CONTRIBUTION OF FISH FARMING TO THE LIVELIHOOD STATUS OF FISH FARMERS IN ASA LOCAL GOVERNMENT AREA OF KWARA STATE NIGERIA

BY

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CERTIFICATION

This is to certify that the project "CONTRIBUTION OF FISH FARMING TO THE LIVELIHOOD STATUS OF FISH FARMERS IN ASA LOCAL GOVERNMENT AREA OF KWARA STATE NIGERIA" has been read and approved as meeting the requirements for the award of Higher National Diploma (HND) certificate in Agricultural Technology in the Department of Agricultural Technology, Institute of Applied Science, Kwara State Polytechnic, Ilorin.

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DEDICATION

This work is dedicated to Almighty GOD, The Beneficial, the Merciful who has counted us worthy of His Mercies and Grace among His creatures and for the success of the Program. I also dedicate it to my Amazing parents Mr and Mrs Olowolagba.
Mr and Mrs Bojuwoye Folaranmi and the entire family for their word of encouragement and love. May God bless you.

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ABSTRACT

This study examined the Contribution of fish farming to the livelihood status of fish farmers in Asa Local Government Area of Kwara State, Nigeria. One hundred and twenty fish farmers were selected for the study. Both descriptive and budgetary statistics was used to analyse the data. The result revealed that 94.2 percent of the fish farmers were male, the average years of age was 41_50 years and average income of N1000000_5000000 The result showed that average expenditure of 500,000 . Improved standard of living (mean=1.00) was the highest ranked of perceived fish farming influence on livelihood status of the fish farmers in the study area. The total contribution of fish farming to the Livelihoods status showed that about 71.7 Percent of the fish farmers say is very profitable. Lack of access to finance (mean=1.14) was the most severe constraint affecting fish farming enterprise. The study therefore recommends that government and microfinance institutions should provide soft loans and grants to fish farmers , strengthening extension services aimed to improve fish farmers' livelihood status , and providing adequate infrastructure, market linkage and cooperative societies to have access to leading information needed by fish farmers in the study area.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Fish farming is a significant contribution to the economy of kwara state, particularly in Asa Local Government Area. The state's favourable climate and water resources make it an ideal location for fish farming. However, despite it's potential, the fish farming industry in Asa Local Government Area faces numerous challenges, including inadequate infrastructure, limited access to credit, and poor marketing strategies. These challenges can affect the livelihood status of fish farmers, making it essential to assess their livelihood status to identify areas for improvement.

Fish production significantly contributes to the incomes of several people in Nigeria and all over the world (Adisa, Ifabiyi and Opeyemi 2021) Ifabiyo, Banjoko and Komolafe, 2017). It's a vital source of nourishment for the populace. Fish production also helps in ensuring that many Nigerians are food and nutrition-secured. Globally, fish provides micro-nutrients to about 3.3 Billion people and about 600 Million people depend on fisheries and Aquaculture for their livelihoods (WorldFish, 2024; Ifabiyi et al., 2023). For those with low incomes worldwide, fish represents a significant and reasonably priced source of food (Bene et al., 2015). According to FAQ (2018), humans eat around 88.42 percent of the 171 million tons of fish produced, fisheries play a critical role in ensuring the security of food and nutrition worldwide.

Fish makes up over 17% of the animal protein that people eat worldwide (FAQ, 2018). With the largest market for fish and fisheries products in Africa and a per capital intake of 14.9kg annually, Nigerians are heavy fish consumers (Olaoye and Oloruntoba, 2011). With its contribution of over one-tenth of the country's GDP to the agricultural sector, the fisheries subsector in Nigeria's economy holds a special place (FDF, 2008).

Nigerians eat fish and fish products (FAQ, 2012). Among animal proteins, it is unique due to its fatty acid profile, low cholesterol level, high vitamin and mineral content (calcium, iron, zinc), and amino acid profile (FAQ, 2012). Fish currently makes up 41%of the average Nigerians animal protein consumption and is gradually replacing meat owing to health and nutritional concerns, even though it is very vulnerable to deterioration in the absence of any preservatives (Okont and Ekelemu, 2005). Livelihood refers to the process of making a living. Accordingly, a livelihood I'd considered manageable when 'it can deal with and recover from strains, sustain or improve its capacity, while not depleting the natural resource base'. Turner (2017) idealized sustainable livelihood to be the outcomes in manageable opportunities for the next generation, paying net paybacks to other livelihoods. Although the sustainable livelihood framework (SLF) has been extensively utilized. It is a suitable model for investigating smallholder livelihoods (Panday et al., 2017). Sustainable livelihood is an active idea that offers procedures to exterminate poverty and how underprivileged persons organize their lives. Livelihood results are the accomplishments and reimbursements that households anticipate obtaining through the employment of specific activities and approaches. These results can also be designated as the expectations of the household (Nguthi &Niehof, 2008). There is a huge opportunity for the fishing subsector to boost the nutritional security of Nigerians,(FAQ, 2019). This is so as several Nigerians are involved in fish farming activities in the country. Due to the high demand for fish and fish products in Nigeria, several unemployed people have been encouraged to take opportunities in fish farming to enhance their income. However, the Nigerian fishing and aquaculture sub-sector of Agriculture is attributed to be at a small scale, with low levels of technology, marketing problems, and high labour intensity (Ifabiyi, Komolafe and Adisa, 2022 & FAQ, 2022). The high cost of fish feeds and medications has been reported to constitute substantive input costs for the farmers (FAQ, 2019). These would limit the income and output of the fish farmers in Nigeria.

