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Investigation into the causes of abandonment of fish farms in Lagos state, southwest Nigeria

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Abstract

This study presents the first documented investigation into the causes of fish farm abandonment in Lagos State, Nigeria. Structured questionnaires were used and the target populations were farmers who abandoned their fish farms across the three Agricultural Zones of the State. Data generated from were analysed using descriptive statistics and inferential statistics at 95% confidence level. Socio-economic characteristics of the respondents revealed that most of the respondents fell within the age bracket 30-39 and 40-49, males represented 82.61% and females accounted for 17.39%, while 69.57% were single and 30.43% were married. Most had family size of 4-6 and farming experience of 1-5 years. 55.07% of the respondents did not belong to Cooperative society, and 63.77% never applied for loan. Most of the respondents disposed of their harvest by consumption/sales. Management, environmental and marketing factors as well as inadequate support from Government all contributed to the abandonment of the fish farms. Government should subsidise the cost of fish farming inputs and also create conducive environment for fish farming to thrive.

Keywords: Abandonment, fish farms, lagos state, agricultural zone

1. Introduction

With an estimated annual *per caput* fish consumption of 13.3 kg in 2013, fish represents an important dietary element and one of the few sources of animal protein available to many Nigerians (FAO, 2017) ^[1]. Fish is a valuable source of complete protein with the most balanced amino acid profile (Olawusi-Peters, 2008) ^[2]. Fish supply in Nigeria is mainly from the capture sector, especially the coastal and inland artisanal fisheries. The sector contributes about 85% of total domestic production (Akinrotimi *et al.*, 2011) ^[3]. Based on a population estimate of 180million, the total fish demand for Nigeria is 3.32m MT; however, the total fish production for 2016 was 1.04m MT (FAO, 2018) ^[4]. Thus, there was a deficit of 2.28m MT as a result of decline in fish catch levels. This decline is attributable to over-fishing and aquatic pollution. In order to bridge this fish demand-supply gap, aquaculture has recently been embraced by many Nigerians, such that, in 2016, aquaculture contributed 306,727 metric tonnes to the total fish production (FAO, 2018) ^[4]. Aquaculture contribution to gross domestic fish production is expected to increase over time.

Although aquaculture is practised across Nigeria; however, the practice of aquaculture is more predominant in the southwest, southeast and north central regions of the country. Lagos State is located in southwest Nigeria and adjudged as the *State of Aquatic Splendor*. It is one of the most populous States in Nigeria, and perhaps the State with the highest number of fish farms in the country. The State has contributed significantly to fish production in Nigeria. Over the past few years, Lagos State has witnessed steady increase in the number of fish farms; however, despite this increase, substantial number of fish farms has also been abandoned. Thus, considering the role of fish farming in increasing fish production and the need to ensure the sustenance of fish farms, this study investigated the causes of abandonment of fish farms in Lagos State with a view to provide baseline data that could be used to revive abandoned farms and also encourage potential fish farmers.

2. Materials and Methods

2.1 Study area

The study was carried out in Lagos State, southwestern Nigeria. The State occupies an area of 3,577 sq km, with 22% of this consisting of a network of rivers, creeks and lagoons.

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It lie between latitude 6°35'N and longitude 3°45'E. Lagos State is divided into 20 Local Government Areas (LGAs) which are spread across the three (3) Agricultural Zones in the State. The Zones are the Western, Eastern and Far Eastern Zones. The Western Zone comprises 14 LGAs, while the Eastern and Far Eastern Zones comprise four (4) and two (2) LGAs respectively. Consequent upon the distribution of LGAs across the Agricultural Zones, four (4) LGAs were selected from Western Zone for the study, while Eastern and Far Eastern Zones were represented by two (2) LGAs respectively.

The research was carried out using descriptive survey method and the target populations (respondents) were farmers in the selected LGAs in Lagos State who have abandoned their fish farms.

2.2 Administration of questionnaires

The questionnaire was structured into six sections (Sections A- F). Section A consisted of questions on the socio-economic characteristics of the respondents. Section B had questions on management factors and Section C dealt with environmental factors. Sections D and E comprised questions on marketing factors and Government support respectively. Section F contained questions on needed areas of Government intervention.

