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Fisheries and SDGs at Namasagali Fishing Village, Kamuli Disrtict, Uganda

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Abstract:

Attainment of SDGs has been derailed mainly by conflicts, pandemics and climate change. In Uganda, limited quantification of the value Riverine fisheries provide to communities is a major driver to unsustainable harvesting and destruction fisheries resources. This study was conducted to determine the monetary value contributed to households by fisheries activities at Namasagali fishing Village, one of the spots along Victoria Nile, major challenges faced and possible strategies to be adopted to enhance community ownership and sustainable management. A cross sectional survey was conducted using questionnaires and data on major activities conducted around the fishery and the corresponding income recorded and as analyzed using SPSS statistical package. Results showed that fisheries activities aprovided the highest amount of daily household income of between (5000 - 100,000 Shillings; USD $1.35-2.70) to 45% of households in the community. This income was higher than the established World Bank poverty line of US $1.25/1.9 per day in the year 2005. Major challenge to sustainability of the fishery were use of illegal fishing gears and methods. Sensitization of the fisherfolk i and enforcement of fisheries regulations was recommended as the main strategy to advance sustainable fisheries resources at Namasagali Fishing Village.

Keywords: *Fishing, SDGs, Riverine; fisherfolk, Namasagali, Uganda.*

Introduction

Eradicating extreme poverty for all people everywhere by 2030 is a pivotal goal of the 2030 Agenda for Sustainable Development. On global scale, people that living in extreme (from early 2022) were calculated using the US$1.90 per person per day poverty line, which was updated in September 2022 to US$2.15 per person per day (Lakner et al., 2022). Nearly 7% of world's population 7 percent of the world's population—will still be living on less than $2.15 a day in 2030. And the challenge is made harder by the fact that extreme poverty is concentrated

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in parts of the world where it will be hardest to eradicate including Sub-Saharan Africa, conflict-affected areas, and in rural areas(World Bank, 2022,https://www.worldbank.org/en/topic/poverty/overview). The Covid 19 lockdown declined the world's economy declined and left a lot of people unemployed making them poorer (Guterres, 2020). Young workers around the world are twice as likely to be living in poverty as compared to the adults as a result of lower earnings and poor-quality jobs. The COVID-19 crisis had a negative impact on the livelihoods of less privileged sections of community especially women and young people and it is likely to make them live even poorer (Guterres, 2020).

In Uganda, significant economic growth and poverty reduction was recorded in the last two decades. The number of people spending less than US$1.90 per day dropped from 53.2 % in 2006 to 34.6% in 2013 (World bank group, 2016). According to (UBOS, 2019) the poverty rate increased by 1.7% in 2013 to 21.4% in 2019. The poorest region in the country had always been the northern region until 2013, but is currently the eastern region. As of 2016, the poverty headcount rate in the northern region was 32.5% while that of the eastern region was 35.7%. The fisheries sector is globally documented to play an important role towards poverty reduction but faces a number of various challenges including overexploitation and water pollution that has resulted in the decline of fish stocks and exports, especially of Nile perch. The government has employed military sections for effective enforcement on major lakes, encouraged aquaculture to reduce the pressure on the capture fishery (MAAIF, 2020) but poverty has remained high with Kamuli in particular being one of the poorest districts in Uganda even when blessed with part of river Nile in Namasagali where the study was conducted(UBOS, 2018).

Statement of the Problem

Uganda remains one of the poor countries in the world with poverty rates at 19.7 % despite high poverty reduction rates from 31.1% in 2006 to 19.7 % in 2013 due to ethical, ecological, historical, political, economic and social inequalities/imbalances. The high persistent poverty level of 37.7% in Eastern Uganda which is higher than in other regions and national average of 21.4% (UBOS, 2018). emphasizes the need for more governmental commitment, ethical and ecological justice as well as global contribution (Lubaale, 2019). The region is bordered by water bodies whose contribution to household income, food security and social amenities to take the region out of the poverty hook is not well documented. Limited information on the value and contribution of fishing activities to household income and social welfare has compromised community's interest in meaningful engagement and management of the resource for their benefit as reported by (Cowx & Ogutu-Owhayo, 2019). This study quantified household income streams from both direct fishing and downstream activities, challenges that limit access to the fisheries resources and the perceived solutions. The information was generated to inspire the fishing village communities to protect the fisheries resource well knowing its contribution to sustainable development goals such as No poverty, zero hunger below water resources to mention but a few.