Hence, it is essential to carry out a study on the livelihoods of fish farmers that would favourably influence government policy towards the farmers and the other actors in the fish industry.

Also, there is a paucity of information on the livelihood attributes of fish farmers in kwara state, Nigeria. Livelihoods are 'means of making a living', the various activities and resources that allow people to live. Different people have different lifestyles and ways of meeting their needs. Similarly, households perform various activities to gain and maintain their livelihoods. The nature of these livelihood activities depends on the availability of assets, resources, labour, skills, education, social capital, seasonality, agro-climate/agro-ecology,and gender (Pasteur,2002; Alli,2005; Okali,2016; Porter et al., 2017; Akinwale, 2010).

1.2 THE PROBLEM OF THE STATEMENT

The livelihood status of fish farmers in Asa Local Government Area of kwara state is a concern due to the various challenges they face. The lack of adequate infrastructure, limited access to credit, and poor marketing strategies can lead to low income, poor living conditions, and limited access to basic amenities. This can result in a low livelihood status, making it difficult for fish farmers to sustain their livelihoods. Therefore, there is a need to assess the livelihood status of fish farmers in Asa Local Government Area to identify the challenges they face and develop strategies to improve their livelihoods.

Hence, it is essential to carry out a study on the livelihoods of fish farmers that would favourably influence government policy towards the farmers and the other actors in the fish industry. Also, there is a paucity of information on the livelihood attributes of fish farmers in kwara state, Nigeria. This established the gap that this research would fill. Therefore, this necessitate the need to carry out the study on the livelihood attributes of the fish farmers in Ilorin, kwara state, Nigeria.

1.3 THE RESEARCH QUESTIONS

1. What are the socio-economic characteristics of the farmers?

2. Is fish farming profitable?

3. How does fish farming influence the overall livelihood of the respondants?

4. What are the constraint faced by fish farmers in the study area?

1.4 OBJECTIVES OF THE STUDY

The general objective of this study is to assess the livelihood status of fish farmers in Asa Local Government Area of kwara state, while the specific objectives are to:

1. Describe the socio-economic characteristics of fish farmers in Asa Local Government Area.

2. Analyze the profitability of fish farming.

3. Identify the perceived influence of fish farming on livelihood of the respondents.

4. Examine the constraint faced by fish farmers in study area.

1.5 THE HYPOTHESIS OF THE STUDY

The hypothesis of the study is stated in null form.

Ho: There is no significant relationship between the socio economic characteristics of fish farmers in the study area and their livelihood status.

Hi: There is significant relationship between the socio economic characteristics of fish farmers in the study area and their livelihood status.

1.6 OPERATIONAL DEFINITION OF TERMS

CONTRIBUTION: a gift or payment to a common fund or collection.

LIVELIHOOD: is the total combination of activities undertaken by a typical household to ensure a living. Most rural households have several income earners, who pursue a combination of crop and livestock, farm, off-farm and non-farm activities in different seasons to earn a living.

STATUS: the position of respect and importance given to someone or something.

FISH FARMERS: is someone who raises fish for commercial purposes. Fish farming, also known as pisciculture, is the practice of raising fish in captivity for food or other purposes.

CHAPTER TWO

2.0 LITERATURE REVIEW

The livelihood status of fish farmers is a critical aspect of their overall well-being and sustainability. Several studies have examined the livelihood status of fish farmers in different parts of the world, including Nigeria. For example, a study by Olaleye et al. (2017) examined the livelihood status of fish farmers in Oyo State, Nigeria, and found that the majority of the farmers were small-scale and had limited access to credit, technology, and markets. Another study by Adeyemo et al. (2018) assessed the livelihood status of fish farmers in Kwara State, Nigeria, and found that the farmers faced significant challenges, including inadequate water supply, poor road network, and lack of access to credit and technology.

In terms of the specific context of Asa Local Government Area of Kwara, there is limited research on the livelihood status of fish farmers. However, a study by Ibrahim et al. (2019) examined the socio-economic characteristics of fish farmers in Asa Local Government Area and found that the majority of the farmers were male, had limited formal education, and had been engaged in fish farming for less than 10 years.

2.1 Theoretical Review

The livelihood status of fish farmers can be understood through the lens of several theoretical frameworks, including the Sustainable Livelihoods Framework (SLF) and the Asset-Based Livelihoods Framework (ABLF). The SLF, developed by the Department for International Development (DFID), emphasizes the importance of understanding the complex relationships between different components of a livelihood system, including the natural environment, social institutions, and economic systems (DFID, 1999). The ABLF, on the other hand, focuses on the role of assets, including human, social, physical, financial, and natural assets, in shaping livelihood outcomes (Moser, 1998).