Using the list of registered Fish Farms produced by the Fisheries Unit of the Lagos State Agricultural Development Authority (LASADA), 12 structured questionnaires were administered to the respondents in each of the eight selected LGAs for the study. Thus, a total of 96 questionnaires were administered. Of the 96 administered questionnaires, sixty-nine (69) was recovered from the respondents and used for the analysis.

2.3 Statistical analysis

Data generated from this study were analysed using SPSS (version 20). Socio-economic factors were analyzed using descriptive statistics (frequency and percentage) while other factors were analysed using inferential statistics (Chi square) at 95% confidence level.

3. Results

3.1 Socio-economic characteristics of respondents

Presented in Table 1 are the results of the socio-economic characteristics of owners of abandoned fish farms (respondents) in Lagos State. The results show that the ages of most of the respondents fell within the age bracket 30-39 and 40-49 with 36.23% and 39.13% respectively. Of the respondents, males represented 82.61% and females accounted for 17.39%, while 48 (69.57%) were single and 21 (30.43%) were married. 4.35% were illiterates while 5.79%, 24.64% and 65.22% had primary, secondary and tertiary level of education respectively. Fifty-one (73.91%) of the respondents maintained nuclear family and 18 (26.09%) had extended family. Most had family size of 4-6 (47.83%), 1-3 dependants (40.58) and farming experience of 1-5 years (59.42%), while 37 (53.62%) had another source of income aside fish farming. The percentage of the respondents that did

not belong to Cooperative society was 55.07%, and 63.77% never applied for loan. A high percentage (72.46%) used exotic feed while most (46.38%) fed the fish twice daily. On the source of fish seed, 21.74%, 71.01% and 7.25% of the respondent's sourced seeds from own hatchery, neighboring fish farms and the wild respectively. 49.28% disposed of their harvest by consumption/sales, while 23.19% and 27.54% consumed and sold the harvest respectively.

3.2 Management factors and abandonment of fish farms

The responses of fish farm owners on the impact of management activities as a causative factor of abandonment of fish farms in Lagos State are presented in Table 2. A combined total of 58.90% and 73.97% of the respondents strongly agreed/agreed that inadequate water supply and epileptic power supply respectively contributed significantly to the abandonment of fish farms. Respondents agreed/strongly agreed that high cost of fish feed (89.05%) and incompetent managers (65.76%) accounted for the collapse of fish farms. 46.58% of the respondents agreed/strongly agreed that poor water supply was a contributory factor to the abandonment of fish farms, while 27.4% disagreed/strongly disagreed, and 26.02% were undecided. 56.17% disagreed/strongly disagreed that inputs were readily available and that this also contributed to fish farm abandonment. Furthermore, 50.69% and 54.80% of the respondents disagreed/strongly disagreed that high productivity in ponds and appreciable/marketable fish size contributed to the abandonment of fish farms by the farmers. Overall, there was a significant relationship between management factors and abandonment of fish farms in Lagos State.

3.3 Environmental factors and abandonment of fish farms

Table 3 presents the responses to the role of environmental factors in the abandonment of fish farms in Lagos State. 76.72%, 69.85%, 56.17% and 56.16% of the respondents agreed/strongly agreed that climate change, incidence of iron deposits in ponds, incidence of predators and parasites, and activities of poachers respectively played significant roles in the abandonment of the fish farms. 52.05% disagreed/strongly disagreed that repulsive odour of discharged water from the fish farms was a contributory factor to the abandonment. The relationship between environmental factors and abandonment of fish farms was significant.

3.4 Marketing factors and abandonment of fish farms

The impact of marketing factors on fish farm abandonment in Lagos State is presented in Table 4. The results show that while 46.58% of the respondents disagreed/strongly disagreed that prices offered by middlemen were attractive, 41.10% agreed/strongly agreed and 12.32 were undecided. A high percentage (53.42%) agreed/strongly agreed that lack of effective price control by Fish Farmers' Association played significant role in the abandonment of fish farms, and 54.80% disagreed/strongly disagreed that the prices of fish feed are attractive to farmers.

