COMPARATIVE STUDY OF ATTITUDE TO CONSUMPTION OF CULTURED AND CAPTURES CATFISH IN RURAL AREAS OF SOUTH-EAST GEOPOLITICAL ZONE, NIGERIA:

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ABSTRACT

The research was driven by the need to test the attitude of rural inhabitants to consumption of cultured catfish since its introduction over 60 years study area. Cultured catfish represented the experimental specimen while captures catfish served as the control. Structured questionnaire/interview schedule were used for data collection. Data were measured by use of a four-point Likert type scale and analysed by use of mean, t-test, Analysis of Variance and Correlation. The rural dwellers had favourable attitude to consumption of both cultured and capture catfish but there was a significant difference in their attitude (t = 10.26, p = 0.00). A significant relationship was found between the socio-cultural, environmental and economic factors influencing consumption of cultured and capture catfish (F = 381.937, p = 0.00). Socio-cultural factors had a more profound influence on consumption of both cultured and capture catfish. Cultured catfish acquired the properties of an impulse food item due to environmental factors which led to unavailability of capture catfish. The study established that it is possible for a people to change attitude in consumption from an indigenous food to an innovative substitute following changes in the environmental, economic and social structures of the community. Social and agricultural extension workers should not relent in their efforts at persuading consumers to accept new technologies in the event of initial resistance.

Keywords: Attitude; Cultured catfish, Captures catfish, Socio-cultural; Environmental; Economic; Consumption; Rural Areas.

INTRODUCTION

Attitude is psychological feelings usually expressed to show degree of favour or disfavour to an object or stimuli. Attitudinal dispositions could be compartmentalised as aggregate feelings or reactions of individuals to an object. (Armitage and Conner, 2001; Eagly and Chaiken, 1993 & Ajzen, 1991). Values, attitudes, and behaviours are important elements to be considered in achieving sustainable development (Leiserowitz, et al. 2006). Agbamu (2006) noted that it was imperative to have a firm understanding of the socio-cultural environment before attempting to disseminate a given technology in order to enhance its acceptability and sustainability. He found that farming activities and food consumption in rural Nigeria were tied to traditional beliefs and values. Olawoye (1990) as cited by Agbamu (2006) gave an example of a rural community where the people prohibit fishing on a natural fish pond. The people believed that if fishing was allowed to continue on the pond its water would dry up. The foregoing underscores how attitude could affect the consumption or adoption of any given technologies.

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Apart from the above definitional remarks, two paradigms informed the thinking about this study. First, to reveal that Nigeria is replete with variegated attitude, beliefs and values about foods and food consumption. Omotosho (2017) epitomised ten superstitious beliefs which influence attitude to food consumption in country: eating eyes of a fish makes one to be a dullard; eating the buttock of a chicken makes one to become a talkative; drinking coconut water will make the individual to become dumb; eating Mango after drinking Garri or Coke can kill a person; eating while standing can make the food go into your feet instead of stomach; avoid eating any food that falls to the ground because the devil might have kissed it; giving a child too much meat and eggs with every meal can make the child to become a thief; always eat your meat last during any meal to show that you are not a glutton; swallowing seeds means a tree will grow on your head; and eating snails hinders an individual's progress in life, Similarly Ogbeide (1974) as cited by Meyer-Rochow (2009) found that in the defunct mid-western region of Nigeria, meat, milk and eggs were not usually given to children because most parents believed it made children to steal.

The Ibo people who constitute the inhabitants of the study area are more predisposed to influence of attitude and beliefs on food consumption than any other ethnic group in Nigeria. Food consumption among the Ibos is largely influenced by a number of taboos, custom and beliefs. Women in Ibo communities were prohibited from entering the yam barn during their monthly menstrual period (Igbokwe, 2005; Iestra, et al. 2005). To date it is the only ethnic group in Nigeria which commemorates and celebrates the new yam festival. The festival is celebrated annually among the Ibos as part of the Ohafia culture to mark the eating of the new yam at onset of the harvest season. The purpose is to ensure bountiful harvest the following year. Historically the new yam festival metamorphosed from a festival which was celebrated for all crops at beginning of the harvest season. Nowadays non farmers and farmers both at home and in Diaspora do celebrate the new yam festival (Agwu, 2018; Olikenyi, 2019).