Objectives

The main objective was to quantify the the contribution of riverine fisheries to the sustainable development goals with a case study of Namasagali fishing village. Specific objectives were; to determine the contribution of the Nile fishery to household income and welfare, find out the five major challenges that constrain income generation from fisheries activities and five perceived possible strategies that can be adopted to enhance investment and exploitation for better benefit of Namasagli fishing village.

Materials and methods

Study area

The study was conducted in Namasagali fishing village along River Nile as the major fishery resource. Namasagali fishing village is found in Namasagali Sub-County in Kamuli District between 01^0 00' 45"N and 32^0 57'00"E, at an elevation of 1,060m above sea level.(Figure 1).

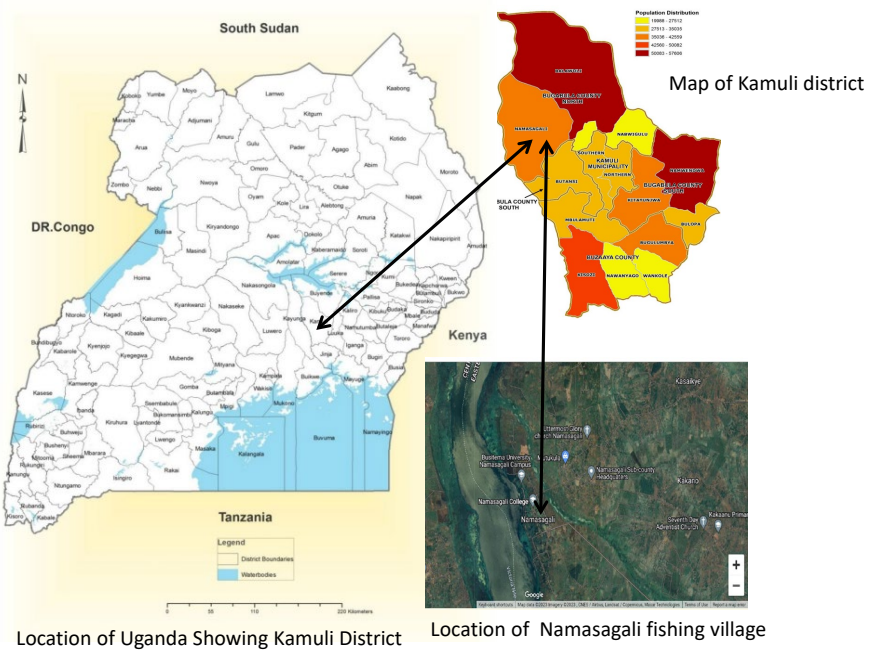

Figure 1. Map of the study area

The fishing village was estimated to have 61households that derive part of their livelihood from fishing and related activities on a daily basis at the time of the study (Local Council 1 (LC1) and Beach management Unit records, 2022). The on line" Easycalculations.com" (suggested by GeoPoll) was used to determine the optimal sample size of 54 respondents segregated by age, gender and economic activity. Cross sectional survey research design was used in the study by interviewing household representatives as purposively targeted respondents. Both qualitative and quantitative data was collected by use of questionnaires, observational guides and informal discussions. The 54 households that served as respondents during the study were randomly selected considering gender, age and major activities conducted in the fishing village to reduce bias in sampling/ensure that data collected is representative. The area was chosen because it is one of the major fishing areas in the district with people that have a strong attachment to fishing as a source for livelihood.

Results

Social Background of the Respondent Households

Sex and age

Data showed that respondents in this study were dominantly male (65%) with almost 50% being youth of age (20-30 years) and mature adults of above 41 years the least (17.31%) Figure 2.

Education and marital status of respondents

By education level and marital status majority of respondents (67%) were of low education level without a professional training at tertiary institutions of learning (Figure 4) while at the same time, many (40%) were widowed (Figure 3).

Major economic activities in the study area.