In the context of fish farming, the SLF and ABLF can be used to understand the complex relationships between the natural environment, social institutions, and economic systems

that shape the livelihood status of fish farmers. For example, the availability of water, feed, and other inputs can affect the productivity and profitability of fish farming, while social institutions, such as cooperatives and extension services, can provide support and guidance to fish farmers. Similarly, the ABLF can be used to understand the role of different assets, including human capital (e.g., education and skills), social capital (e.g., social networks and relationships), physical capital (e.g., equipment and infrastructure), financial capital (e.g., credit and savings), and natural capital (e.g., water and land), in shaping the livelihood status of fish farmers.

2.2 CONCEPT OF LIVELIHOOD

The concept of livelihood status refers to the overall well-being and sustainability of an individual or household, including their ability to meet their basic needs, manage risks and shocks, and achieve their goals and aspirations (Chambers & Conway, 1992). In the context of fish farming, the livelihood status of fish farmers can be assessed using a range of indicatos, including:

1. Income and profitability: The income and profitability of fish farming can be used to assess the livelihood status of fish farmers, including their ability to meet their basic needs and invest in their businesses.

2. Asset ownership: The ownership of assets, including human, social, physical, financial, and natural assets, can be used to assess the livelihood status of fish farmers, including their ability to manage risks and shocks.

3. Access to markets and services: The access to markets and services, including credit, technology, and extension services, can be used to assess the livelihood status of fish farmers, including their ability to improve their productivity and profitability.

4. Social and human capital: The social and human capital of fish farmers, including their education, skills, and social networks, can be used to assess their livelihood status, including their ability to adapt to changes and manage risks.

5. Environmental sustainability: The environmental sustainability of fish farming, including the use of sustainable practices and management of natural resources, can be used to assess the livelihood status of fish farmers, including their ability to maintain their natural capital and ensure the long-term sustainability of their businesses.

2.3 LIVELIHOOD STATUS

Livelihood status refers to the overall well-being and sustainability of an individual or household, including their ability to meet their basic needs, manage risks and shocks, and achieve their goals and aspirations. It encompasses various aspects of a person's life, including their economic, social, and environmental circumstances (Adeyemo et al., 2018).

2.3.1 Components of Livelihood Status:

1. Income and Expenditure: The amount of money earned and spent by an individual or household, including their income sources, expenses, and savings.

2. Asset Ownership: The possession of assets, such as land, livestock, equipment, and other resources, that can be used to generate income or support livelihoods.

3. Access to Markets and Services: The ability to access markets, services, and infrastructure, such as roads, transportation, and communication, that can support livelihoods.

4. Social and Human Capital: The skills, knowledge, and social connections that enable individuals or households to access opportunities, manage risks, and improve their livelihoods.

5. Environmental Sustainability: The ability to manage natural resources, such as water, land, and forests, in a sustainable way to support livelihoods and ensure long-term environmental health.

6. Food Security: The availability and access to sufficient, safe, and nutritious food to meet dietary needs and support overall health and well-being.

7. Health and Well-being: The physical and mental health of individuals or households, including their access to healthcare services and their ability to manage health risks.

8. Education and Skills: The level of education and skills possessed by individuals or households, including their ability to access education and training opportunities (Adeyemo et al., 2018).

2.3.2 Indicators of Livelihood Status

1. Poverty Rate: The percentage of the population living below a certain poverty line, such as $1.90 per day.

2. Income Inequality: The distribution of income within a population, including the Gini coefficient and other measures of inequality.

3. Unemployment Rate: The percentage of the labor force that is unemployed and actively seeking work.

4. Food Insecurity: The percentage of the population that is unable to access sufficient, safe, and nutritious food.

5. Access to Education and Healthcare: The percentage of the population with access to education and healthcare services, including the quality and affordability of these services.

6. Asset Ownership: The percentage of the population that owns assets, such as land, livestock, and equipment.

7. Debt and Savings: The level of debt and savings among individuals or households, including their ability to manage financial risks.

2.4 Importance of Livelihood Status

1. Poverty Reduction: Improving livelihood status can help reduce poverty and inequality.

2. Economic Growth: Livelihood status is closely linked to economic growth, as individuals and households with improved livelihoods are more likely to contribute to economic activity.

3. Food Security: Improving livelihood status can help ensure food security and reduce hunger and malnutrition.

4. Health and Well-being: Livelihood status is closely linked to health and well-being, as individuals and households with improved livelihoods are more likely to have access to healthcare services and manage health risks.

5. Environmental Sustainability: Improving livelihood status can help ensure environmental sustainability, as individuals and households with improved livelihoods are more likely to manage natural resources in a sustainable way.

2.5 Livelihood status of fish farmers

The livelihood status of fish farmers refers to the overall well-being and sustainability of fish farming households, including their ability to meet their basic needs, manage risks and shocks, and achieve their goals and aspirations.