The second premise upon which the study is based is that cultured catfish has not been evaluated in terms of acceptability since the introduction over sixty (60) years ago. Cultured catfish production is a technology designed to overcome the drudgery and seasonality associated with captures or wild catfish production. Aquaculture in Nigeria is synonymous with catfish production as it remains the most domesticated fish species (Olagunju et al., 2007; Adewumi & Olaleye, 2011)**.** Captures catfish which comes from artisanal fishery has been the primordial source of catfish supply to the people of Nigeria (Okpeke & Akarue, 2015). Aquaculture in Nigeria started in 1951 at the Panyam Fish Farm in Jos. It became popular and more acceptable among various tribes in the early 70s (Akinrotimi, et al. 2011).

It has been found the world over that very few studies have been conducted on farmed fish quality perception and public opinion by consumers (Pohar, 2011). In the study area no comparative study on attitude to consumption of cultured and capture catfish has been conducted since the introduction of cultured catfish. The present study presents empirical information on attitude and factors which influence consumption of cultured and capture catfish. The specific objectives were to compare the attitude of the rural dwellers to consumption of cultured and capture catfish; and investigate the relationship between social, economic and environmental factors which affect consumption of cultured and capture catfish.

Conceptual Framework of Analysis

The conceptual framework epitomised interplay of the relationship between socio-cultural, economic and environmental factors which influence consumption of cultured and

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capture catfish. The factors which influence attitude constituted the independent variables. These were disaggregated into socio-cultural, economic and environmental factors. Attitude represents the dependent variable (Figure 1). The moderator variables of were items developed to measure sensory, functional, symbolic and economic qualities of cultured and captures catfish. Steptoe, Pollard & Wardle, (1995); & Anyakoha & Eluwa (1991), Heini et al. (1991) found that the quality of any food is viewed against backdrops of sensory, functional, symbolic and economic attributes. The intervening variables were advertisement, friends and local leaders, enlightenment, level of education, NGOs working in rural communities as well as agricultural extension agents and other social workers**.** The linkages between socio-cultural, environmental and economic factors affecting consumption of cultured and capture catfish were not rigid demarcation as in the physical sciences. The theoretical underpinning of the study approximates the compatibility theory of appropriate technology. The a priori expectation is that when a technology like the cultured catfish is appropriate the beneficiaries would continue to adopt and consume it more than the previous one. An appropriate technology must be technically, economically, socio-culturally and environmentally compatible in order to enhance its consumption (Agbamu, 2006; Campbell and Barker**,** 1997; Williams, et.al, 1984; Kuhnlein et al, 2009).

