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# ENTREPRENEURIAL SKILLS REQUIRED BY SECONDARY SCHOOL GRADUATES IN FISH PRODUCTION

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## Abstract
The study investigated entrepreneurial skills required by secondary school graduates in fish production. A descriptive survey design was adopted. The population of the study was 31 Agricultural Science teachers in 14 public secondary schools in Orumba South Local Government Area, Anambra State. A structured questionnaire adapted from Alawa (2016) was used to elicit information from respondents. The instrument was validated by experts and found fit for the study. Data collected were analysed using the mean. The mean of a four-point scale was put at 2.50. The study found among others, the planning, production and marketing skills needed by secondary school graduates for fish production. It was recommended among others, the need to emphasize the planning, production and marketing skills of fish production in the secondary school Agricultural science curriculum; Agricultural science teachers should be provided opportunities for workshops and seminars to expose them to the required skills for fish production; and secondary school graduates should be provided some financial incentives to engage in fish production. Government can carry out this palliative measure in order to boost fish production and engage unemployed graduates meaningfully.

**Key Words**: Entrepreneurial skills, Secondary school graduates, fish production

## Introduction
The demand for fish in Nigeria mostly outstrips the local production. Nigeria is the largest fish consumer in Africa and among the largest fish consumers in the world with over 1.5 million tons of fish consumed annually (Ozigbo, Anaydike, Adegbite & Kolawole, 2014). Yet, Nigeria imports over 900,000 metric tons of fish while its domestic catch is estimated at 450,000metric tons/year. Oluwemimo and Damilola (2012) put the figure of domestic production to just 511,700 metric tonnes. This means that local supply is yet to match demand. The nation spends about N150 billion (US$1billion) annually to bridge the gap between supply and demand.

Nigeria is blessed with diverse natural and man-made freshwater bodies ranging from streams, rivers and lakes to reservoirs of various sizes with abundant plant and animal resources, particularly fin fish. The most prominent among the networks in Nigeria is the Niger – Benue system, while Lake Chad and Kainji are the most important with regards to fish production (Eyo & Ahmed, 2015). Nigeria is blessed with an estimated inland water mass of 12.5 million hectares

capable of producing about 512,000 metric tons of fish annually (Ita & Sado, 2015). However, Ita (2013) indicated that Nigerian inland water bodies are currently producing less than 50% of their estimated potential fishery yields. The over exploitation of the limited resources has resulted in a sharp decline in Inland rivers and lakes fish production from 213,996 metric tonnes in 1998 to 181,268 and 194,226 metric tonnes in 2000 and 2001 respectively.

There are three main fish production systems in Nigeria, these includes Artisanal (inland rivers, lakes, Coastal and brackish waters), Aquaculture (fish farm) and Industrial fishing (inshore and offshore waters). Aquaculture offers ample opportunity for secondary school graduates with the right entrepreneurial skills (Eyo & Ahmed, 2015). Secondary school is the level of education between the primary and tertiary levels which offers the graduates an opportunity to continue their academic career or join any trade of their choice. Secondary school is the stage of education following primary school. It is generally targeted at adolescents. Webster (2009) sees secondary school as a school intermediate between elementary school and higher education usually offering general, technical, and vocational or college- preparatory courses, while Collins (2013) refers to it as a school for young people, usually between the ages of eleven and eighteen. As for the National policy on education (FRN, 2013) it is the form of education children receive after primary education and before the tertiary stage.

It is envisaged that on completion of secondary school, graduates should have been equipped with the requisite entrepreneurial skills to engage in one form of business or another which fish production is a good example. Entrepreneurship is the process of initiating and managing business organizations to accomplish societal objectives. It is also the willingness and ability of an individual, group of individuals or government entity to seek out investment opportunities, establish and run an enterprise successfully (Erinne, 2004). An entrepreneur therefore is an individual, a group of individuals or government entity who undertake the responsibility of making innovations in the economy (developing a new source of supply of raw material, new methods of production or distribution, introducing new goods/ service and opening a new market) or carries out a new organization of an industry. Globally, entrepreneurship skill acquisition programs introduced into educational institutions were meant to provide the level of education or knowledge needed to exploit entrepreneurial opportunity which could help the economic development of such countries (Emaikwu, 2011), and studies have shown that skill acquisition is the most critical factor in the utilization of entrepreneurship opportunity for self-employment (Ekpe et al., 2012).

The need for this is not far-fetched. The skyrocketing rate of unemployment in Nigeria is disturbing and it is no longer news that the nation's youth unemployment rate is very high. In 1992, the World Bank put the Nigerian youth unemployment rate at 28%. In April 2009, during the discussion of a panel of experts on youth and employment in Washington, the Director of the National Planning Commission of Nigeria, put the rate of youth unemployment in Nigeria at between 60% and 70% (National Bureau of Statistics, 2010). According to Awogbenle and Iwuamadi (2010), the statistics from the Manpower Board and the Federal Bureau of Statistics showed Nigeria has a youth population of 80 million, representing 60% of the total population of the country. Also, 64 million of them are unemployed, while 1.6 million are under-employed. The 2010- 2020 data on youth unemployment showed that the largest group of the unemployed is the secondary school graduates (Uddin & Uddin, 2021).

