

**ASSESSMENT OF CAT FISH POND CONSTRUCTION AND STOCKING
SKILLS TRAINING NEEDS FOR SELF-EMPLOYMENT BY RETIRED
SECONDARY SCHOOL TEACHERS**

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ABSTARACT

The study assessed cat fish pond construction and stocking skills training needs for self-employment by retired secondary school teachers. A *descriptive survey research design* was adopted for the study. The study was conducted in Akwa Ibom State. The population comprised cat fish farmers in Akwa Ibom State and extension workers from Akwa Ibom Agricultural Extension Programme. The sample size comprised of 341 contact cat-fish farmers in Akwa Ibom State and 248 agricultural extension agents from Akwa Ibom Agricultural Extension Programme. Which gave a total sample size of 589 selected using Taro Yamane Formula. The instrument used for data collection was a questionnaire titled: "Skills Training Need in Cat Fish Production Questionnaire (STNCFPQ)". The instrument was validated using validity method. Internal consistency method was used for determining reliability coefficient for the instrument (Skills Training Need in Cat Fish Production Questionnaire). The scores obtained from the subjects were subjected to Cronbach Alpha Analysis. A reliability coefficient of 0.79 was obtained for the instrument indicated that all items on the test relate to all other items, therefore regarded as reliable and good for the study. The study found out that there is no significant difference in the response of cat fish farmers and extension workers pond construction skills need of retired secondary school teachers. And also that there is no significant difference in the response of cat fish farmers and extension workers stocking skills need of retired secondary school teachers. On this basis, it was concluded that the production of cat-fish production for consumption, processing and sales depends on acquisition of latent skills inherent in the production process. Retired secondary school teachers who are interest in cat fish production need pond construction skills, cat fish stocking skills, cat fish feeding skills, cat fish pond water management skills, cat fish disease management skills and cat fish harvesting skills for self-employment. One of the recommendations made was that the ministry of Agriculture should organize training programmes for retired teachers on pond construction to inculcate pond construction skills for employment.

KEYWORDS: Cat Fish Pond Construction, Stocking Skills, Training needs, Self-Employment and Retired Secondary School Teachers.

INTRODUCTION

Catfish are diverse group of fish named for their prominent barbells, which give the image of cat-like whiskers. Catfish are found primarily in freshwater environments of all kinds, with species on every continent except Antarctica. Fisheries make an important contribution to the animal protein supplies of many communities in both the industrialized and developing world (Oladimeji, 2017). Some communities in Nigeria are dependent on fish, not only for animal protein, but also as a source of micronutrients, minerals and essential fatty acids (Oladimeji, 2017). Iheke and Nwagbara, (2010) noted that many fish farmers in Nigeria focus on catfish (*Clarias gariepinus*) because of how well it adapts to different environmental conditions, its hardy nature that allows it to be easily reared live, and its premium market price. Catfish contribute significantly to world protein supply. According to Effiong, and Fakunle (2012) catfish is ranked second most vital source of protein after meat in Nigeria. The production of cat fish requires skills and proficiencies.

Skills as applies to cat fish production involve element or specialized activities in raising cat fish from fry or fingerlings to table size for sales and consumption and these set of activities include pond construction and maintenance, breeding, feeding, water management, disease and pest management, harvesting and marketing. To be skilled in cat fish enterprise he must be trained. The competencies for the practice of cat fish production by retired teachers for livelihood could be enhanced through proper training programmes. Training consists largely of well-organized opportunities for participants to acquire necessary understanding and skills. Okwoche *et al.* (2015) opined that farmers' training is directed towards improving their job efficiency in farming. Training retirees can contribute towards generating employment opportunity for unemployed rural person and thus play a role in improving socio-economic conditions and alleviating poverty. Trainings are conducted at various levels for which the programmes are designed based on the clientele problems, their needs and interests in a specific enterprise. In catfish enterprise, skills that could be acquired for effective production could be grouped based on various vital practices carried out in the farm which include: fish breeding, pond construction, stocking, feeding, disease prevention and management, harvesting and marketing.