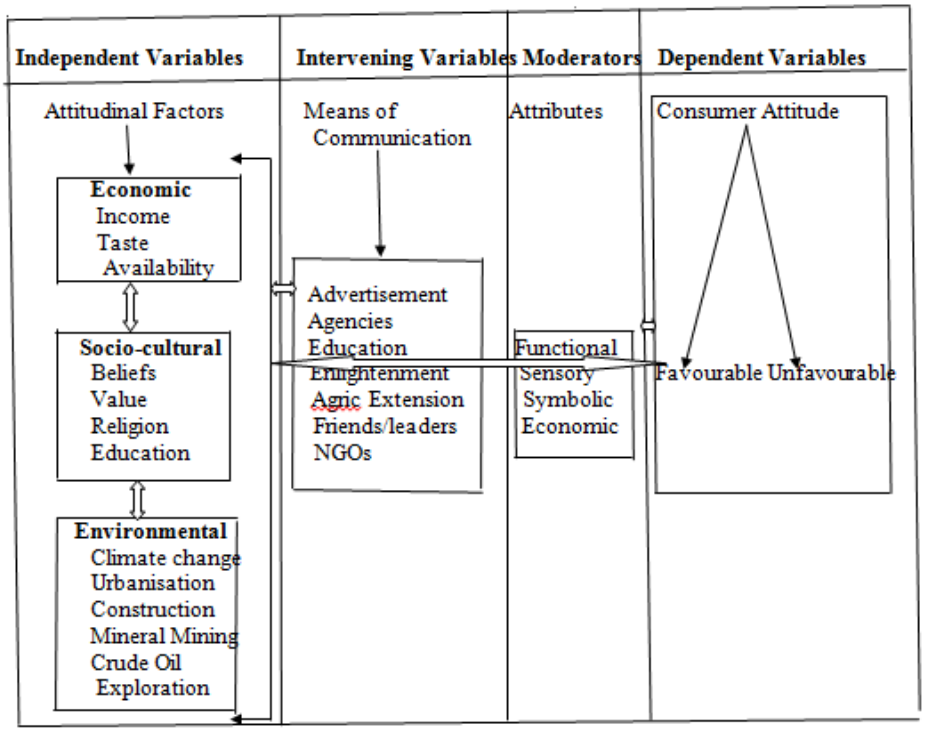

FIGURE1
CONCEPTUAL FRAMEWORK OF THE STUDY

Technical Feasibility is the extent to which the new commodity fits into the technical know-how, understanding and farming systems of the farmer. Economic feasibility refers principally to the affordability and profitability of the new technology. Social acceptability is the extent to which the new technology agrees with the social norms and values of the beneficiaries.

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A technology that does not deplete the environment is said to be environmentally compatible (Agbamu, 2006; Campbell & Barker**,** 1997; Williams, et al. 1984; Okeke, et al. 2009).

MATERIALS AND METHODS

Design of the Study

The study made use of the experimental research design. The experimental design conforms to the target and non-target groups or participants and non-participants model of evaluation in the social sciences. Mabawonku (1986) as cited by Ajayi (2005) contended that the target and non-target groups' model is equivalent to the experimental and control groups in the physical sciences. It is used to investigate the comparative effects of a development intervention programme on intended beneficiaries.

Cultured and captures catfish were the experimental and control groups respectively. Cultured catfish is an innovation over captures catfish. The broad goal was to test the acceptability of cultured catfish following its introduction over sixty (60) years ago in the study area. The same group of persons responded to the attitude statements which were constructed for cultured and capture catfish.

Study Area, Sampling Techniques & Sample Size

South – east geopolitical zone is inhabited by the Ibos or Igbo speaking people – one of the three major ethnic groups in Nigeria. South-east geopolitical zone of Nigeria is made up of five states – Anambra, Abia, Ebonyi, Enugu and Imo States (Figure 2). Purposive and Simple random sampling technique done in stages was used to select the States, Local Government Areas, communities/towns and respondents. Fifty (50) percent of the states corresponding to approximately three states were randomly selected. These were Enugu, Ebonyi and Imo States. Twenty (20) per cent of the Local Government Areas in the selected states corresponding to a total of eleven (11) were purposely selected based on degree of fish consumption and production. Forty (40 percent of rural communities in each of the selected Local Government Areas were selected. Ten (10) percent of the households were randomly selected. One adult member from each household irrespective of sex constituted units of the sample. A total number of 708 respondents consisting of 222, 113 and 373 adult members from Enugu, Ebonyi and Imo states respectively compose the sample (Appendix I for details of the sample size distribution). However, 600 out of the 708 copies of questionnaires were returned and used for data analysis.