It appears that the only solution to the time-bomb, that is high rate of joblessness among Nigerian secondary school graduates is to empower them with innovative and entrepreneurial skills. Exploitation of entrepreneurial opportunity depends on the entrepreneur's skills or knowledge acquired through training, work experience and social network (Shastri & Sinha (2010). Training and/or education produce prior experience which leads to preparedness for entrepreneurial activity (Shane, 2003). A common denominator in a good number of studies on entrepreneurship is the important role of three key factors namely, risk- taking, innovation and identification and use of opportunities, with varying degrees of emphasis (Idam, 2014).

The awareness of the need for entrepreneurial skill training for secondary school students is in order to stimulate entrepreneurial activity on graduation and reduce business failure (Abdullah et al., 2009). It is also a vital source of developing human capital (Ikegwu, 2014). Rufai et al. (2013) found that secondary school graduates could not get employment because they possessed low skills and low self-confidence required by industries since there was no industrial exposures while in school. Gbemisola and Adeola (2015) observed that a good number of students who have completed their secondary education but failed to secure admission into institutions of higher learning are in dilemma. This is because they are not equipped with the requisite skills for self or paid-employment. Skill training in entrepreneurship however, could lead to entrepreneurial activity or self-employment (Amadi, 2012). Skill acquisition training was found to have positive effect on entrepreneurial activity in Nigeria (Ikegwu, 2014).

It is perhaps, as a result of this gap in the curriculum of secondary education that the National Council on Education (NCE) gave approval for a new curriculum structure for the three-year senior secondary education, as released by Nigerian Educational Research and Development Council (NERDC), known as Curriculum 2007.The coming on board of Curriculum 2007 is an indictment on the suitability of the existing curricula in primary, junior secondary and senior secondary schools in meeting the needs and aspirations of the teeming Nigerians. Curriculum 2007 is premised on a learner-centred, competence-based approach to education. It reflects depth, appropriateness and interrelatedness of the curricula contents, problem solving, critical and creative reasoning, quality standards, and emergent issues such as value orientation, peace and dialogue, entrepreneurial skills, and so on (NERDC, 2007).

In order to capture the prevailing situation with regards to entrepreneurial skills of secondary school graduates, some studies have been carried out. Alawa (2016) carried out a study aimed at identifying entrepreneurial skills required by youths in fish production for reduction of insurgency and economic development of South-South Nigeria and identified 8 skills in planning, 14 skills in stocking, 7 skills in management and 7 skills in marketing of fish required by youths for reduction of insurgency and economic development of South-South Nigeria. Gbemisola and Adeola (2015) examined the entrepreneurship education in senior secondary schools in Oyo State, Nigeria. The purpose was to ascertain the level of compliance with the curriculum's contents, teachers' competence and the extent to which it has empowered students for self-employment. The analysis revealed that only about 10% (11.8 rural and 9.1 urban) of sampled schools commenced the programme in 2011, while more than 70% selected between only one and two trade subjects for their students. Rural students were exposed to 10, while urban students were exposed to 11 out of

the 34 entrepreneurial subjects. Students had learnt significant self-employable entrepreneurial skills in two subjects out of 10 in rural areas and six out of 11 selected subjects in urban areas.

Given that aquaculture has enormous benefits to offer the secondary school graduates, it becomes imperative to empower them with entrepreneurial skills. One of the areas to which entrepreneurial skills training is important for secondary school students is in the area of fish production. Entrepreneurial skills in fish production generally boarder on the development of planning skills, production skills and marketing skills. These are generally accepted skills for effective entrepreneurship in fish production. The study therefore, is poised to explore and identify those specific entrepreneurial skills needed by secondary school graduates in fish production in Orumba South Local Government Area of Anambra State.

**Statement of the Problem**

Secondary school graduates supposed to have acquired the requisite entrepreneurial skills that will enable them manage own businesses and keep themselves off the street. One of the areas with enormous potential for entrepreneurship is in fish production where at present demand outweighs supply. Unfortunately, it has been found that students are not well exposed to entrepreneurial skills that could enable them become active players in the area of fish production. Secondary school graduates therefore, roam about in search of jobs that are rarely available. Opportunities for self-employment through fish production are vast; but what is required is the right entrepreneurial skills on the part of these graduates to engage effectively in this business venture. In order to mitigate the high rate of unemployment among secondary school leavers and bridge the gap between demand and supply of fish in Nigeria, graduates need entrepreneurial skills in fish production. The problem of the study therefore, is what are the entrepreneurial skills required by secondary school graduates in fish production?