Most of the respondents (39.39%) participated in fisheries activities (Figure 4) Among the various economic activities that households participated in, the study established that fisheries activities earned the highest annual income (about 750 million/ USD$ 202,702.70)

followed by trade or business (about 263 million / USD$71,081.08) and farming crops and animals in Namasagali Fishing Village (Table 1)

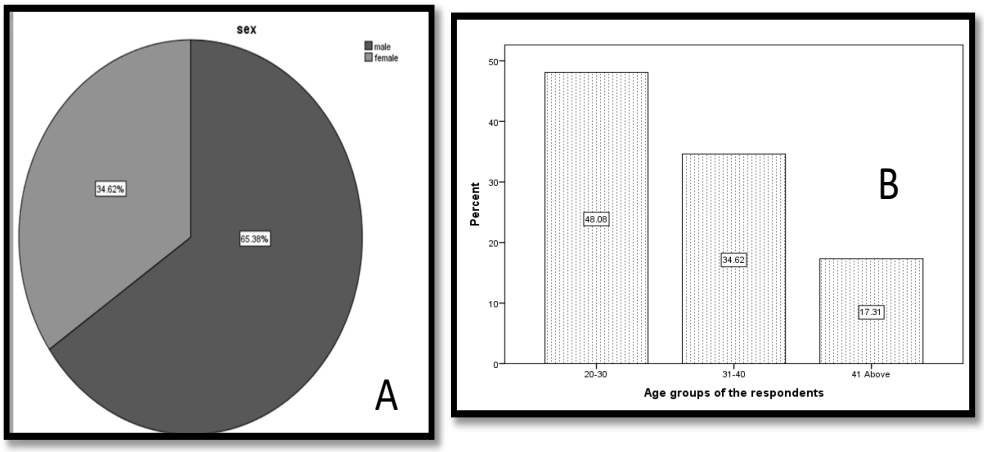

Figure 2. Sex (A) and Age(B)of the Respondents

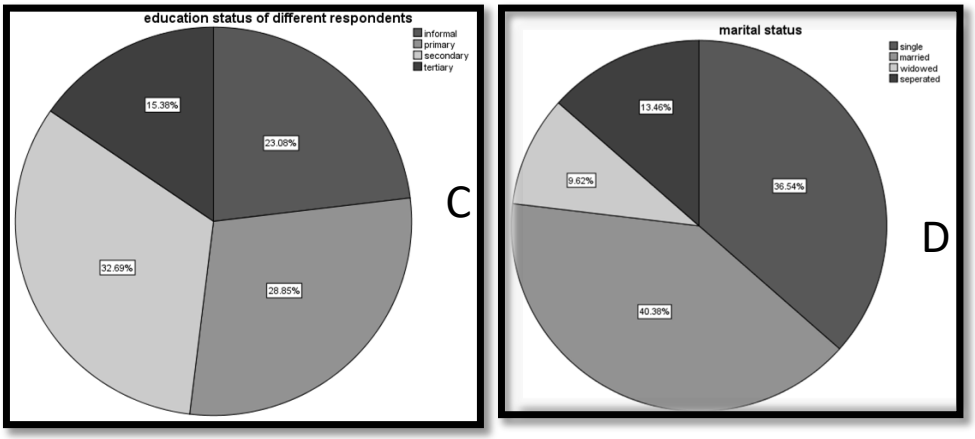

Figure 3. Education (C) and Marital (D) Status of Respondents

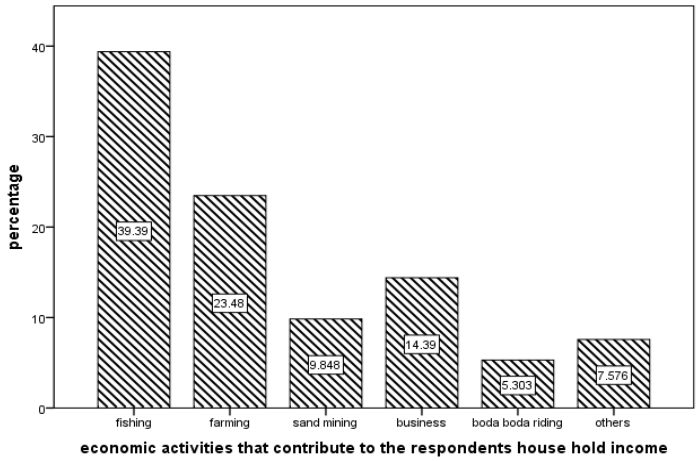

Figure 4. Major Economics Activities that Contributed Household Income

Table 1. Major Economic Activities and Estimated Annual Income (Ugandan Shillings) from each in Namasagali Fishing Village

Income (Shs)	Fisheries	Farming (crop and livestock)	Sand mining	Business (shop keeping, mobile money etc.)	Motor cycle riding	Others
Daily	2,052,000	N/A	280,000	721,000	147,000	246,000
Annual	748,980,000	94,070,000	102,200,000	263,165,000	53,655,000	89,790,000

Fisheries Activities and Major Fish Species Caught

The dominant fisheries activity at Namasagali fishing village was selling of fish (45.3%) and repairing of fishing nets (40.60%); Table 2.