Table 1: Socio-economic characteristics of respondents

S/N	Variable	Categories	Frequency	%
1	Age	20-29	1	1.45
		30-39	25	36.23
		40-49	27	39.13
		50 and above	16	23.19
2	Gender	Male	57	82.61
		Female	12	17.39
3	Marital Status	Single	48	69.57
		Married	21	30.43
4	Level of Education	Illiterate	3	4.35
		Primary	4	5.79
		Secondary	17	24.64
5	Type of Family	Tertiary	45	65.22
		Nuclear	51	73.91
		Extended	18	26.09
6	Number of Family	1-3	20	28.99
		4-6	33	47.83
		7-9	16	23.19
7	Dependents	1-3	28	40.58
		4-6	27	39.13
		7-9	14	20.29
8	Any other work aside fish farming	Yes	37	53.62
		No	32	46.38
9	How long have you been in fish farming	1-5	41	59.42
		6-10	17	24.64
		11-15	10	14.49
		16 and above	1	1.45
10	Do you belong to Cooperative	Yes	31	44.93
		No	38	55.07
11	Have you ever applied for loan	Yes	25	36.23
		No	44	63.77
12	Type of feed used	Local	15	21.74
		Exotic	50	72.46
		Both	4	5.80
13	How many times do you feed	1	17	24.64
		2	32	46.38
		3	10	14.49
		<i>Ad libitum</i>	10	14.49
14	Source of fish seed	Own Hatchery	15	21.74
		Neighbour	49	71.01
		Wild	5	7.25
15	How do you dispose of fish	Consumed	16	23.19
		Sold	19	27.54
		Consumed/Sold	34	49.28

Table 2: Management factors and abandonment of fish farms in lagos state

S/N	Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Inadequate water supply	26.02	32.88	5.48	16.44	19.18
2	Epileptic power supply	41.09	32.88	6.84	9.59	9.59
3	High cost of feed	42.47	46.58	5.48	4.10	1.37
4	Incompetent Manager	28.77	36.99	9.59	9.59	15.07
5	Poor water supply	19.18	27.40	26.02	13.70	13.70
6	Readily available inputs	12.33	26.02	5.48	41.10	15.07
7	High productivity in ponds	9.59	15.07	24.66	30.14	20.55
8	Appreciable/Marketable Fish Size	13.70	12.32	19.18	38.36	16.44

SA = Strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree

Table 3: Environmental factors and abandonment of fish farms in lagos state

S/N	Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Climate change	28.77	47.95	12.32	5.48	5.48
2	Repulsive odour of discharged water	13.70	9.59	24.66	31.50	20.55
3	Incidence of iron deposits in pond	17.80	52.05	8.22	12.33	9.60
4	Incidence of predators and parasites	23.29	32.88	10.96	28.77	4.10
5	Activities of poachers	15.07	41.09	23.29	10.96	9.59

SA = Strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree

Also, 60.28% of the respondents disagreed/strongly disagreed that the profit margin in fish farming is adequate, and that this contributed significantly to the cases of fish farm abandonment. 47.95% and 50.69% disagreed/strongly disagreed that high demand of domesticated feed and wide acceptance of cultured fish respectively resulted in fish farm abandonment. While 36.99% disagreed/strongly disagreed that the lack of approved brand of feed contributed to the abandonment of fish farms, 27.39% agreed/strongly agreed and 35.62% were undecided. Marketing factors had a significant impact on abandonment of fish farms.

3.5 Government Factors and Abandonment of Fish Farms

Responses for the role of Government in the abandonment of fish farms are presented in Table 5. 46.57% of the respondents disagreed/strongly disagreed that there was adequate input supply and maintenance by the Government, 39.73% agreed/strongly agreed and 13.70% were undecided. In the area of extension services, 57.54% agreed/strongly agreed that Government provided adequate extension services while 33.57% disagreed/strongly disagreed. A significant percentage (53.42%) disagreed/strongly disagreed that Government provided incentives, long term credits and grants, while 26.03% agreed/strongly agreed and 20.55% were undecided. 52.05% of the respondents also disagreed/strongly disagreed that Government organized workshops/trainings for fish farmers; however, 41.10% agreed/strongly agreed and 6.85% were undecided. Most of the respondents (64.39%) disagreed/strongly disagreed that there was equitable allocation of fish farms in Farm Estates,

while 17.80% were undecided and 17.81% agreed/strongly agreed. The relationship between Government support and abandonment of fish farms was significant.