**Purpose of the Study**

The main purpose of the study is to identify entrepreneurial skills required by secondary school graduates in fish production in Orumba South Local Government Area. Specifically, the study sought to:

1. Identify the planning skills needed by secondary school graduates in fish production;
2. Identify the production skills needed by secondary school graduates in fish production;
3. Identify the marketing skills needed by secondary school graduates in fish production;

**Research Questions**

The following research questions will be answered in the study:

1. What are the planning skills needed by secondary school graduates in fish production?
2. What are the production skills needed by secondary school graduates in fish production?
3. What are the marketing skills needed by secondary school graduates in fish production?

**Methodology**

The study adopted a descriptive survey design. The area of the study was Orumba South Local Government Area, Anambra State, Nigeria. The population of the study was 31 Agricultural Science teachers in 14 public secondary schools in the area. The questionnaire titled:

Entrepreneurship Skills Requirement in Fish Production Questionnaire (ESRFPQ) developed by Alawa (2016) was adapted as the instrument for data collection. The instrument was administered by hand delivery by the researchers. Data obtained from field study was analysed using the mean.

**Results**

**Table 1: Mean Ratings on Planning Skills Needed by Secondary School Graduates in Fish Production (N= 24)**

| S/N | Planning Skills | HR | R | FR | NR | X | Remark |
|---|---|---|---|---|---|---|---|
| 1 | Set goals for fish production enterprise | 12 | 8 | 4 | - | 3.33 | Required |
| 2 | Review set goals regularly | 13 | 10 | 1 | - | 3.50 | Required |
| 3 | Identify major activities to be carried out as and at when due | 11 | 11 | 2 | - | 3.38 | Required |
| 4 | Identify suitable location for the enterprise | 21 | 3 | - | - | 3.88 | Required |
| 5 | Identify sources of finance | 23 | 1 | - | - | 3.96 | Required |
| 6 | Identify personnel for the enterprise | 4 | 3 | 12 | 5 | 2.25 | Not Required |
| 7 | Identify appropriate equipment for use | 10 | 11 | 3 | - | 3.29 | Required |
| 8 | Budget accordingly for the enterprise. | 14 | 9 | 1 | - | 3.54 | Required |

Data in Table 1 shows the mean ratings of Agricultural science teachers on planning skills needed by secondary school graduates in fish production. Seven items were rated from 3.29 to 3.96 which were above the cut-off point of 2.50. This indicates that the planning skills rated were required by secondary school graduates in fish production. Item 6 however was rated 2.25 which is below the cut-off. Hence, the skill was not required in fish production.

**Table 2**: **Mean Ratings on Production Skills Needed by Secondary School Graduates in Fish Production (N= 24)**

| S/N | Production Skills | HR | R | FR | NR | X | Remark |
|---|---|---|---|---|---|---|---|
| 9 | Determine the pond type to use for the enterprise | 12 | 11 | 1 | - | 3.46 | Required |
| 10 | Construct pond to specification | 8 | 9 | 5 | 2 | 2.96 | Required |
| 11 | Fill pond with clean water to required level | 12 | 10 | 2 | - | 3.42 | Required |
| 12 | Check for acidity level of water | 11 | 4 | 4 | 5 | 2.88 | Required |
| 13 | Identify fish species with good demand | 15 | 7 | 2 | 1 | 3.58 | Required |
| 14 | Identify reputable fish breeders | 13 | 11 | - | - | 3.54 | Required |
| 15 | Procure fish fingerlings from recognized breeders | 6 | 6 | 4 | 8 | 2.42 | Not Required |
| 16 | Transport fingerlings to fish pond site | 11 | 9 | 2 | 2 | 3.21 | Required |
| 17 | Supply fingerlings to the pond in good condition | 16 | 8 | - | - | 3.67 | Required |
| 18 | Supply initial fish feeds in the pond regularly | 11 | 11 | 2 | - | 3.38 | Required |
| 19 | Provide initial medication for fish to specification | 10 | 6 | 4 | 4 | 2.92 | Required |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 20 | Provide shade over the pond | 13 | 6 | 3 | 2 | 3.25 | Required |
| 21 | Identify diseased and isolate them from the pond | 10 | 8 | 2 | 4 | 3.00 | Required |
| 22 | Keep records appropriately about fish enterprise | 14 | 8 | 2 | - | 3.50 | Required |

Data in Table 2 shows the mean ratings of agricultural science teachers on production skills needed by secondary school graduates in fish production. Thirteen items were rated from 2.88 to 3.67 which were above the cut-off point of 2.50. This indicates that the production skills rated were required by secondary school graduates in fish production. Item 15 however was rated 2.42 which was below the cut-off. Hence, the skill was not required in fish production.

