3.1 Contribution of the fishing sub-sector

The fishing industry is very important contributor to the regional economy. Figure 1 below summarizes the findings of the study that the Nakuru County collects revenue from the fishing sub-sector which is useful in spurring the commerce and trade industry (24%) since most people derive their livelihood in this engagement. From the study it was established that most business activities going on around Lake Naivasha has been licensed to operate in the sector and that it's a booming business though most of the youths do not have boats and fishing nets of their own. 19% said that the

fishing industry contribute a lot to creation of employment and expansion of employment opportunities. The roads and the housing sub-sector are rapidly growing and is attributed to the expanding population partaking in the fishing activities (13%) and that from the developers had peaked. Other related activities also noted were that, people benefitted a lot in terms of getting nutritious food (14%) and thus improving their health as a result of the protein gotten from eating fish. From the interviews with the department of trade and revenue collection, it emerged that the Nakuru County are planning to build a 13 billion fish factory which will be used to add value along the fish value chain. The fishing industry has been contribution to the county revenue collection kitty and therefore becomes a major economic activity to the Nakuru County. The study by [8] established that in Nigeria, fishing sector contribute to the economic base of the coastal people and improving their livelihoods and therefore is in agreement with the findings if this study.

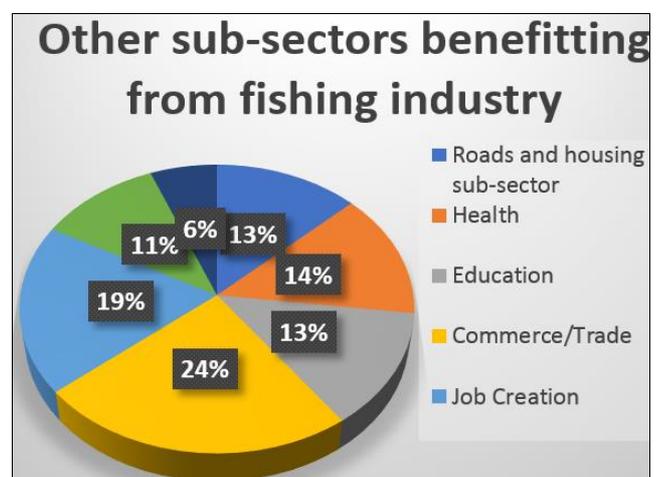


Fig 1: Fishing contribution per sector

3.2 Fishing contribution to social needs

It was revealed from the study that, most people in Naivasha subcounty and around L. Naivasha depended on fish for food (29%). Poverty eradication (20%) could be done through various trading activities related to fishing. Most people engaged in small scale business as fishermen, fish mongers, retail shops, money transactions through M-pesa shops, photography activities, art work, cycling, boating among many others. These economic activities are carried out at the beach. As a result, they enhance income generating activities (16%). 18% of the respondents said that they had used proceeds from the fishing and related activities to pay children's school fees but also others who are engaged in the industry while still studying in universities and tertiary colleges had used the money to educate themselves. 7% of the respondents claimed to have used the proceeds to build their own homesteads and invest in the local trading centers and in Naivasha town in the real estate (Figure 2). Fishing subsector generally contributes a lot to the social well-being of the region since it is linked to other several socio-economic activities within the region. The results of this study is further supported by a report by Obiero *et al.*, in 2015, which reveals that fishing contribute significantly to food security, employment and infrastructural development [15].

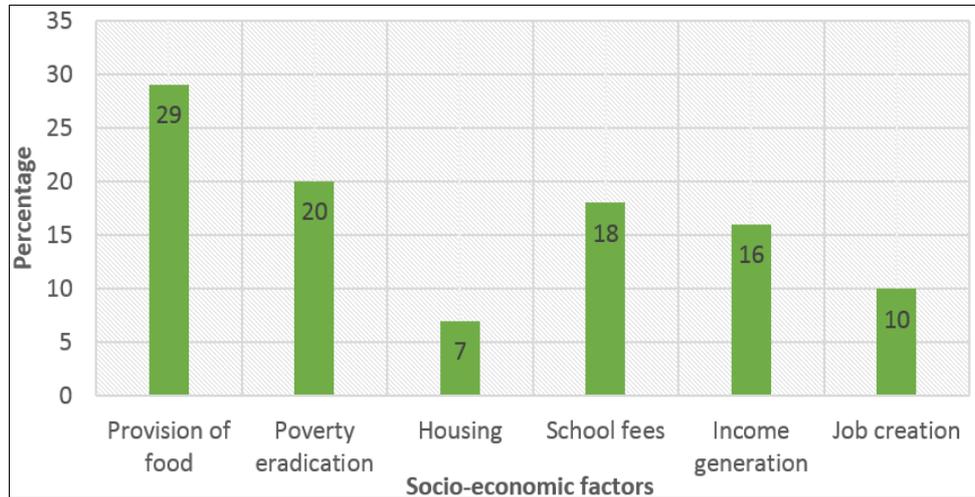


Fig 2: Fishing subsector contribution to social needs

3.3 Negative contribution of the fishing sub-sector

Other than the positive contribution made by the fishing industry to the regional economy, there are negative attributes of it that seem to mar the entire sub-sector. From figure 3 below, the study noted that issues like poaching (26%), pollution (24%), prostitution (17%), drug abuse (10%), deaths (15%), and overfishing (8%). Pollution from water hyacinth, affluent from nearby flower farms and human activities around the lake are the main sources of water pollution in L.