Pond construction for catfish production requires careful attention to pond size and design, elevation of drainpipes, and adequacy of outlets and spillways. Generally, fish could be reared in either earthen or concrete pond. *Earthen ponds* are entirely constructed from soil materials. An earthen pond is a near-natural habitation for fishes (catfish, tilapia, etc) like the river or stream. Although it is constructed to suit the design of the fish farmer, it is mostly constructed in the sloppy or waterlogged area to accommodate the fishes and make them have a natural feel when they are being raised (Alali, 2013). On the other hand, a concrete pond is using blocks, sands, and cement to build a habitation for fish culture. Constructing concrete ponds requires the help of experts compared to other types of ponds. This is so because any mistake in the construction of the pond can lead to leakages and it might cost more to repair than to construct another one. Concrete ponds are used for intensive fish farming; concrete walls/banks eliminate erosion due to currents caused by mechanical aeration, waves generated by the wind and fish activity (Alali, 2013).

STATEMENT OF PROBLEM

According to the Teacher's Pension scheme, the organization seeks to provide retired secondary school teachers with pension when they retire or gives deferred benefits, provide the retire with a means of securing on retirement a standard of living reasonable consistent with that which they enjoyed while in service, provide a lump sum of money when leaving the service as well as provides benefits which can be regarded as compensation to retiree for the services rendered to the organization. However, improper retirement plans and problems associated with retirement packages provided by the government, retiree face hardships, such as financial insufficiency, poor feeding, inability to pay life sustaining bills, dysfunction of family matters, psychological behavior disorder, like depression, hypertension, identity crisis, alcoholism, loneliness, fast aging and ill health occasioned at time by loss of good accommodation among others.

RESEARCH OBJECTIVES

- Determine the cat fish pond construction skills training need for self-employment by retired secondary school teachers.
- Determine the cat fish stocking skills training need for self-employment by retired secondary school teachers.

RESEARCH QUESTIONS

- What are the cat fish pond construction skills training need for self-employment by retired secondary school teachers?
- What are the cat fish stocking skills training need for self-employment by retired secondary school teachers?

RESEARCH HYPOTHESIS

- There is no significant difference in the responses of cat fish farmers and extension workers on pond construction skills need of retired secondary school teachers.
- There is no significant difference in the responses of cat fish farmers and extension workers on cat fish stocking skills need of retired secondary school teachers.

CONCEPTUAL REVIEW

CONCEPT OF FISH POUND

A fish pound, also known as a fish enclosure or fish pen, is a structure used in aquaculture to contain and raise fish. It typically consists of a large, enclosed area in a natural water body such as a lake, river, or coastal area, or it can be a man-made enclosure within such bodies of water. The primary purpose of a fish pound is to provide a controlled environment for fish farming, allowing for the cultivation of fish in a specific area. Fish pounds are used for various species of fish, including freshwater and marine varieties.

Fish pounds offer several advantages for fish farming, including Utilization of natural water bodies, reducing the need for large-scale land use. Controlled environment allows for better management of fish health and growth. Potential for higher stocking densities compared to traditional open-water fish farming. Reduced risk of predation compared to open-water systems. However, fish pounds also come with challenges such as susceptibility to environmental factors, disease outbreaks, and the potential for pollution if not managed

properly. Proper planning, management, and adherence to environmental regulations are essential for sustainable fish farming in ponds.

CONCEPT OF SKILL TRAINING

Training consists of planned programme designed to improve performance at the individual, group, and /or organizational levels (Wayne, 2017). Improved performance, in turn, implies that there have been measurable changes in knowledge, skills attitude, and/or social behaviour. Training provides a systematic improvement of knowledge and skills, which in turn helps the trainees to function effectively and efficiently in their given task on completion of the training. Training is an important tool of extension, which helps in improving the knowledge, skills as well as changing the attitude of an incumbent with respect to doing a specified job properly; it is an important element of agricultural development. Training needs identification is possible through different analytical procedures. The possible methods or techniques for individual analysis include performance appraisal, interviews, questionnaires, tests, analysis of behavior, informal talks, checklist, counseling, critical incidents, recording, surveys and observations (Asa and Inyang, 2016).