Here are some key aspects of the livelihood status of fish farmers: Income and Expenditure

1. Average income: The average income of fish farmers can vary widely depending on factors such as the type of fish farmed, the size of the farm, and the market demand.

2. Income sources: Fish farmers may have multiple income sources, including the sale of fish, fish feed, and other aquaculture products.

3. Expenditure: Fish farmers may have significant expenditures, including the cost of fish feed, labor, and equipment.

Asset Ownership:

1. Land ownership: Fish farmers may own or rent land for their fish farms, and the security of land tenure can be an important factor in their livelihood status.

2. Equipment and infrastructure: Fish farmers may own or have access to equipment and infrastructure, such as ponds, cages, and nets, which can affect their productivity and efficiency.

3. Fish stocks: Fish farmers may own or have access to fish stocks, which can be an important asset for their livelihood.

Access to Markets and Services:

1. Market access: Fish farmers may have access to local, national, or international markets, which can affect their income and livelihood status.

2. Credit and finance: Fish farmers may have access to credit and finance, which can help them to invest in their farms and improve their livelihood status.

3. Extension services: Fish farmers may have access to extension services, such as training and technical assistance, which can help them to improve their productivity and efficiency.

Social and Human Capital:

1. Education and training: Fish farmers may have varying levels of education and training, which can affect their ability to manage their farms and improve their livelihood status.

2. Social networks: Fish farmers may have social networks and relationships with other farmers, suppliers, and buyers, which can affect their access to markets and services.

3. Health and well-being: Fish farmers may have varying levels of health and well-being, which can affect their ability to work and manage their farms.

Environmental Sustainability

1. Water quality: Fish farmers may be affected by water quality issues, such as pollution and eutrophication, which can affect the health and productivity of their fish.

2. Fish disease: Fish farmers may be affected by fish disease, which can affect the health and productivity of their fish.

3. Climate change: Fish farmers may be affected by climate change, which can affect the water temperature, water level, and other environmental factors that affect their fish farms (Chambers & Conway (2012).

2.6 CHALLENGES AND OPPORTUNITIES IN FISH FARMERS

1. Climate change: Fish farmers may face challenges related to climate change, such as changes in water temperature and water level, which can affect the health and productivity of their fish.

2. Market fluctuations: Fish farmers may face challenges related to market fluctuations, such as changes in demand and price, which can affect their income and livelihood status.

3. Disease and parasites: Fish farmers may face challenges related to disease and parasites, which can affect the health and productivity of their fish.

4. Access to finance and credit: Fish farmers may face challenges related to access to finance and credit, which can affect their ability to invest in their farms and improve their livelihood status.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 THE STUDY AREA

The study was conducted in Asa Local Government Area of Kwara State Nigeria. Kwara State is made up of 16 Local Government Areas (LGAs) covering about 32,500km with a total land size of 3,682,500 hectares, According to (Olayemi et al 2011). Kwara state is one of the states in North Central Political Zone of Nigeria. It is situated between parallels 8° and 10° north latitudes and 3° and 6° east longitudes covering an area of about 32,500 Sq/Km(KSMANR, 2010).

3.2 THE POPULATION OF THE STUDY

The population of the study was the fish farmers in Asa Local Government Area of kwara State.

3.3 THE SAMPLING PROCEDURE AND SAMPLE SIZE

The study employed three stage sampling procedure to select the respondents.

The first stage involve the selection of Asa Local Government Area due to high concentration of fish farmers in the study area.

The second stage involved the random selection of four communities in the stated local government area. The third stage involved the random selection of 30 respondents each from each selected communities to make up a sample size of 120 respondents.

3.4 THE METHOD OF DATA ANALYSIS

The method of data analysis included the use of descriptive analysis to analyze for objective 1, 3 and 4, budgetary analysis was used to analyze objective 2.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1 SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

4.1.1 Distribution of Respondents by Age

The table 4.1.1 shows the age distribution of fish farmers in Asa Local Government Area. The result indicates that 28.3% of the respondents fall within the 41–50 years age bracket, representing the largest proportion. This is closely followed by the 31–40 years group at 27.5%, and the 51–60 years group at 20.0%.Furthermore, 15.0% of respondents are 30 years or younger, while only 9.2% are above 60 years. This pattern implies that the majority of fish farmers are within the productive and economically active age range (31–60 years), which is favourable for labour-intensive activities like aquaculture.

Table 4.1.1 Frequency Distribution of Respondents by Age

Age	Frequency	Percent	Mean
<= 30	18	15.0	
31 - 40	33	27.5	
41 - 50	34	28.3	28.3
51 - 60	24	20.0	
Above 60	11	9.2	
Total	120	100.0	

4.1.2 Distribution of Respondents by Gender

The table 4.1.2 below displays the gender distribution of fish farmers in Asa Local Government Area. The results show a significant gender imbalance, with 94.2% of respondents being male, while only 5.8% are female. This indicates that fish farming in the study area is heavily male-dominated, suggesting limited participation of women in the sector.