3.6 Needed areas of government intervention

80.82%, 86.30%, 87.67%, 91.79% and 80.82% of the respondents agreed/strongly agreed that, in order to reduce incidences of fish farm abandonment, there is need for Government intervention in the provision of subsidies, workshop for prospective farmers, involvement of off-takers, encouragement of local feed production and price uniformity/standardization for table-size fish respectively (Table 6). The results also show that introduction of integrated fish farming (61.65% of respondents), encouragement of adoption of recirculatory aquaculture system (75.35%), encouragement of adoption of cage culture system (69.86%), construction of feed mills (80.83%) and construction of freshwater hatcheries by Government for fingerlings production (75.35%) are needed areas for Government intervention. Most of the respondents also suggested Government intervention in adequate funding of Fisheries Research Institutes (90.41%), re-orientation of Fisheries Extension Officers (82.19%), effective post-harvest technology (94.52%) and effective value chain system (83.56%). 38.46% of the respondents disagreed/strongly disagreed that the introduction of levies/taxes for fish farmers would help to prevent incidences of fish farm abandonment, while 30.14% agreed/strongly agreed and 31.50% were undecided.

Table 4: Marketing Factors and Abandonment of Fish Farms in Lagos State

S/N	Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Attractive Price by middlemen	24.66	16.44	12.32	8.22	38.36
2	Effect of price control by fish farmers association	21.92	31.50	16.44	20.55	9.59
3	Attractive price of fish feed/registration	17.80	2.74	24.66	38.36	16.44
4	Approved brand of fish feed	9.59	17.80	35.62	20.55	16.44
5	High demand of domesticated fish	9.59	27.40	15.06	39.73	8.22
6	Profit margin is adequate	2.74	17.80	19.18	41.10	19.18
7	Wide acceptance of cultured fish	6.85	24.66	17.80	36.99	13.70

SA = Strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree

Table 5: Government Support and Abandonment of Fish Farms in Lagos State

S/N	Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Fish input supply and maintenance	10.96	28.77	13.70	20.55	26.02
2	Adequate extension services	21.92	35.62	9.59	19.18	13.69
3	Provision of incentives, long term credits and grants	15.06	10.97	20.55	38.36	15.06
4	Workshop/Training for fish farmers	6.85	34.25	6.85	39.73	12.32
5	Equitable allocation of fish farms in farm estate	8.22	9.59	17.80	42.47	21.92

SA = Strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree

Table 6: Needed Areas of Government Intervention

S/N	Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Provision of subsidies	39.73	41.09	5.48	5.48	8.22
2	Workshop for potential farmers	53.42	32.88	2.74	1.37	9.59
3	Involvement of off-takers	31.51	56.16	8.22	0.00	4.11
4	Encouragement of local fish feed production	47.95	43.84	4.11	2.74	1.36
5	Price uniformity and standardization for table size	34.24	46.58	15.07	0.00	4.11
6	Introduction of levies/taxes for fish farmers	9.59	20.55	31.50	23.29	15.07
7	Introduction of integrated fish farming and polyculture	27.40	34.25	30.13	4.11	4.11
8	Encouragement of adoption of recirculatory system	26.03	49.32	15.07	4.11	5.47
9	Encouragement of adoption of cage culture	15.07	54.79	12.33	1.37	16.44
10	Construction of feed mill	38.36	42.47	10.95	4.11	4.11
11	Construction of fresh water hatchery by Government for fingerlings production	41.10	34.25	9.59	4.11	10.95
12	Adequate funding of fisheries research institutes	56.16	34.25	2.74	1.37	5.48
13	Re-orientation of fish extension officers	47.95	34.24	8.22	4.11	5.48

14	Effective post-harvest technology	38.36	56.16	2.74	0.00	2.74
15	Priority given to pond fish culture	41.10	52.05	1.37	4.11	1.37
16	Effective value chain system	36.98	46.58	1.37	1.37	13.70

4. Discussion

Data on the socio-economic characteristics of owners of abandoned fish farms in Lagos State revealed that the ages of most of the farmers who abandoned fish farming fell within the age bracket 30-39 and 40-49 with 36.23% and 39.13% respectively. This is in agreement with Egbufor *et al.* (2012) ^[5] who reported an average age of 33 years for farmers involved in fish farming and that this implies that young able-bodied men are largely and actively involved in fish farming. Musyoka and Mutia (2016) ^[6] also reported that 58% of fish farmers in the Makueni County in Kenya were over 45 years. Thus, the average age of these farmers who abandoned their fish farms were in line with the reported average age of fish farmers.