The concept of training needs refers to identifying the gap between the current skills, knowledge, or performance of an individual or a group and the desired or required level of proficiency. Training needs analysis is conducted to assess these gaps and determine the specific areas where training and development interventions are necessary. Michael and Koyenikan (2020) defined training needs as skill, knowledge and attitude an individual requires in order to overcome problems as well as to avoid creating problem situation. According to Hughey and Mussnug (2017) training need assessment is a gap between the present and the desired future. The contribution of fisheries to the Nation's economy is very significant in terms of employment, income generation, foreign exchange earnings and provision of raw materials for animal feeding industry.

RETIREMENT IN NIGERIAN CONTEXT

Civil servants working under the Nigerian government retire under certain conditions and provide a conceptualization for retirement in Nigeria. Retirement is an inevitable stage of ageing where the individual gradually disengages from the main stream of active work, social work and is eventually replaced with younger ones. Oniye (2014) asserted that retirement comes, and it tends to emphasized separation from job with concern for the future. Retirement is indeed a period of withdrawal from active job of one's means of livelihood. Retirement is a fluid concept because it connotes different things and is fraught with different experiences for different people. Lay-offs, retirement and dismissal are indefinite separation from the payroll due to factors such as loss of sales, shortage of materials seasonal fluctuation, production delays or due to major administrative shakeup as have been witnessed in public service. Retirement is also the withdrawing of individual from gainful employment in the later part of his or her life in order to enjoy a period of leisure until death. Retirement is a real transition, transition in the sense that it is the passage from one place, stage of development to another. The transition could mean passage from the former business career of active services to another, a second stage of life development. Generally, retirement is an act of retiring or the state of being retired from active service with either governmental organization or non-governmental organization. That is, to withdraw oneself from business public life or and to remove from active service. Thus, the process of retirement involves the transition of people's experience, when they move from a job role performed for pay to the role of retired person.

Retirement can be of different forms. According to Okechukwu and Ugwu, (2011) there are three major forms of retirement in Nigerian setting; they are voluntary retirement, compulsory retirement and mandatory retirement. Voluntary or self-retirement occurs when the individual decides to quit active service for personal reason(s) irrespective of age, experience, length of service or retirement policies. This type of retirement depends more on the employee than the employer. Compulsory or forced retirement is a situation in which the individual is forced or compelled to retire against the individual's expectation and when he is ill-prepared for it. It is usually viewed negatively in that it is unplanned.

CAT FISH POND CONSTRUCTION SKILLS AND SELF EMPLOYMENT OF RETIRED SECONDARY SCHOOL TEACHERS

A pond is a water enclosure or a confined body of water where fish are raised or reared under a manageable controlled condition. Pond could either be earthen or concrete. Nowadays fish are raised in plastics, fiberstars and wooden rafts which are either locally fabricated or imported from developed countries. In siting a fish pond, an area where a limited amount of excavation will be required to contain, or hold back, a large volume of water is recommended by Agbon (2018). Agbon (2018) further noted that where to get the water to fill your pond must be considered before constructing a pond and there are four general water sources to consider:

- **Overland Drainage:**

This is surface runoff from precipitation, melting snow or a spring flowing overland. Drainage area and annual precipitation rates will determine if the water supply will be adequate.

- **Ground Water:**

Ponds which acquire water mostly from ground water are often called water table ponds. They are built by excavating below the water table at the location. The level of the water will be equal to that of the water table at any given time. In some cases an underground spring may be present. Springs flow year round regardless of season.

- **Impounding Flowing Waters:**

This can be a plentiful water source for a pond. However, impounding flowing water can have adverse effects. It can block fish passage, warm the water downstream, add excess nutrients to your pond and cause sediment from upstream to fill in your pond. The latter will require occasional removal.