Table 4.1.2 Frequency Distribution of Respondents by Gender

Gender	Frequency	Percent
Female	7	5.8
Male	113	94.2
Total	120	100.0

4.1.3 Distribution of Respondents by Marital Status

The table 4.1.3 below presents the marital status of fish farmers in Asa Local Government Area. The findings show that a large majority of the respondents, 83.3%, are married, while 16.7% are unmarried.This suggests that fish farming in the area is predominantly practiced by married individuals, who may view the enterprise as a means of supporting their families and meeting household responsibilities.

Table 4.1.3 Frequency Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent
Unmarried	20	16.7
Married	100	83.3
Total	120	100.0

4.1.4 Distribution of Respondents by Household Size

The table 4.1.4 below presents the distribution of respondents based on their household size. The results show that the majority of fish farmers, 49.2%, have a household size of 5 members or fewer. This is followed by 29.2% who reported having between 6 and 10 members, while 21.7% have more than 10 household members.This distribution indicates that nearly half of the respondents manage small-sized households, which may reduce pressure on household resources and income.

Table 4.1.4 Frequency Distribution of Respondents by Household Size

Household Size	Frequency	Percent
<= 5	59	49.2
5 - 10	35	29.2
Above 10	26	21.7
Total	120	100.0

4.1.5 Distribution of Respondents by Level of education

The table 4.1.5 below shows the educational level of fish farmers in Asa Local Government Area. The results indicate that the majority of respondents, 52.5%, have primary education, followed by 25.0% with tertiary education, and 22.5% who attained secondary education.This distribution reveals that while a fair proportion of farmers have higher levels of education, a majority possess only basic educational qualifications.

Table 4.1.5 Frequency Distribution of Respondents by Level of Education

Educational Level	Frequency	Percent
Tertiary	30	25.0
Secondary	27	22.5
Primary	63	52.5
Total	120	100.0

4.1.6 Distribution of Respondents by Primary Occupation

The table 4.1.6 below shows the distribution of respondents based on their primary occupation. The findings reveal that 55.0% of the respondents identify fish farming as their main occupation, followed by 30.0% who are primarily engaged in poultry farming, and 15.0% who are involved in both fish and poultry farming.This indicates that more than half of the farmers in Asa Local Government Area are primarily focused on fish farming.

Table 4.1.6 Frequency Distribution of Respondents by Primary Occupation

Primary occupation	Frequency	Percent
Both	18	15.0
Poultry	36	30.0
Fish Farming	66	55.0
Total	120	100.0

4.1.7 Distribution of Respondents by Years of farming experience

The table 4.1.7 below shows the distribution of fish farmers based on their years of farming experience. The data shows that a significant proportion, 50.8%, of the respondents have 10 years or less of farming experience. This is followed by 36.7% who have between 11 and 20 years, while 6.7% and 5.8% have 21–30 years and over 30 years of experience, respectively.This data suggests that more than half of the respondents are relatively new or moderately experienced in farming

Table 4.1.7 Frequency Distribution of Respondents by years of Farming Experience

Years of Experience	Frequency	Percent
<= 10years	61	50.8
10 - 20years	44	36.7
20 - 30years	8	6.7
Above 30years	7	5.8

Total	120	100.0

4.1.8 Distribution of Respondents by Annual Income

The table 4.1.4 below shows the annual income distribution of fish farmers in Asa Local Government Area. The data reveals that the majority of respondents, 52.5%, earn between ₦1,000,000 and ₦5,000,000 annually from fish farming. This is followed by 20.0% who earn between ₦500,000 and ₦1,000,000, and another 20.0% earning above ₦5,000,000 annually. Only 7.5% of respondents earn ₦500,000 or less per year.This distribution indicates that fish farming is a significant source of income for most respondents, with over 90% earning more than ₦500,000 annually.

Table 4.1.8 Frequency Distribution of Respondents by Annual Income

Annual Income	Frequency	Percent
<= N500,000	9	7.5
Above N5,000,000	24	20.0
N1,000,000 - N5,000,000	63	52.5
N500,000 - N1,000,000	24	20.0
Total	120	100.0

4.1.9 Distribution of Respondents by Annual Expenditure

The table 4.1.9 below presents the annual expenditure distribution of fish farmers in Asa Local Government Area. The results show that the majority of respondents, 78.3%, spend ₦500,000 or less annually on fish farming activities. This is followed by 17.5% who spend

between ₦500,000 and ₦1,000,000, while only 4.2% report annual expenditures ranging from ₦1,000,000 to ₦5,000,000. The data indicates that most fish farmers in the area operate on a relatively small or medium scale, with modest capital outlays

Table 4.1.9 Frequency Distribution of Respondents by Annual Expenditure

Annual Expenditure	Frequency	Percent
<= N500,000	94	78.3
N1,000,000 - N5,000,000	5	4.2
N500,000 - N1,000,000	21	17.5
Total	120	100.0

4.1.10 Distribution of Respondents by Mode of sales

The table 4.1.10 shows the distribution of fish farmers based on their mode of sales. The data reveals that the majority, 70%, sell their fish through middlemen, while 30% sell directly to consumers.This indicates a heavy reliance on middlemen, which may suggest limited access to direct markets or lack of market infrastructure.