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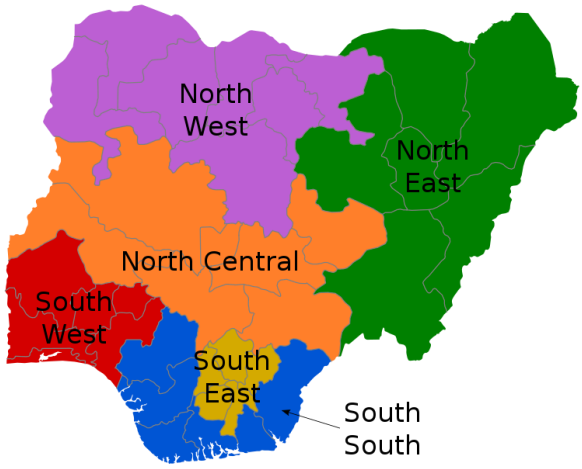

FIGURE 2
MAP OF NIGERIA SHOWING SOUTH EAST GEOPOLITICAL ZONE

The study was rural based because beliefs and attitudes about food consumption were held tenaciously in the rural areas. Typical rural towns/communities were selected for the study based on the indices of a rural area. Ovwigho and Ifie (2009) defined a rural area as a socio-political group where the predominant occupation is agriculture and related income generating activities like weaving, hunting, carpentry and pottery. They also noted that the population size of a rural area is small and often characterised by cultural festivities as well as lack of social, economic and basic amenities of life including industries, recreational facilities and daily markets. In this study, a community with only one primary and secondary school, no industry and daily market, and where the major income generating activity is predominantly farming was classified as a rural community.

Method of Data Collection

Data were collected by use of structured interview schedule/questionnaire. Questionnaire was used for respondents who had functional education while interview schedules were used for people without formal education. The instrument was subjected to content validity and reliability test. Content validity was achieved by the use of experts in the departments of agricultural extension and sociology of the Delta State University Abraka. Test retest reliability technique was used to test the reliability of the instrument. An r-value value of 0.89 showed that the instrument was reliable.

Measurement of Variables

Attitude and factors influencing change in consumption were measured by use of a four point Likert-type scale. The scale response categories were coded Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). Scale items were constructed by using only positive statements. A positive attitude statements shows a favourable attitude, for, example,, cultured catfish has a good taste. The abridged versions of each statement were presented under results. The scores for the 26 attitude items/statements were added to make up the total attitude score for each respondent. This procedure permitted interval data analysis. The minimum and maximum

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scores for a respondent were 26 and 104 respectively. Four statements in each case were constructed to measure socio-cultural, economic and environmental factors. Total scores were derived for the major group of factors. The maximum and minimum scores for each category of factors sixteen (16) and four (4) respectively..

A mean score of 2.50 and above was regarded as favourable/positive and below 2.50 as unfavourable attitude for the statements and factors. The attitude statements were classified into functional, sensory, symbolic and economic attributes as identified by Steptoe, Pollard, and Wardle (1995); Anyakoha and Eluwa (1991).

Method of Data Analysis

Data were analysed by descriptive and inferential statistics. Attitudes of the respondents were realised by mean scores derived from a four-point Likert-type scale. The inferential statistical tools involved the use of *t*-test, Analysis of Variance and Multiple Correlation Matrix. The *t*-test was used to ascertain the significant difference in attitude between consumption of cultured and captures catfish. The Analysis of Variance and Correlation Matrix were used to test the relationship between socio-cultural, economic and environmental factors influencing change in consumption of cultured and captures catfish.

RESULTS AND DISCUSSION

Attitude to Consumption of Cultured and Captures Catfish

The responses to cultured and captures catfish were combined in Table 1. The rural inhabitants agreed to the 10 sensory attribute statements about consumption of cultured and capture catfish. This vindicates that both cultured and captures catfish have good taste, attractive white meat, good smell, attractive colour, good shape, high dress out value, good Table size, less bony, clean appearance, and firm flesh. The respondents also agreed to the functional attributes of cultured and capture catfish. Thus both cultured and captures catfish are highly nutritious, safe for consumption easy to prepare and cook, low in fat, and cholesterol, hygienic, suitable for variety of diets and requires less time to cook.