- **Other Sources:**

If water cannot be obtained from the preceding natural sources, other options are available. Diversion ditches can be constructed to catch water from overland drainage that may bypass the pond. Roof runoff can be collected and sent to the pond or a sump pump drain can be directed to the pond. If residential house and out buildings are nearby, place a snow fence or plant a living fence up wind of your pond. This will reduce evaporation in the summer and intercept snow in the winter to fill the pond. Pollution of the water in fish pond is an important consideration when selecting a site for construction. Pollution can come from many sources, including crop land and lawn runoff, livestock farm drainage, road drainage, septic systems and waterfowl waste. If possible, eliminate these sources of pollution.

Pollution could be managed by avoiding over application of fertilizer, using erosion control practices and properly design and maintain septic system as well as diversion of drainage from the pond (Agbon, 2018). Agbon, (2018) further suggested that diversion ditches or other storm water management systems could be constructed to deal with the runoff and if possible, never construct pond less than 150 feet from a septic system. The soil on which the pond is to be constructed ought to be suitable.

Soil Test Pits is essential is ensuring that suitable site are used for pond construction. Test pits are holes dug in the earth at various points in the proposed pond location. It is very important that a number of test pits are dug, and that they are inspected by someone who is familiar with soils. They are excavated to a depth two feet below the planned depth of the pond and are used to determine the feasibility of your site for a pond. This allows for detection of any potentially problematic areas such as bedrock, or gravel and sand seams which may cause serious lose water from the pond. It also allows for the calculation of how much good material will be available to build the dam and other structures. This is a very important step, which can help to save money later on. It can cost much more to deal with hazards that could have been avoided.

CATFISH STOCKING SKILLS AND SELF EMPLOYMENT OF RETIRED SECONDARY SCHOOL TEACHERS

Stocking marks the beginning of production cycle. Stocking density of any aquaculture pond has to be first considered in management principles. This is because if a pond exceeds its carrying capacity, fish stress is bound to occur which can eventually lead to fish mortalities. The process of stocking according to Ikenweibe (2018) starts with the collection of fingerlings from the hatchery, transporting them to the farm and, finally, putting them into the pond. Poor stocking procedures, are among the major causes of low survival in grow-out ponds. Nelly *et al.* (2019) noted that poor stocking result in stress, diseases, reduced growth and eventually lead to mortality and financial losses. In addition, quality fingerlings are another important factor to note while stocking. Poor quality stock will give poor production performance regardless of other factors. The most important practical criteria for assessing the quality of fingerlings are source, physical appearance and how they swim. The following influence a Pond is carrying capacity:

- the size of fish in the pond (because this influences the feeding rate);
- the species of fish being raised because fish become air breathers and do not need to rely on dissolved oxygen in the pond;
- the amount and type of feed or fertilizer added to the pond and the water volume and quality.

In an ideal growing season, fingerlings stocked in early spring will reach eating size by autumn. The number and size of fingerlings stocked per acre will determine their size at the end of the growing season. Medium-size fingerlings (4 to 6 inches) stocked at 1,500 per surface acre usually average slightly more than one pound in a 210-day growing season. The same medium-size fingerlings stocked at 2,000 per surface acre average slightly less than a pound. Large fingerlings (10 inches long or weighing Y3 pound) stocked at 1,200 per surface acre average about two pounds at the end of the growing season. If the growing season is shorter than 210 days, stock larger fingerlings or plan to hold the fish overwinter for harvest during the next growing season. (Ozigbo, et al. 2014). Catfish stocking rates vary from one farming operation to another, depending on available resources and the farmer's commitment to a specific level of management. Many commercial fish farmers provide intensive

management and stock at rates of 3,000 to 4,000 fish per acre. Farmers applying lower levels of management should stock at rates considerably less than indicated above.

Stocking procedures are an important management tool for channel catfish producers. Stocking rates are linked with other management procedures such as feeding, disease prevention or treatment, water quality management and marketing. When stocking ponds to produce food fish, many factors must be considered: market demand, production method, feeding, experience, and management skill are some of the most important. Wurts and Wynne (2015) stated, As a rule of thumb, new producers should not stock more than 3,000 to 4,000 fish per surface acre of water if the desired market size is one and a quarter pounds or more. This allows the new producer to gain experience while reducing potential problems.