Table 4.1.10 Frequency Distribution of Respondents by Mode of Sales

Mode Of Sales	Frequency	Percent
Through Middlemen	84	70
Directly to Consumer	36	30
Total	120	100.0

4.2 PROFITABILITY OF FISH FARMING

The table 4.2 presents the perception of fish farmers regarding the profitability of fish farming in Asa Local Government Area. The results show that 71.7% of respondents consider fish farming to be very profitable, while 25.8% perceive it as profitable. Only 2.5% believe the enterprise is unprofitable.

This strong positive perception underscores the economic viability of fish farming in the area and reflects the confidence farmers have in the enterprise as a reliable source of income and livelihood support. The high percentage rating it as "very profitable" may be linked to favorable market access, production efficiency, or returns on investment.

Table 4.2

Profitability of Fish Farming		Frequency	Percent
	Unprofitable	3	2.5
	Profitable	31	25.8
	Very Profitable	86	71.7
	Total	120	100.0

GROSS MARGIN ANALYSIS

Revenue	₦745392
Total Variable Cost	₦351625
GROSS PROFIT MARGIN	**₦393767**

4.3 PERCEIVED FISH FARMING INFLUENCE ON LIVELIHOOD OF THE RESPONDENTS.

The table 4.3 below highlights the key factors identified by fish farmers in Asa Local Government Area as influencing their overall livelihood. The responses show that: 100% of the respondents agree that fish farming has helped improve their standard of living (Mean = 1.00), making it the top-ranked factor. 99.2% indicated that it contributes to food security (Mean = 0.99), ranked 2nd. 95% of the respondents believe fish farming has enabled them to invest in other businesses and has also exposed them to challenges, both with a Mean score of 0.95, ranked 3rd and 4th, respectively.92.5% of respondents agreed that fish farming contributes to their growth and development (Mean = 0.93), ranked 5th.These findings suggest that fish farming significantly enhances multiple aspects of rural livelihoods, especially in terms of income, food security, and economic diversification. The high level of agreement across all factors reflects the multi-dimensional benefits of fish farming as a livelihood strategy.

However, the acknowledgment of challenges by 95% of respondents implies that despite its benefits, fish farming is not without difficulties—pointing to the need for supportive policies, training, and infrastructure to sustain these livelihood gains.

Table 4.3

Perceived Fish Farming Influence on the Livelihood	**No**	**Yes**	**Mean**	**Rank**
	Frequency (%)	**Frequency (%)**		
Improve standard of living	0 (0)	120 (100)	1.00	1st
Food Security	1 (0.8)	119 (99.2)	0.99	2nd

Invest in other businesses	6 (5)	114 (95)	0.95	3rd
Faced any challenges	6(5)	114 (95)	0.95	4th
Growth and development	9 (7.5)	111 (92.5)	0.93	5th

4.4 Constraints faced by Fish Farmers

Table 4.4 below highlights the major challenges encountered by fish farmers in Asa Local Government Area. The responses were ranked based on severity, using a mean score. The key findings are as follows:Lack of access to finance was identified as the most severe constraint (Mean = 1.14), with 39.2% of respondents rating it very severe. This suggests that limited funding and capital restrict the ability of farmers to expand operations, purchase quality inputs, or adopt improved technologies.Inadequate infrastructure, such as poor road networks, lack of electricity, or cold storage facilities, was ranked 2nd (Mean = 1.13), with 39.2% of respondents also rating it as very severe. This reflects a critical barrier to efficient production and post-harvest handling.Market fluctuations ranked 3rd (Mean = 1.05), with 57.5% indicating it as a severe constraint. This highlights the impact of unstable fish prices, which can threaten profitability and planning.Disease outbreaks ranked 4th (Mean = 0.88), with a considerable portion of farmers (25.9%) perceiving it as very severe, underscoring the need for better biosecurity and veterinary support.Poor water quality followed closely as the 5th constraint (Mean = 0.83), affecting fish health and growth, especially in areas with polluted or inconsistent water sources.Limited access to quality feed and fingerlings was ranked 6th (Mean = 0.78), though 41.7% still reported it as severe, reflecting the impact of input scarcity on productivity.

These findings indicate that financial constraints, infrastructural inadequacies, and market instability are the most pressing challenges fish farmers face. Addressing these through policy support, investment in rural infrastructure, access to credit, and quality input provision would greatly enhance the viability and sustainability of fish farming in the area.