Table 1
RESPONSES TO ATTITUDE STATEMENTS ON CONSUMPTION OF CULTURED AND CAPTURES CATFISH

S/N	Statements	Mean Cultured	Remarks	Mean Capture	Remarks
	Sensory attributes				
1	Good taste	3.4	A	2.83	A
2	Has attractive white meat colour to consumers	3.33	A	2.78	A
3	Good smell	3.19	A	2.63	A
4	Has attractive body colour to consumers	3.25	A	2.73	A
5	Good shape.	3.21	A	2.74	A
6	High dress-out value	3.1	A	2.64	A
7	Good table size	3.18	A	2.64	A
8	Less bony.	3.11	A	2.71	A

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9	Clean appearance	3.16	A	2.79	A
10	Flesh is firm.	3.18	A	2.77	A
	Functional attributes				
11	Highly nutritious	3.3	A	2.82	A
12	Safe for consumption	3.26	A	2.96	A
13	Easy to prepare and cook	3.19	A	2.77	A
14	Low fat	3.11	A	2.76	A
15	Low cholesterol content	3.06	A	2.76	A
16	Very hygienic.	3.17	A	2.75	A
17	Suitable for variety of diets	3.21	A	2.68	A
18	Requires less time to cook	3.22	A	2.57	A
	Symbolic attributes				
19	Consumption places one on high social status	2.97	A	2.59	A
20	Consumption confers pride among children.	2.99	A	2.59	A
21	An important food item sold in superstores	2.43	D	2.6	A
22	Consumed only on special occasions	2.49	D	2.74	A
	Economic attributes				
23	Selling price is reasonable	3.12	A	2.62	A
24	Always on monthly budget	3.06	A	2.49	D
25	Always available	**3.17**	A	2.51	A
26	It is an impulse food item	3.07	A	2.46	D
	Grand Mean	**3.12**	**A**	**2.67**	A

NB: A = Agreed; U= Disagree.

Responses to the symbolic attributes showed that the consumption of both cultured and captures catfish places an individual on high social status and confers pride among children.. However, the rural dwellers disagreed on the symbolic attributes that cultured catfish was an important food item sold in superstores but agreed to the same statement on capture catfish. Hardness and better storability are good predisposing qualities which could make captures catfish to be sold in superstores. The people disagreed to the statement that cultured catfish was consumed only on special occasion while they agreed that captures catfish was consumed only on special occasion. In the study area, captures catfish is a scarce commodity hence they consumed it on special occasion. The latter accounted for the higher cost price of capture catfish in the markets.

On the economic attributes the rural inhabitants agreed that both cultured and capture catfish were available in the markets and at reasonable prices. The respondents usually budget for cultured catfish on monthly basis whereas they do not budget for capture catfish. Cultured catfish was perceived as an impulse food item. The results suggest that seasonality of capture catfish prevented it from being an impulse food item among the rural inhabitants An impulse

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food item brings quick returns to producers and marketers (Rook, 1987; Fernández-Polanco and Luna; 2010) Taste, health attributes and sensory appeals are the major factors which affect food choices (Steptoe, et al. 1995; Githuka, et al. 2014; Ofuoku et al. 2006; **A**bdullahi, et al. 2011). Consumers usually change their taste and preferences to basic food items which were readily available (Adegeye and Dittoh, 1982; Akinwumi, 1999; Simoons, 1961; Singh, et al. 1989).

The items mean values 3.12 and 2.67 for cultured and capture catfish respectively indicate that the people had favourable attitude to both cultured and captures. The difference in the observed means was tested by use of paired *t* – test (Table 2). A significant difference was found in attitude of the rural inhabitants between consumption of cultured and capture catfish (t = 10.26, p=0.00). Githuka, et al. (2014) also found a significant difference between perception of African wild catfish and cultured catfish. Cultured catfish has become more readily available in the study area because of the unfavourable environmental factors for production of wild catfish species.

Table 2
DIFFERENCE IN ATTITUDE TO CONSUMPTION OF CULTURED AND CAPTURE CATFISH

Variables	Variable Mean	Sample Mean	Std. Error	*T*	Df	Sig. Level
Cultured Catfish	81.00	11.57	1.13	10.26	599	0.00
Capture Catfish	69.42					

t = 10.26, *p* = 0.00.