The major fish species caught were dominated by Nile tilapia (*Oreochromis niloticus*); (35.25%) followed by Nile Perch; Lates *niloticus* (30.22%); (Figure 4). The same species are at the same time, the major national export /income earners to Uganda (FAO,2017).

Table 2. Table 2: Major fisheries activities by the respondents

Major fisheries activities	Responses	
	N=64	%age of cases
Fishing	7	10.90%
Selling fish	29	45.30%
Net repairing	26	40.60%
Boat Repair	2	3.10%
Total	**64**	**100.00%**

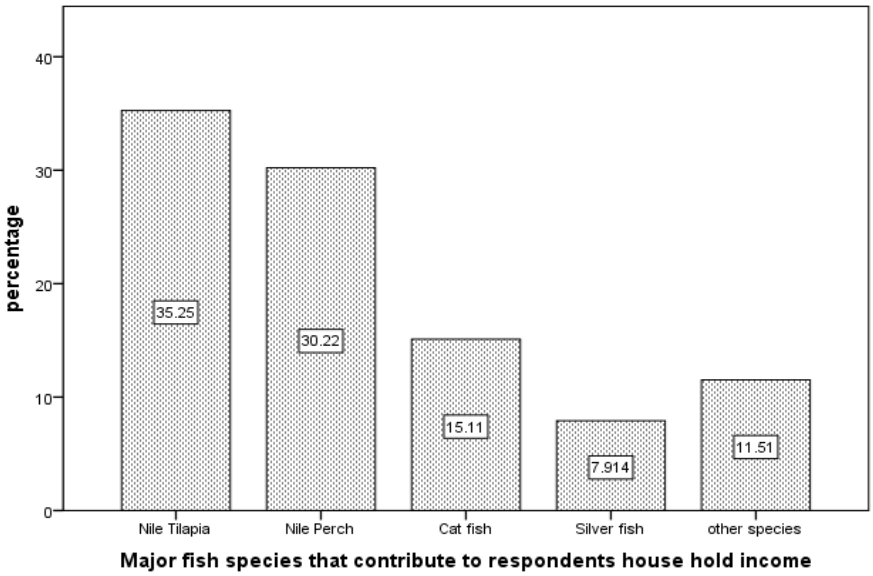

Figure 5. Major Fish Species Caught by Respondent's Households

Income Earned from the Fisheries Activities

The study established that most (83.93%) of the respondents earned between 5000 to 100,000 Ugandan shillings (USD$1.35-2.701) daily from fisheries related activities (Figure 6). The average of income (USD $1.51) was within the World Bank established extreme poverty line of US $1.9 per day in the year 2005 (Ravalli on et al. 2008).