Naivasha. It was also noted that poaching was the main crime that was making the fishing sub-sector very sensitive and was causing a lot of conflicts amongst the stakeholders. However, from studies, places like L. Victoria experience challenges as overfishing, use of un authorized fishing gears, submergence of fishing areas by water hyacinth, pollution from nearby industries and eutrophication [16]. Some of these challenges experienced in Victoria were also reported in L. Naivasha.

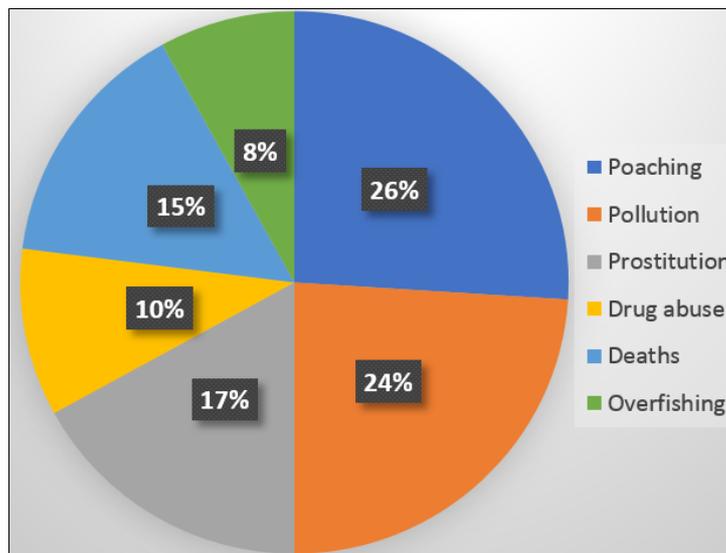


Fig 3: Negative attributes within the sub-sector

3.4 Challenges in the sub-sector

The respondent said that they encountered much challenges in storing their fish (23%) which is highly a perishable commodity. Further due to storage challenges and inadequate funds to invest in prerequisite infrastructure, there is no value addition and therefore there was a lot of losses incurred. 20% said that they could not access credit facilities to finance their operations and that they were not organized in a Sacco. Most fishermen could not buy a fishing net and boats (9%) because

they felt it was expensive for them, which they blamed on the fluctuating fish prices (18%) and the seasonal variations (12%). Majority of the fishermen did not own a net but they were employed by other people who paid them depending on the day's catch. 9% of the respondents attributed these challenges to corruption within the sector. 5% argued that fish from other regions also including from China was offering great competition to the fish from L. Naivasha.

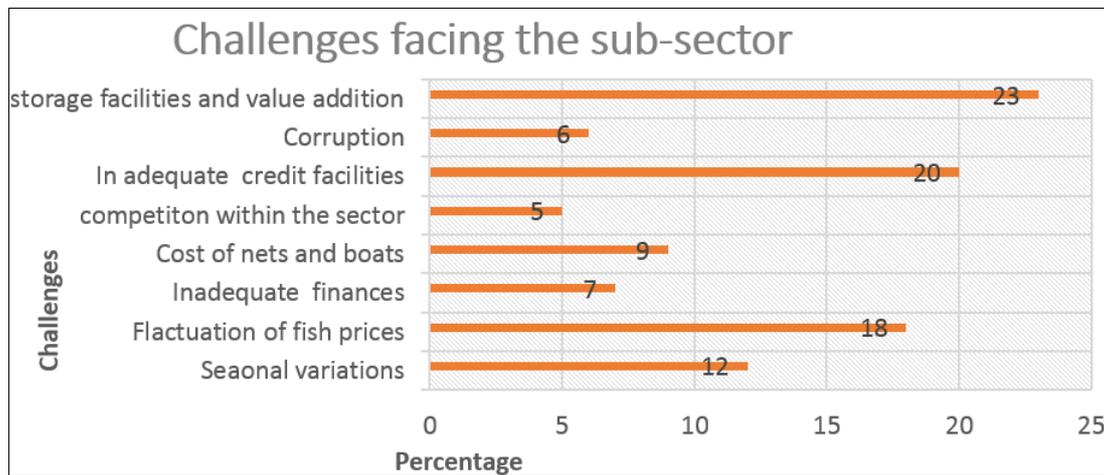


Fig 4: Challenges bedeviling fishing sub-sector

4. Conclusion

This paper is of great relevance to the County Government of Nakuru which is the host county government to Naivasha Sub-county as well as fishing agencies inside and outside Nakuru County. The results presented in this paper will lead to better understanding of the contribution of fisheries to regions with specific reference to Naivasha sub-county and the greater Nakuru County with regard to creation of employment direct as well as indirect contribution to poverty eradication, food security, improved economic as well as environmental sustainability. With a proper understanding of the contribution of the fishing sector, the sector will be given priority for improvement and better performance which are coming with the revolving technology like other sectors that contribute to societal and economic development in Naivasha sub-county such as horticultural agriculture receives.

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