Knoops, de Groot, Kromhout, Perrin, Moreiras-Varela, Menotti & van Staveren, (2004); Haveman, et al. (2002) found that rural population depends more on available natural foods such as green vegetables, fresh fruits and fish and dairy products which are derived from their immediate environment. They noted that a significant amount of refined food such as bread, soft drinks and other refined or processed food products were now found in the rural areas of developing countries.

Change in attitude to an innovative food could take a gradual process. Ezeamalu (2016) in narrating the story of Michael Ibru a renowned multi-millionaire stated that when he started the production and marketing of frozen fish the consumers referred to it as mortuary fish resisted its consumption for upward of fifty (50) years. Today, with gradual persuasion the previously derogated mortuary fish has become a major delicacy in most homes in Nigeria. It corroborates the saying, 'that the once rejected stone has become the corner stone of the house'.

Cultured catfish which was also resisted has presently assumed the properties of an impulse food item among the people of the study area. Impulse buying is a hedonically complex behaviour that stems from a sudden, powerful, and persistent urge to buy something immediately and may stimulate emotional conflict. Any food item which could be bought without planning or thinking about it is classified as an impulse food item and had greater economic popularity among the people (Anyakoha and Eluwa, 1991; Rook, 1987).

Factors Affecting Attitude in Consumption of Cultured and Capture Catfish

The abridged statement of responses to factors affecting consumption and availability of cultured and captures catfish are presented in Table 3. The respondents agreed to all the socio-cultural factors under cultured catfish. However, they agreed to two socio-cultural statements under captures catfish: prevailing beliefs/tradition, and high social status. High level of formal education did not affect consumption of captures catfish but affected cultured catfish the grand means 3.26 and 2.60 for cultured and capture catfish respectively showed that socio-cultural

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factors had more profound influence on consumption of cultured catfish Pieniak et al. (2008) reported that fish consumption was mostly affected by tradition and habits. The findings also corroborate Igbokwe (2005); Ovwigho & Ifie (2013) that the consumption of certain fishes, snails, snakes, and civet cat was regarded as taboos among the Ibos.

Table 3
MEAN RESPONSE TO FACTORS AFFECTING CONSUMPTION AND AVAILABILITY OF CULTURED AND CAPTURES CATFISH

S/N	Factors	Mean Cultured	Remarks	Mean Captures	Remarks
	Socio-cultural Factors				
1	Prevailing belief/tradition affects consumption	3.33	.Agree	**2.93**	**Agree**
2	Influence of friends and neighbours affects consumption	3.25	Agree	**1.59**	**Disagree**
3	High social status affects consumption	3.14	Agree	**3.41**	**Agree**
4	Higher Level of formal education	3.3	Agree	**2.45**	**Disagree**
	Grand Mean	3.26	Agree	**2.6**	**Agree**
	Environmental Factors				
5	Crude oil exploration affects consumption/availability	1.62	Disagree	**3.11**	**Agree**
6	Use of inorganic feeds affects consumption/availability	2.13	Disagree	**2.99**	**Agree**
7	Mineral mining/ construction affects availability and change in consumption	2.12	Disagree	**3.09**	**Agree**
8	Weather variability affects consumption/availability	2.36	Disagree	**3.42**	**Agree**
	Grand Mean	2.06	Disagree	**3.13**	**Agree**
	Economic Factors				
9	High price affects the consumption	3.18	Agree	**3.35**	**Agree**
10	Effects of taste on consumption	2.66	.Agree	**3.29**	**Agree**
11	Level of income of consumers	2.94	Agree	**3.04**	**Agree**
12	Proximity to sources of supply/production	3.17	Agree	**3.21**	**Agree**
	Grand Mean	2.99	Agree	**3.22**	**Agree**

The level of formal education was perceived to have influence on consumption of cultured catfish but had minimal or no effects on captures catfish. In the first two decades of introduction of aquaculture in Nigeria precisely between 1951 and 1971, majority of the people because of poor enlightenment. As level of education increases the people began to show more positive attitude to consumption of cultured catfish. Thus, it is plausible to assert that to enhance the level of consumption of innovation foods the first step is to enlighten the consumers by engaging the services of social workers. Can, et al. (2015); Grunert (2002) found that level of education and frequency of consumption of fish were highly and positively correlated. Similarly Murtala et al, (2004); Agbamu (2006) found that level of education was positively correlated to adoption of innovations. Nutritional awareness also affects level of fish consumption (Polanco and Luna, 2010).