Of the fish farmers, males represented 82.61% and females accounted for 17.39%, and this agrees with Musyoka and Mutia (2016) ^[6] who reported that more males (69.5%) were involved in fish farming than the females (29.2%). George (2010) ^[7] also reported that more males were involved in fish farming than women. This higher percentage in favour of males could be attributed to the land tenure system in Nigeria which favours males than females and also the laborious and energy-sapping nature of fish farming. 69.57% of the respondents in this study were single and 30.43% were married. This is contrary to the report of Musyoka and Mutia (2016) ^[6] that 4.7% of the fish farmers in Mukueni County in Kenya were single and 91.7% were married. The economic downturn in Nigeria which has prevented many young people from getting married could be responsible for the higher involvement of singles in fish farming. Majority of the respondents (65.22%) had tertiary education while 5.79% and 24.64% had primary and secondary levels of education respectively, and 4.35% were illiterates. The high percentage of farmers with various levels of education implies better adoption and comprehension of fish farming techniques. From this study, majority of the respondents had family size of between 4 and 6 persons per household. Igben (1988) ^[8] reported that large household size was an obvious advantage in terms of labour supply in fish farming and agriculture. Thus, the relatively large family size of most respondents in this study provided cheap source of labour and expected higher productivity. 53.6% of the respondents augmented income from fish farming with some other businesses, while 46.38% relied only on the income from fish farming. This is contrary to the findings by Musyoka and Mutia (2016) ^[6] who reported that 56.5% mainly sourced their income from fish farming and 42.0% had some other sources of income aside fish farming. This non-reliance on fish farming as the only source of income may be attributed to the relatively poor profit from fish farming in Nigeria. Most of the respondents (59.42%) had 1-5 years of experience in fish farming, which is rather short. Respondents with 6-10 and 11-15 years of experience accounted for 24.64% and 14.49% of the respondents, while those with over 16 years of experience accounted for 1.45%. Thus, the higher the numbers of years of experience in fish farming, the lower the possibility of abandonment of the fish farm.

The study revealed that majority (55.07%) of the respondents did not belong to any cooperative society and also that 63.77% of those that belonged to cooperative societies could

not access loan which might have probably been used for expansion of their fish farming business or to save it from collapse. Similar finding was reported by Musyoka and Mutia (2016) ^[6] that farmers (57.2%) listed lack of finance as the reason for abandonment of their fish farms. Most of the respondents (72.46%) used exotic feeds while those that used local feeds were 21.74%. Respondents that combined both exotic and local feed accounted for 5.80%. The cost of feed accounts for 60-70% of the cost of production of fish, and since most of these farmers used exotic feed, with the high Naira: Dollar exchange rate, the cost of production of the fish was bound to be high. The consequence of this high production cost is relatively low profit margin, which could have resulted in the abandonment of the fish farms. The feeding regime among the respondents varied, although most of the farmers (46.38%) fed the fish twice daily. About 71.01% of respondents relied on neighbouring fish farms for supply of fish seeds with only 21.74% producing the fish seeds on their farms. Furthermore, Musyoka and Mutia (2016) ^[6] reported that 59.3% of respondents stated lack of fingerlings as the reason for abandonment of fish farming. Poor fingerlings sourced from unverified sources will take a relatively longer period to attain table-size, consuming much more feed during this grow-out period and eventually increasing the cost of production beyond what it takes to raise good and viable fingerlings to table-size. Most of the fish farmers (49.28%) had normal harvest which was partly consumed and sold, while the percentages of respondents that consumed and sold the harvests were 23.19% and 27.54% respectively. These results imply that a substantial percentage of the fish harvests was consumed, with the consequence that returns on investment will be low; hence, fish farming may be considered unprofitable and resolve to abandonment.

Results from the impact of management factors on the abandonment of fish farms revealed that epileptic power supply, high cost of feed, incompetent manager and poor water supply were among the perceived causes of fish farm abandonment. This is in line with the assertion of Brummet (1994) ^[9] which stated that the dearth of a commercial aquaculture/fish farming industry is attributed to a lack of essential inputs such as a realistic and stable foreign exchange, investment capital, wholesaling and retailing mechanisms, qualified farm managers, legal framework, road, vehicle and other components of transportation; ready availability of feeds, equipment, chemical and reliable electrical supplies rather than appropriate production technologies. Musyoka and Mitua (2016) ^[6] also reported that fish farms that were abandoned in the Makueni County attributed the collapse to lack of fish feed (54.7%) and inadequate water (43.9%).