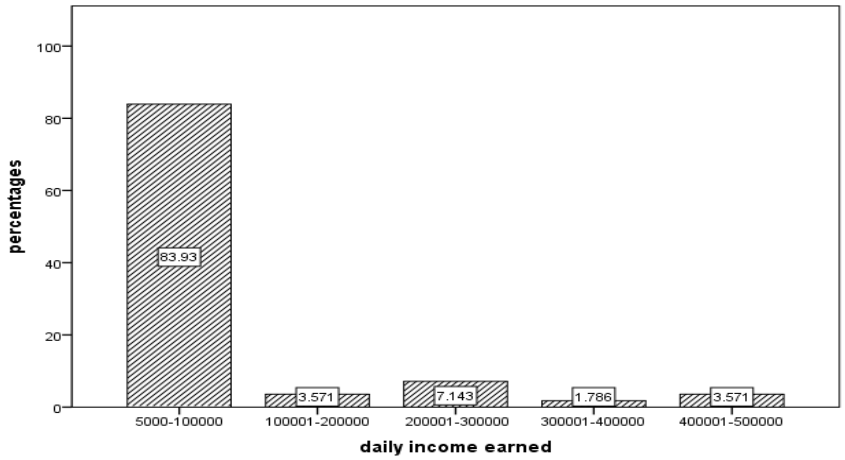

Figure 6. Daily income earned from the fisheries activities

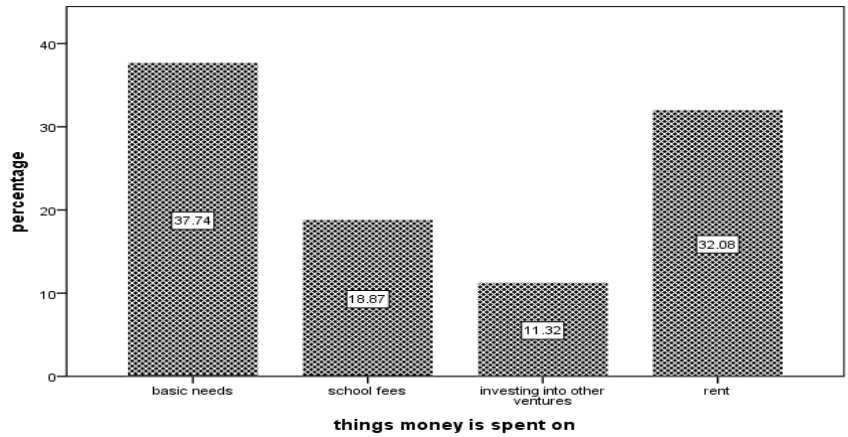

Figure 7. Expenditure lines on to which income was spent on (Expenditure lines)

Majority of respondents (37.74%) spent their income on basic needs such as food, clothing, medical care and house rent to have a roof above their heads with the least (11.32%) investing the funds in other money generating ventures (11%); Figure 7.

The respondents noted that they had not constructed their own houses because they did not have sufficient income or savings to construct their own houses. Less of the income was spent on school fees (18.87%) which explained the high illiteracy characterized by high school drop outs Unfortunately such children of the school going age (20-30 years old) resorted to fisheries activities to sustain livelihoods and thus the youth dominated the sector.

The least amount of money was also invested into other ventures like Agriculture and businesses to boost their income which is done by a very small number of respondents.

Other Social Amenities Gained as a Result of Fisheries Activities in Namasagali Fishing Village

About half of the community members (49.12%) did not perceive any other benefit as a result of fisheries activities while the other half (50.1%) reported other benefits. Some of the perceived benefits included establishment of a fish market (21.05%), a health center for better health service delivery which is free of charge (7.018%), roads and their maintenance service.

About half of the community members (49%) reported having accessed the amenities associated with fisheries activities while another half (51%) could not perceive any association with any, implying that a lot has to be done to sensitize the communities about the services including schools and the university which is not perceived among the amenities.

Major Challenges that Limited Access to Fisheries Resources Exploitation

The key challenge recorded was poor enforcement and harassment of community members (31,53%) during implementation of fisheries activities mainly by the regulator agencies, (UPDF soldiers and the fisheries extension officers), The community claimed that the regulation agents take their nets even if the nets are and burn their boats even if they were of the recommended Poor fish markets (limited market, price fluctuation, lack of customers, competition from other fish sellers) was also reported by (21.62%). This was preceded by poor fishing methods (use of illegal fishing gears, over fishing etc.) (18.02%), climate change characterized by strong winds

(14.41%), poor post-harvest handling (13.51%) and lastly inadequate investment capital.