Fingerlings are usually stocked to grow to fish-food sizes within 120 to 150 days. Stocking rates depend on the desired size at harvest and maximum feeding rate. The more intense the stocking rate, the smaller the catfish at harvest time. Most commercial catfish farms stock fingerlings at intensive densities, i.e., from 12,500-17,500/ha (5,000-7,000/ac) twice or more per year. Forrest (2019) noted that at these stocking densities, both technology requirements and operating costs are high. For example, the annual feeding rate for 12,500-17,500 catfish per hectare can easily be 5-7 MT, which translates to a feed cost of \$1,925-\$2,695/ha/year (assuming a feed price of \$385/MT or \$350/ton). Intensive production also results in large output volumes (4,000-5,000 kg/ha/yr or 3,500-4,400 lb/ac/yr), which create marketing problems in regions where large volume buyers, such as processing plants, are unavailable. Intensive culture needs significant technological assistance such as aeration and water quality monitoring equipment, disease control measures, and management expertise.

METHODOLOGY

A descriptive survey research design was adopted for the study. The study was conducted in Akwa Ibom State. The population comprised cat fish farmers in Akwa Ibom State and extension workers from Akwa Ibom Agricultural Extension Programme. The sample size comprised of 341 contact cat-fish farmers in Akwa Ibom State and 248 agricultural extension agents from Akwa Ibom Agricultural Extension Programme. Which gave a total sample size of 589 selected using Taro Yamane Formula. The instrument used for data collection was a questionnaire titled: "Skills Training Need in Cat Fish Production Questionnaire (STNCFPQ)". The instrument was validated using validity method. Internal consistency method was used for determining reliability coefficient for the instrument (Skills Training Need in Cat Fish Production Questionnaire). The scores obtained from the subjects were subjected to Cronbach Alpha Analysis. A reliability coefficient of 0.79 was obtained for the instrument indicated that all items on the test relate to all other items, therefore regarded as reliable and good for the study.

DISCUSSION AND RESULTS

Research Question 1

What are the cat fish pond construction skills training need for self-employment by retired secondary school teachers?

**Table.1 Analysis of Respondents Responses on Cat Fish Pond Construction Skills
 N=589**

S/N	Cat Fish Pond construction skills	\bar{X}	STD	REMARKS
1.	Clearing of the Selected Site	3.78	1.15	Highly Needed
2.	Measure and Peg out the Desired Dimension	3.64	.84	Highly Needed
3.	Dig up the Soil of the Entire Pegged Area to about 5 feet deep	3.98	.82	Highly Needed
4.	Raise Pillars in the four Corners of the Pond	3.35	.70	Moderately Needed
5.	Cast the Floor and Foundation Bed using a good German Floor	3.61	.94	Highly Needed
6.	Raise Block Walls along the four sides of the Pond using Hallow Blocks	3.67	.84	Highly Needed
7.	Building of Pond Inner in Circular Form	2.53	.81	Moderately Needed
8.	Plaster the Entire Inner and Outer Walls and Floor of the pond	3.68	1.04	Highly Needed
9.	Installing Pond Water Inlet at Upper Part of the Pond and Outlet Channels at the Bottom of the Pond	3.48	.67	Moderately Needed
10.	Reinforcing the Pond Wall by Building Buttress outside the Pond	2.98	.94	Moderately Needed
11.	Lay a 3, 4 or 6 inches diameter Perforated Plastic Draining Pipe with a water control valve	2.59	.90	Moderately Needed
12.	Construct one or two Smaller Ponds for Sorting and Grading Purposes.	3.46	.61	Moderately Needed
13.	Fence the Pond to avoid Children or Domestic Animals from Drowning	3.60	.89	Highly Needed
14.	Planting of Grasses on the Dyke to Prevent Soil Erosion	3.66	.87	Highly Needed
15.	Building Embankment Pond in Valley or Gentle Sloping Land	3.80	1.08	Highly Needed