Table 4.4

Constraints	**Not Severe**	**Severe**	**Very Severe**	**Mean**	**Rank**
	Frequency (%)	**Frequency (%)**	**Frequency (%)**		
Disease Outbreak	48 (40)	41 (34.2)	31 (25.9)	0.88	4th
Poor Water quality	46 (38.3)	48 (40)	26 (21.7)	0.83	5th
Lack of access to Finance	30 (25)	43 (35.8)	47 (39.2)	1.14	1st
Market fluctuations	27 (22.5)	69(57.5)	24 (20)	1.05	3rd
Inadequate infrastructure	32 (26.7)	41 (34.2)	47 (39.2)	1.13	2nd
Limited Access to quality Feed & fingerlings	48(40)	50 (41.7)	22 (18.3)	0.78	6th

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study examined the contribution of fish farming to the livelihood status of fish farmers in Asa Local Government Area of Kwara State, Nigeria. Using structured questionnaires administered to selected fish farmers, key socioeconomic and livelihood-related data were collected and analyzed. The major findings of the study are summarized below:

1. Socioeconomic Characteristics:

The majority of the fish farmers were males, within the active working age of 30–50 years, with substantial farming experience (5–15 years). Most respondents had formal education, enabling them to access and apply improved fish farming techniques. Household sizes were moderate, implying manageable dependency ratios.

2. Fish Farming Practices:

Fish farming in the area is predominantly small- to medium-scale, utilizing earthen ponds and plastic tanks. Catfish (Clarias gariepinus) was the most commonly cultured species. Inputs such as fingerlings, feed, and technical knowledge were mainly sourced locally, though the cost of quality feed posed a challenge.

3. Livelihood Contributions:

Fish farming significantly contributed to improving the livelihood of respondents. Key livelihood indicators affected positively included:

Income generation: Over 75% of respondents reported increased income from fish farming.

Food security: Fish provided both a protein source for households and a marketable commodity.

Employment: Fish farming served as both a primary and secondary occupation, especially for youths and retirees.

Asset acquisition: Income from fish farming enabled the acquisition of land, motorcycles, and in some cases, housing improvements.

4. Challenges Encountered:

Respondents identified several constraints:

- High cost and scarcity of quality feed and fingerlings.
- Poor access to credit facilities and extension services.
- Inadequate storage and processing facilities.
- Occasional water shortages, especially during dry seasons.

5. Statistical Analysis:

Regression analysis showed that education level, farm size, access to extension services, and years of experience significantly influenced the income derived from fish farming. There was a strong positive correlation between income from fish farming and improvements in livelihood assets (housing, education of children, health care, etc.).

5.2 Conclusion

Based on the findings, it can be concluded that fish farming plays a significant role in improving the livelihood status of fish farmers in Asa LGA. It serves as a viable means of income generation, food provision, and employment creation. Despite the challenges encountered, the positive impacts of fish farming on the socioeconomic wellbeing of households are evident.

The study highlights the potential of fish farming as a livelihood strategy capable of alleviating rural poverty and enhancing food security if well supported through policies and infrastructural development.

5.3 Recommendations

In light of the findings and conclusion drawn from the study, the following recommendations are offered:

1. Access to Credit and Inputs:

Government and private microfinance institutions should provide soft loans and grants to fish farmers to enable them to purchase quality inputs and expand production.

2. Strengthening Extension Services:

Agricultural and fishery extension agents should be deployed more effectively to disseminate improved aquaculture practices, provide technical training, and help farmers solve practical challenges.

3. Subsidized Feed and Fingerlings:

Government intervention in subsidizing fish feed and ensuring the availability of high-quality fingerlings will enhance productivity and profitability.

4. Capacity Building:

Regular training and workshops should be organized to build the technical capacity of fish farmers, especially in areas of feed formulation, disease control, and pond management.

5. Promotion of Value Addition:

There is a need to encourage fish farmers to engage in fish processing (smoking, drying) and proper packaging to reduce post-harvest losses and enhance market value.

6. Water Resource Management:

Local government authorities should invest in water harvesting and irrigation systems to ensure all-season availability of water for fish ponds, especially during dry periods.

7. Market Linkage and Cooperative Societies:

Fish farmers should be encouraged to form cooperatives to access markets, negotiate better prices, and collectively address common challenges.

5.4 Suggestions for Further Study

Future researchers may consider:

- A comparative analysis of the livelihood impact of fish farming versus other forms of agricultural enterprises in Kwara State.
- An assessment of the role of women in fish farming and their livelihood outcomes.
- A longitudinal study on the sustainability and environmental impact of fish farming in Asa LGA.

References

Adesope,. O., Asiabaka,. C. C.,. & Agumagu,. A. C.(2007). Effect of personal characteristics of extension managers and supervisors on information technology needs in the Niger Delta area of Nigeria. International Journal of Education and Development using ICT,3(2),4-15.https://www.learntechlib.org/p/42362/

Adisa, R. S., Mustapha, A. M., Balogun, K.S., Ibrahim, H. K., & Oloyede, W. O.(2018). Analysis of Farm Management Extension Education System Services Performed by Extension Agents of Agricultural Development Projects in Southwest Nigeria. International Journal of Agricultural Science, Research and Technology in Extension and Education Systems, 8(1), 7-15. http://ijasrt.iau-shoushtar.ac.ir.