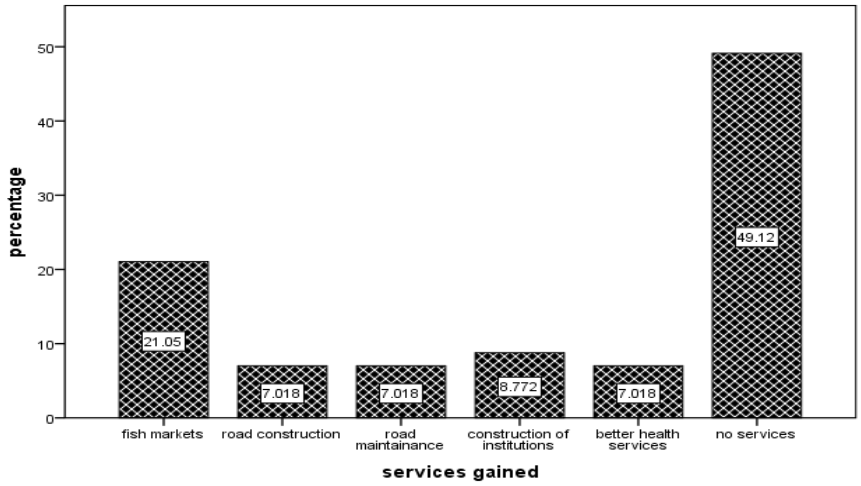

Figure 8. special services gained from fisheries activities

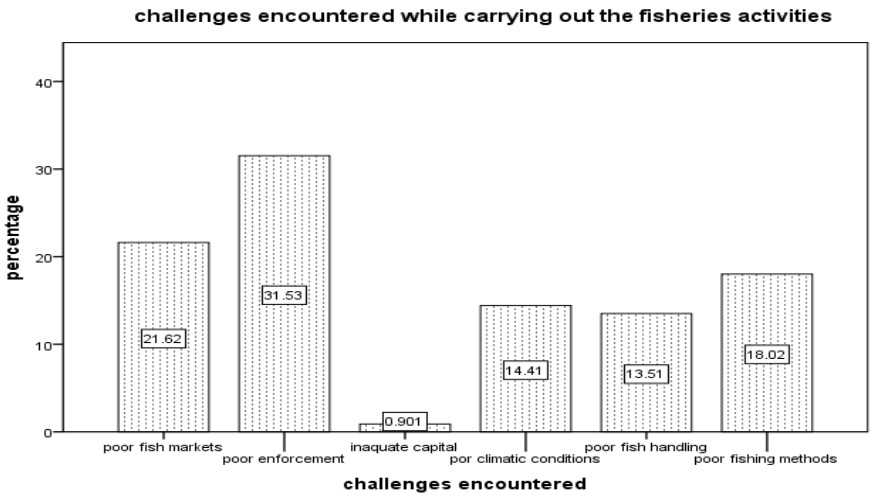

Figure 9. Major Challenges facing Fishing Activities in the NFV

Surprisingly almost all the respondents (90.4%) reported that all the local leaders including the local council members and the Beach management Unit members were well aware of all the challenges including harassment of its members but had not put in place any mechanisms to reduce them, an act they termed as they termed as "corruption".

Major suggested possible solutions to challenges experienced

The respondents suggested that adhering to the fisheries regulations in place was a major intervention that could be embraced by all players in the sector to enhance income and other benefits from the fishery resource (Figure 10)

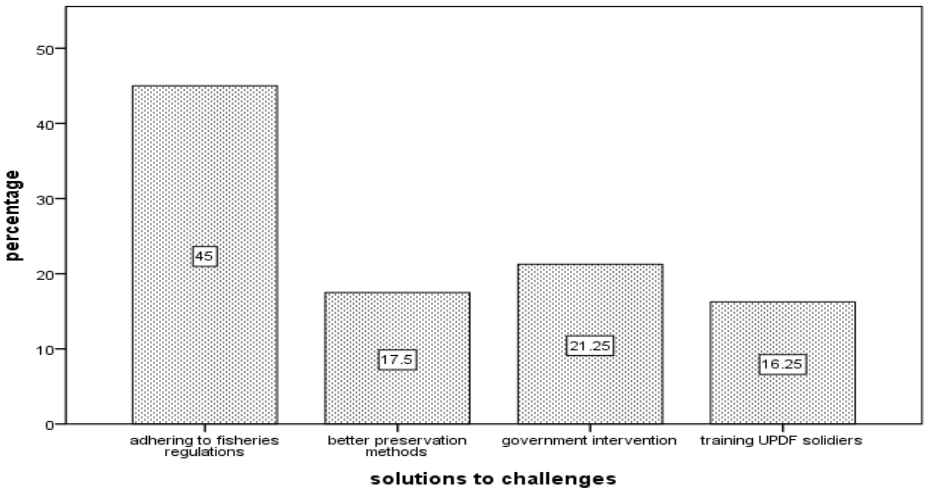

Figure 10. Major Suggested Possible Solutions to Advance Income from Fisheries Activities