Source: Field Survey (2023)

Table 1 presents the responses on cat fish pond construction skills training need. The analysis show that items 1, 2, 3, 5, 6, 8, 13, 14 and 15 had mean values between 3.50 – 4.00 real limit which implies they are highly needed skills. Items 4,7,9,10,11,12 had mean values between 2.50-3.49 real limit indicating they are moderately needed skills. In summary, of the 15 items of pond construction skills training need, 9 are highly needed while 6 are moderately need for training of retired secondary school teachers.

Research Question 2

What are the cat fish stocking skills training need for self-employment by retired secondary school teachers?

Table 2: Analysis of Respondents Responses on Cat Fish Stoking Skills N=589

S/N	Cat Fish stocking skills	\bar{X}	STD	REMARKS
1.	Stocking Density should Range Between 2-4 Fishes Per Square Meter based on Culture System	3.52	.713	Highly Needed
2.	Stocking Fish of Fairly same Specie and same size reduces rates of Cannibalism	3.78	1.15	Highly Needed
3.	Maintain 3-5 cm length and 7-10 cm length for Healthy Fingerlings and Juveniles Respectively	3.64	.83	Highly Needed
4.	Lower Fingerlings from the Container inside water to allow Fish adjust to new Environment and swim out on their own	3.98	.82	Highly Needed
5.	Stock Fingerlings early in the morning or late in the evening depending on the prevailing condition in the Farm	2.35	.70	Moderately Needed
6.	Transport Fingerlings using Oxygenated bags or clean big Plastic Containers with proper aeration	2.61	.93	Moderately Needed
7.	Stock only known Species which must be disease-free and Healthy	3.67	.84	Highly Needed
8.	Stock 750-1000 Cat Fish (4+06 inches) per surface area	3.53	.81	Highly Needed
9.	Limit Cat Fish Biomass to a Maximum of 1705kg/ha	3.68	1.04	Highly Needed
10.	De-silt the Pond regularly to maintain sufficient high water quality to keep fish alive	2.38	.67	Moderately Needed

Source: Field Survey (2023)

Table 2 presents the responses on cat fish stocking skills training need. The analysis show that items 1,2,3,4,7,8,9 had mean values between 3.50-4.00 real limit which means they are highly needed skills. Items 5,6,10 had mean values between 2.50-3.49 real limit

indicating they are moderately needed skills. In summary, of the 10 items of cat fish stocking skills training need, 7 are highly needed while 3 are moderately needed for training of retired secondary school teachers.

Testing of Research Hypotheses

Hypothesis 1

H₀₁: There is no significant difference in the responses of cat fish farmers and extension workers on pond construction skills need of retired secondary school teachers.

Table 3: T-test Analysis on the responses of cat fish farmers and extension workers on pond construction skills training need of retired secondary school teachers

S/ N	Cat Fish Pond construction skills	Groups	N	\bar{X}	SD	t-value	p-value	Decision
1.	Clearing of the Selected Site	Cat Farmers	fish34	13.41	.49	.312	.75	NS
		Extension Workers	2483.43	.54				
2.	Measure and Peg out the Desired Dimension	Cat Farmers	fish34	13.45	.50	.09	.93	NS
		Extension Workers	2483.45	.50				
3.	Dig up the Soil of the Entire Pegged Area to about 5 feet deep	Cat Farmers	fish34	13.48	.50	3.01	.10	NS
		Extension Workers	2483.33	.61				
4.	Raise Pillars in the four Corners of the Pond	Cat Farmers	fish34	12.59	.59	.75	.46	NS
		Extension Workers	2482.55	.55				
5.	Cast the Floor and Foundation Bed using good German Floor	Cat Farmers	fish34	13.38	.49	.86	.39	NS
		Extension Workers	2483.33	.71				
6.	Raise Block Walls along the four sides of the Pond using Hallow Blocks	Cat Farmers	fish34	13.55	.50	.08	.94	NS
		Extension Workers	2483.55	.63				