Environmental factors that contributed to the abandonment of fish farms in Lagos State included climate change, incidence of iron deposits in ponds, activities of poachers and incidence of predators and parasites. Climate change affects agriculture in several ways, one of which is its direct impact on food production. Besides, almost all sectors in agriculture depend on weather and climate whose variability have meant that rural farmers who implement their regular annual farm business plans, risk total failure due to climate change effects (Ozor *et al.*, 2012) ^[10]. In the same vein, George (2010) ^[7]

identified constraints to increased fish production in Nigeria to include, among others, climate change effects (including sea level rise, coastal erosion and flooding, increase in environmental temperatures and wind storms). 69.85% of the respondents agreed that incidence of iron deposits in ponds contributed to the abandonment of the ponds, and this is so because most of the study areas are predominantly riverine communities where the water is characterized by high iron deposits. Activities of poachers, incidence of predators and parasites contributed to the abandonment of the farms. This agrees with Musyoka and Mutia (2016) ^[6] which reported accounted for 35% of the reasons for abandonment of fish farms. These activities were high and contributed significantly to the abandonment of the farms in Lagos State because most of the farms were not fenced as a form of security.

Results from this study indicated that marketing factors had significant impact on abandonment of fish farms. These factors include unattractive price by middlemen, lack of effective price control by Fish Farmers' Association, unattractive prices of fish feed and inadequate profit margin. It was observed that the middlemen dictate the prices of the fish, thus placing the fish farmer at a disadvantage. Although there was wide acceptance of cultured fish, however, the price of feed was not attractive and the profit margin was not adequate.

Although most respondents (57.54%) agreed that Government provided adequate extension services; however, most respondents disagreed that Government provided adequate fish input supply and maintenance, incentives, organized workshops/trainings for fish farmers and that there was equitable allocation of fish farms in Fish Farm Estates across the State. Ajieh (2010) ^[11] identified low level of adoption of fishery technology due to lack of extension services in Edo State as one of the factors that contributes to low productivity in the industry. 52.05% of the respondents disagreed that Government organized workshops/trainings, and that this contributed significantly to the abandonment of fish farms. This is similar to the report by Musyoka and Mutia (2016) ^[6] that 64% of farmers identified inadequate training/information as the reason for the collapse of their fish farms. Trainings and workshops provide opportunities for farmers to become aware of recent and current developments in fish farming, with a view to enhancing pond/farm productivity.

As part of measures to reduce the incidences of fish farm abandonment, most of the respondents suggested Government intervention in provision of subsidies, organization of workshop for prospective farmers, involvement of off-takers, encouragement of local feed production and price uniformity/standardization for table-size fish. Other areas suggested include introduction of integrated farming/polyculture, encouragement of adoption of recirculatory aquaculture system, encouragement of adoption of cage culture system, construction of feed mills and construction of freshwater hatcheries. Other areas suggested for Government intervention are adequate funding of Fisheries Research Institutes, re-orientation of Fisheries Extension Officers, effective post-harvest technology and efficient value chain system. Most of the respondents, however, disagreed that the introduction of taxes/levies will help to reduce cases of fish farm abandonment. These suggestions are laudable and if effectively implemented by the Government will help to ensure the sustenance of existing farms and also encourage more people to venture into fish farming with the resultant effect on fish production as well as

employment creation.

5. Conclusion

Aquaculture has the potentials to increase fish production, create wealth and alleviate poverty, and, as such, has been growing at different rates in different parts of the world. On a daily basis, fish farms are springing up in Lagos State, however, a number of these farms are also been abandoned. This study looked at the causes of abandonment of fish farms in Lagos State, and reported that aside socio-economic factors, management factors, environmental factors, marketing factors as well as inadequate intervention by Government all contributed to the abandonment of fish farms in Lagos State. In order to stem this tide of abandonment of fish farms, Government should subsidise the cost of fish farming inputs and also create conducive environment for fish farming to thrive.

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