Discussion

The major finds from this study is that the fisherfolk is predominantly male by sex, youth especially of school going age (20-30 years), majority (over 80%) of whom still under the standard level of extreme poverty set by World Bank (Hussain, 2015; Ludi, 2009). With the main challenge being practically illegal fishing and the main suggested solution being adhering to set fisheries regulation, it would be extremely difficult to achieve sustainable fisheries resource management due to poverty as also reported by (Odoli et al., 2023). The youth are energetic and active and reproduce faster, require money and food on daily basis that an adult population. This explains why there is conflict over the resource and with increase in population, such conflicts with be more tense, crime will increase along with destruction of the resource because poor people cannot afford the costs of managing a natural resource. The harassment of the fishers by regulators may also indicate a degree of conflicting interests of getting money daily and wanting the fisheries resource to stay for future generations which impedes enforcement of regulation. Inadequate capital (0.901%) being the least faced challenges also implies that entry into fishing /fisheries activities does not require much starting capital on the other hand is a driver of increased entry into the resource by poor that threatens sustainability. In additional to the recommendation to stick to set fisheries regulation, Government intervention especially training of the regulation agents in professional human resource management and not harassment, in investing in alternative enterprises that can allow for closed seasons is key to sustainable production and productivity of the fisheries resources in general.

Conclusions

Fisheries activities are the major economic activities that generate house hold income to the participating households in NFV. However, the communities involved were still generating and spending below the World Bank set poverty line of USD $ 1.9 daily. The major challenges that constrained income generation from fisheries activities among participating households were mainly poor enforcement characterized by harassment of regulators, poor fishing methods, low fish markets, poor climatic conditions and poor post-harvest handling. On the other hand, major strategies suggested enhancing productivity/income from the fisheries resources the challenges to the contribution of fisheries activities to house hold income in NFV were use of better preservation methods, supporting government interventions, adhering to fisheries regulations and training of the UPDF soldiers.

Recommendations

There is urgent need to revamp management of the fishery resources by both the fisherfolk and the law enforcement teams of government to enhance income and take the fisher folk out of absolute poverty.

Local governments together with leaders should advise the fisher folk on how to productively invest wisely with appropriate saving strategies to curb poverty.

Government needs to support investment into alternative income generating streams to allow closed season policy for recovery of the Namasagali fishery.

Acknowledgement

We are grateful to the community of Namasagali fishing village for the cooperation and openness exhibited while providing the primary data that was used to develop this report.

Conflict of Interest

The authors have no conflict of interest

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Appendix

Interview guide/ Questionnaire

Introduction

I am Wafula Moris a student at Busitema University, pursuing a Bachelor Degree of Science in Fisheries and Water resources Management.

It's a requirement by the University for students to carry out research for a reward of the degree, which there for made me undertake this research and this research is purely for academic purposes.

Ethical Requirements: Do you accept to participate in this study

Yes…….

No……...

Instructions

Please tick the in the box where necessary

Write your response in the space provided.

DEMOGRAPHIC CHARACTERISTICS

Sex of the respondent

Male ☐ female ☐

Age group of the respondent

☐ Between 20 to 30 ☐ 41 above

☐ Between 31 to 40

Level of education

☐ Informal ☐ Tertiary

☐ Primary

☐ Secondary

Marital status

Single Seperated

Married Widowed

SECTION B: SOCIO ECONOMIC DATA

What are your major economic activities?

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……
……
…...

How much do you earn from the above mentioned activities?

……
……
……

……
…...

Which fisheries activities do you participate in?

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……
…….

How much do you earn from these fisheries activities? (Daily income)

……
……
……

Which fish species contributes to your house hold income?

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……
……
……
…….

List things that you majorly spend on your money from fisheries activities.

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……
……
……
……

What special services are you getting because of fisheries activities in your community?

……
……
…….

Are you able to access them?

☐ Yes ☐ No

List five major challenges that constrain your income generating activities.

……
……
……
……
……

Suggest five major strategies that can be adopted to enhance the generation of income from fisheries activities.

……
……
……
……
…….

Are the local leaders aware of these challenges?

Yes No

If yes, how have they delt with them

……
……
……

Thank you very much for your time and cooperation.