7. Building of Pond Inner in Circular Form	Cat Farmers	fish3412.60 .56	1.62	.11	NS
	Extension Workers	2482.69 .64			
8. Plaster the Entire Inner and Outer Walls and Floor of the pond	Cat Farmers	fish3413.48 .50	.67	.50	NS
	Extension Workers	2483.45 .50			
9. Installing Pond Water Inlet at Upper Part of the Pond and Outlet Channels at the Bottom of the Pond	Cat Farmers	fish3412.67 .68	2.09	.14	NS
	Extension Workers	2482.55 .63			
10. Reinforcing the Pond Wall by Building Buttress outside the Pond	Cat Farmers	fish3412.50 .50	4.33	.10	NS
	Extension Workers	2482.69 .46			
11. Lay a 3, 4 or 6 inches diameter Perforated Plastic Draining Pipe with a water control valve	Cat Farmers	fish3412.60 .49	2.31	.12	NS
	Extension Workers	2482.50 .50			
12. Construct one or two Smaller Ponds for Sorting and Grading Purposes.	Cat Farmers	fish3412.66 .80	.56	.58	NS
	Extension Workers	2482.69 .51			
13. Fence the Pond to avoid Children Domestic Animals from Drowning	Cat Farmers	fish3413.47 .50	.82	.41	NS
	Extension Workers	2483.43 .50			
14. Planting of Grasses on the Dyke to Prevent Soil Erosion	Cat Farmers	fish3413.55 .50	.08	.94	NS
	Extension Workers	2483.55 .66			
15. Building Embankment Pond in Valley Gentle Sloping Land	Cat Farmers	fish3413.50 .50	.10	.10	NS
	Extension Workers	2483.50 .60			

NS = Not Significance

Level of sig. = .05

df = 587

Table 3 shows t-test analysis of the difference in the mean responses of cat fish farmers and extension workers on pond construction skills need of retired secondary school teachers. The Table revealed that all the items have t-values between .07 – 4.33 and p-values between .10 - .93 at 0.05 level of significance with 587 degree of freedom. Since the p-values are greater than the level of significance, this is enough evidence to retain the null hypothesis. It therefore implies that there is no significant difference in the response of cat fish farmers and extension workers pond construction skills need of retired secondary school teachers.

Hypothesis 2

H₀₂: There is no significant difference in the responses of cat fish farmers and extension workers on stocking skills need of retired secondary school teachers.

Table 4: T-test Analysis on the responses of cat fish farmers and extension workers on stocking skills training need of retired secondary school teachers

S/ N	Cat Fish stocking skills	Groups	N	\bar{X}	SD	t-value	p-value	Decision
1.	Stocking Density should Range Between 2-4 Fishes Per Square Meter based on Culture System	Cat Fish Farmers Extension Workers	fish341 248	3.47 3.43	.50 .50	.82	.41	NS
2.	Stocking Fish of Fairly same Specie and same size reduces rates of Cannibalism	Cat Fish Farmers Extension Workers	fish341 248	3.43 3.40	.50 .50	.59	.56	NS
3.	Maintain 3-5 cm length and 7-10 cm length for Healthy Fingerlings and Juveniles Respectively	Cat Fish Farmers Extension Workers	fish341 248	3.52 3.52	.50 .50	.15	.89	NS
4.	Lower Fingerlings from the Container inside water to allow Fish adjust to new Environment and swim out on their own	Cat Fish Farmers Extension Workers	fish341 248	3.02 2.83	.76 .76	2.69	.12	NS
5.	Stock Fingerlings early in the morning or late in the evening depending on the prevailing condition in the Farm	Cat Fish Farmers Extension Workers	fish341 248	2.55 2.45	.50 .50	2.20	.13	NS