Consumption and availability of capture catfish was perceived to be strongly influenced by environmental factors. The prevailing environmental factors include crude oil exploration, use of inorganic feeds, minerals mining/construction activities, and weather variability. The grand

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means under environmental factors were 2.06 and 3.13 for cultured and captures catfish respectively. This indicates that captures catfish was more affected by the environmental factors. A similar study conducted in Ethiopia and Kenya by Deng (2020); Patrick and Kagari (2016) respectively found that capture fisheries has declined considerably due to agricultural expansion, pollution from inorganic substances, climate change, siltation, irrigation schemes, and overfishing FAO (1978) as cited by Ofuoku, et al (2006); Adewumi and Olaleye (2011) reported that in Nigeria production of catfish from the wild started to decline since the 1970s due to over exploitation. To improve the availability and consumption of fish generally United Nations and major fish producing countries have placed significant emphasis on the development of the aquaculture industry (Chen, et al. 2010).

The grand mean values for economic factors were 2.99 and 3.22 for cultured and captures catfish respectively. Thus consumption of both cultured and capture catfish were influenced by price, taste, income and proximity to source of supply. Can, et al (2015) found that price and level of income were important factors affecting fish consumption but were not as important as bones, taste and smell. Burger et al., (1999); Pieniak et al (2011); Verbeke and Vackier (2005) found that fish consumption, frequency, and preferences were affected by consumers economic position, geographic location, social, and cultural factors.

The Analysis of Variance (Table 5) showed the summary of the relationship between the major factors influencing consumption of cultured and captures catfish. A significant relationship was found between the socio-cultural, environmental and economic factors influencing consumption of cultured and capture catfish ($F = 381.937$, $p = 0.00$) An inter and intra group correlation between socio-cultural, environmental and economic factors influencing consumption of cultured and captures catfish was explored and presented in Table 4. Socio-cultural factors which influence consumption of cultured catfish had significant and positive relationship with economic factors of cultured catfish ($r=0.0.385$; $p< 0.01$); socio-cultural factors of capture catfish ($r=0.565$, $p<0.01$); environmental factors of capture catfish ($r=0.493$, $p<0.01$); and economic factors of capture catfish ($r=0.410$; $p<0.01$). Socio-cultural factors which influenced capture catfish showed significant and positive relationship with environmental factors of capture catfish($r = 0.257$; $p<0.01$); and economic factors of capture catfish ($r=0.275$; $p<0.01$). Environmental factors which influence consumption of cultured catfish were directly and significantly related to the socio-cultural factors of capture catfish consumption ($r=0.207$; $p< 0.05$). The environmental factors influencing capture catfish consumption interacted positively with economic factors of cultured catfish ($r=0.698$; $p<0.01$); and socio-cultural factors of capture catfish ($r=0.257$; $p<0.01$).