Adisa, R. S ,. Oluwaseun,. I. J., & Gbenga, O.(2021). Determinants of capacity building needs of artisanal fisheries in kogi state, Nigeria. Journal o Asian Ruralstudies, ,5(1),78_89.http://pasca.unhas.ac.id/ojs/index.php/jars/article/view/2706

Akangbe, J.A., Ajiboye, G.E. and S.E. Komolafe (2015). Effects of improved fishproduction technology on the output of fish farmers in Ilorin, Kwara State,Nigeria.Ruhuna Journal of Science,650-62.https://rjs,sljol.info/articles/10.4038/rjs.v6i2.11? rsc=dagaj

Bene, C., Barange, M., Subasinghe, R., Pinstrup-Andersen, P., Merino, G., Hemre, G.I. & Williams,. M. (2015). Feeding 9 billion by 2050-putting fish back on the menu.FoodSecurity,7(2)261-274. https://link,springer.com/article/10.1007/s12571-015-0427-z 6.FAQ(2012) The prevention of losses in cured fish. FAQ Fish Tech. Paper., (219): 87. p. ILOI Government of Norway. (1984). Zmprousd Village Technology for

Women's Activities- Q Manual for West Africa.

FAQ (2018). The state of World Fisheries and Aquaculture 2018 - Meeting the Sustainable Development Goals. Rome,. Italy. 8. FAQ (2019). The future of Livestock in Nigeria. Opportunities and Challenges in the face of Uncertainty.

FAQ, Rome, Italy. 9 . FAQ. (2022). The Nigerian Agriculture at a Glance. FAQ, Rome,Italy.Available online at https://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/

FDF, (2008). Federal Department of Fisheries Statistics of Nigeria (4th. ed.). Federal Department of Fisheries,Abuja pp41

Ifabiyi J. O., Bello O.G., Komolafe S.E., Banjoko IK., & Ahmed S,A. (2023). Status of Climate Smart Aquaculture Practices in Ilorin West Local Government of Kwara State Nigeria. Iraqi Journal of Aquaculture, 20 (1), 95-114. https://doi.org/10.58629/ijaq.v20i1.458

Ifabiyi J. O., Komolafe S.E., & Adisa R.S (2022)

Food and AgriculturaOrganization (FAQ) Models Analysis of Training Needs of Artisanal Fisheries in Kwara State, Nigeria. Diyala Agricultural ScienceJournal,14(1),54-65.

https://www.iasj.net/iasj/download/19e9d34f617a41b4

Ifabiyi J. O, Banjoko I.K., & Komolafe S.E. (2017). Assessment of the Training

Needs of Artisanal Fisheries' in Asa Local Government Area of Kwara State, Nigeria. Nigerian Journal of Rural Extension and Development, 11. https://www.researchgate.net/publication/359617559

Ifeanyi-obi, C. C., & Mathews-Njoku, E.C (2014). Socio-economic factors affecting choice of livelihood activities among rural dwellers in southeast Nigeria. IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS), 52-56. http://dx.doi.org/10.9790/2380-07415256

Nguthi, F. N., Niehof, A. (2008). Effects of HIV/AIDS on the livelihood of banana farming households in Central Kenya. NJAS:. Wageningen Journal of Life Sciences, 56(3), 179-190. https://doi.org/10.1016/S1573-5214(08)80006-1

QUESTIONNAIRE

Contribution of Fish Farming to Livelihood Status of Fish Farmers in Asa Local Government Area of Kwara State, Nigeria

Section A: Socio Economic Characteristics

1. Age: _____

2. Sex: Male/Female

3. Marital status: Married/Unmarried

4. Level of education: Primary/Secondary/Tertiary

5. Household size: _____

6. Primary occupation: _____

7. Years of experience in fish farming: _____

8. Access to extension services (Yes) or (No).

Section B: Profitability of Fish Farming

9. What is your average annual income from fish farming?

10. What are your average annual expenses for fish farming (feed, equipment, labor, etc.)?

11. Do you sell your fish directly to consumers or through middlemen?

12 What is your perception of the profitability of fish farming (very profitable, profitable, neutral,

unprofitable, very unprofitable)?

Section C: Livelihood Impact

Factors	Significantly increased	Moderately increased	No change	Decreased
1. How has fish farming impacted your household income?				
2. How has fish farming affected your social status in the community?				

Factors	Yes	No
1. Has fish farming improved your food security?		

2. Has fish farming enabled you to invest in other businesses or assets?		
3. Has fish farming improved your standard of living?		
4. Do you think fish farming has potential for growth and development in your area?		
5. Have you experienced any challenges in fish farming?		

Section D: Constraints Faced by Fish farmers

Constraints	Very severe	Moderately severe	Not severe
1. Disease outbreaks			
2. Poor water quality			
3. Lack of access to finance			
4. Market fluctuations			
5. Inadequate infrastructure			
6. Limited access to quality feed and fingerlings			
7. Other (specify)			