6. Transport Fingerlings using Oxygenated bags or clean big Plastic Containers with proper aeration	Cat Farmers Extension Workers	fish341 248	2.62 2.60	.49 .49	.58 .57	.57	NS
7. Stock only known Species which must be disease-free and Healthy	Cat Farmers Extension Workers	fish341 248	3.43 3.40	.50 .49	.59	.56	NS
8. Stock 750-1000 Cat Fish (4+06 inches) per surface area	Cat Farmers Extension Workers	fish341 248	3.57 3.40	.50 .49	3.67	.10	NS
9. Limit Cat Fish Biomass to a Maximum of 1705kg/ha	Cat Farmers Extension Workers	fish341 248	3.50 3.57	.50 .50	1.59	.12	NS
10. De-silt the Pond regularly to maintain sufficient high water quality to keep fish alive	Cat Farmers Extension Workers	fish341 248	2.77 2.79	.50 .60	6.49	.10	NS

Source: Researcher's computation (2023) using SPSS 25.0

Table 4.8 shows t-test analysis of the difference in the mean responses of cat fish farmers and extension workers on stocking skills need of retired secondary school teachers. The Table revealed that all the items have t-values between .14 – 6.49 and p-values between .10 - .88 at 0.05 level of significance with 587 degree of freedom. Since the p-value is greater than the level of significance, this is enough evidence to retain the null hypothesis. It therefore implies that there is no significant difference in the response of cat fish farmers and extension workers stocking skills need of retired secondary school teachers.

DISCUSSION OF THE FINDINGS

CAT FISH POND CONSTRUCTION SKILLS TRAINING NEED FOR SELF-EMPLOYMENT BY RETIRED SECONDARY SCHOOL TEACHERS.

The finding of retired secondary school teachers cat fish pond construction skills need for self - employment in Akwa Ibom State shows that all the skills were needed by the retirees. The independent t-test analysis indicated that there is no significant difference in the responses of cat fish farmers and extension workers on pond construction skills need of retired secondary school teachers. The finding of the study is in line with the finding of Essien et al. (2019) who investigated the constraints to successful fish farming in Abak Local Government Area of Akwa Ibom State and found that lack of feasibility study on sites selection, poor fish culture management methods, poor pond construction among others, were some of the major constraints of fish farming in the study area. It also aligns with the finding of Ekumankama and Chukwu (2018) who conducted a comparative analysis of the farming needs and job performance constraints among block extension supervisors in Abia and Akwa

Ibom State and found that in fishery practices, Abia and Akwa Ibom States BESs had greatest need for training in fish pond construction and site selection for pond.

CAT FISH STOCKING SKILLS TRAINING NEED FOR SELF-EMPLOYMENT BY RETIRED SECONDARY SCHOOL TEACHERS.

The result showed that all the cat fish stocking skills are needed by the retirees. The independent t-test analysis shows that there is no significant difference in the responses of cat fish farmers and extension workers on cat fish stocking skills need of retired secondary school teachers. The finding is in agreement with the findings Dasuki et al (2013) who conducted a study on effect of stocking density on production of claria gariepinus in floating bamboo cages at Kubannic Reservoir, Zaria, Nigeria and found that stocking density had a significant effect on growth and survival rates of clarias gariepinus. The findings is in consonance with the finding of Michael and Koyenikan (2020) who examined the training needs of fish farmers in Enugu State, Nigeria with a view to determining the implications on effective management practices and reported that most of the respondents need training for efficient fish management practices.

CONCLUSION

The production of cat-fish production for consumption, processing and sales depends on acquisition of latent skills inherent in the production process. Retired secondary school teachers who are interest in cat fish production need pond construction skills, cat fish stocking skills, cat fish feeding skills, cat fish pond water management skills, cat fish disease management skills and cat fish harvesting skills for self-employment. Acquisition of these skills would in no small measure foster retired teachers' self-employment thereby enhancing the effectiveness in the operation and management of catfish farm by retired secondary school teachers.

RECOMMENDATIONS

- Ministry of Agriculture should organize training programmes for retired teachers on pond construction to inculcate pond construction skills for employment.
- Extension workers through cat fish farmers should organize a training workshop for retired secondary school teachers on identified stocking skills for self-employment.

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