Table 4
CORRELATION MATRIX BETWEEN MAJOR FACTORS AFFECTING CONSUMPTION OF CULTURED AND CAPTURES CATFISH

Factors	Socio-cultural Cultured	Environmental Cultured	Economic Cultured	Socio-cultural Capture	Environmental Capture	Economic Capture
Socio-cultural Cultured	0					
Environmental Cultured	-0.16	0				
Economic Cultured	0.385**	0.061	0			

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Socio-cultural Capture	0.565**	0.207**	0 .256**	0		
Environmental Capture	0.493**	0.007	0.698**	0.257**	0	
Economic Capture	0.410**	0.061	0.833**	0.275**	0.755**	0

**Correlations significant at 0.01 level (2 tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Table 5
ANOVA BETWEEN SOCIO-CULTURAL, ENVIRONMENTAL AND ECONOMIC FACTORS

Cultured Catfish Captures Catfish	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	10549.529	5	2109.906	381.937	0.00
Within Groups	19854.070	3594	5.524		
Total	30403.599	3599			

Economic factors affecting consumption of cultured catfish positively interacted with socio-cultural factors of capture catfish consumption ($r=0.256$; $p<0.01$), environmental factors of capture catfish ($r=0.698$; $p<0.01$); and economic factors of capture catfish ($r=0.833$; $p<0.01$). Economic and environmental factors affecting capture catfish consumption were highly and positively related in terms of consumption ($r=0.755$; $p<0.01$). This meant that improved environmental conditions directly led to better economic factors affecting capture catfish consumption and availability. Socio-cultural factors interacted positively with eight (8) factors out of the 15 factors. The highest correlation was found between economic factors of cultured catfish and economic factors of capture catfish.

CONCLUSION

The study established that the rural inhabitants had more positive attitude to consumption of cultured catfish. The findings agree with the apriori expectation that the rural dwellers have developed positive attitude to consumption of cultured catfish over the years. Evidence from literature portrayed that a period of scandals and resistance is often associated with consumption of most food innovations in rural areas of developing countries. Once, it is artificially grown and introduced from external sources rural people are more likely to resist the adoption or consumption. Once the 'dark' or resistance period to the innovation is over by persistent campaigns, persuasion and try out the food item in most cases becomes generally acceptable. The continual extinction of capture catfish gave an impulse status to cultured catfish. The unfavourable environmental conditions changed attitude of the consumers from consumption of capture catfish to consumption of cultured catfish. Socio-cultural factors had the highest influence on consumption of both cultured and capture catfish hence marketers and extension workers must ensure that food products meet the socio-cultural needs of the people before introduction.

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APPENDIX I

Appendix 1 SAMPLE SIZE DISTRIBUTION OF RESPONDENTS		
States LGAs and Rural Communities Selected	**Population/Sampling Frame**	**10% Selected**
Enugu State		
Ezeagu LGA		
i) Agwuobu – Umumba	112	11
ii) Anansi Odo	210	21
iii) Awha Imezi District	205	20
iv)Aguobu-Umumba	190	19
Udi LGA		
*i)*Amokwe	200	20
ii) Egede	88	9
iii) Ngwo	100	10
iv) Udi	180	18
iv) Obioma	109	11
Orji-River LGA		
i)Awlaw	150	15
ii) Inyi	117	12
iii) Achi	288	29
iv) Aguabsi	150	15
v) Akpugo-eze	120	12
Enugu State Total	2,219	222
Ebonyi State		
Afikpo South LGA		
Owutu Edda	151	15
Ogbu Egbu	199	20
Ishielu LGA		
Ntezi	102	10
Emuhu	225	23
Ebeagu	150	15
Onicha LGA		
Oshiri	201	20
Isu	97	10
Ebonyi State Total	1125	113
Imo State		
Aboh Mbaise LGA		
Amohuru	108	11
Ngwu Nweke	58	6
Umaunadi	69	**7**
Egbelu	180	18
Ngali	160	16
Ideato South LGA		
Omere	260	26
Umuefe	212	21
Okoroba	89	9
Akanu	101	10
Umulebe	91	9
Ikeduru LGA		
Abazu	102	10
Amachi	84	8
Umuoleru	150	15

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Okpuala	!50	15
Obodo	72	7
Ogada	199	20
Njaba LGA		
Amafor	140	14
Umuneke	160	16
Duriaku	111	11
Eziuba	120	12
Obowo LGA		
Amaeke	272	27
Nna Chioma	139	14
Mgboma	297	30
Umuagwu	408	41
Imo State Total	3732	373
Grand Total	7076	708

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