Table 3: **Mean Ratings on Marketing Skills Needed by Secondary School Graduates in Fish Production (N= 24)**

| S/N | Marketing Skills | HR | R | FR | NR | X | Remark |
|---|---|---|---|---|---|---|---|
| 23 | Advertise produce using appropriate media | 3 | 3 | 10 | 8 | 2.04 | Not Required |
| 24 | Harvest fish according to maturity and size | 11 | 8 | 5 | - | 3.25 | Required |
| 25 | Fix prices for fish based on size | 16 | 6 | 2 | - | 3.58 | Required |
| 26 | Sell fish to identified customers | 20 | 4 | - | - | 3.83 | Required |
| 27 | Keep sales record of the enterprise | 12 | 8 | 2 | 2 | 3.25 | Required |
| 28 | Prepare profit and loss account for the fish enterprise | 13 | 7 | 4 | - | 3.38 | Required |
| 29 | Expand fish production enterprise based on profit | 12 | 8 | 4 | 4 | 3.50 | Required |

Table 3 shows the mean ratings of Agricultural science teachers on marketing skills needed by secondary school graduates in fish production. Six items were rated from 3.25 to 3.83 which were above the cut-off point of 2.50. This indicates that the marketing skills rated were required by secondary school graduates in fish production. Item 23 however was rated 2.04 which was below the cut-off. Hence, the item was not required in fish production.

**Discussion of Findings**

The study sought to find out entrepreneurial skills required by secondary school graduates in fish production. It addressed four key areas of skills need, namely, planning, production and marketing as well as measures to improve entrepreneurial skills of secondary school graduates in fish production.

On planning skills required for fish production, the findings were that planning skills include setting goals for fish production enterprise; regular review of set goals; identification of major activities to be carried out as and at when due; identification of suitable location for the enterprise; and identification of sources of finance. Also included are identification of appropriate equipment

for use; and budgeting accordingly for the enterprise. A good planning is a necessary basis for success in every endeavour. The findings on planning skills are in line with the earlier findings. For instance, Alawa (2016) carried out a study aimed at identifying entrepreneurial skills required by youths in fish production for reduction of insurgency and economic development of South-South Nigeria and identified eight planning skills necessary for fish production among the youths. The skills identified agreed with those of the study. The rejection of personnel for the enterprise could be as a result of the fact that beginners need not employ workers at the initial stage of the process and the graduate could do some of the things himself.

The study also identified some production skills required for fish production among secondary school graduates. These are determining the pond type to use for the enterprise; constructing pond to specification; filling pond with clean water to required level; checking for acidity level of water; identification of fish species with good demand; and identification of reputable fish breeders. Others are transporting fingerlings to fish pond site; supplying fingerlings to the pond in good condition; supplying initial fish feeds in the pond regularly; providing initial medication for fish to specification; and providing shade over the pond. It also includes identifying diseased fish and isolating them from the pond; as well as keeping records appropriately about fish enterprise. Again, these findings are in line with the skills identified in Alawa (2016) using the South-South Nigerian youths as case. It is also consistent with Omoniyi, Agbeti and Olaoye (2017) who state that, practical handling and care of fish is the first step in fish production especially through aquaculture source because there cannot be harvest without recruitment.

Marketing is also an important stage in fish production. Hence, the study determined marketing skills required by secondary school graduates in fish production. These include harvesting fish according to maturity and size; fixing prices for fish based on size; selling fish to identified customers; keeping sales record of the enterprise; preparing profit and loss account for the fish enterprise; and expanding fish production enterprise based on profit. Fish is a perishable product; without marketing skills, graduates are likely to incur losses and thus, be deterred from making further efforts at fish production. Alawa (2016) equally identified these skills as required for fish production among the youths.

**Conclusion**

Fish production could be an important means of empowering the secondary school graduates for self-employment. The main entrepreneurial skills required for fish production among secondary school graduates are planning, production and marketing skills. These skills if employed by this group could empower them economically and boost fish production in Nigeria especially as demand far exceeds supply of fish in Nigeria. The secondary school graduates therefore need to be provided these skills through training by relevant agencies, and media awareness of the phases of fish production. The need for curriculum enrichment to accommodate these skills also has been emphasized.

**Recommendations**

In view of the findings and implication of the findings, the following are recommended:

1. There is the need to emphasize the planning, production and marketing skills of fish production in the secondary school Agricultural science curriculum;

2. Agricultural science teachers should be provided opportunities for workshops and seminars to be exposed to the required skills for fish production;
3. Secondary school graduates should be provided some financial incentives to engage in fish production. Government can carry out this palliative measure in order to boost fish production and engage unemployed graduates meaningfully;
4. Agricultural Development Programme should conduct workshops for secondary school students;
5. Secondary school students should be encouraged to form cooperative societies to enable them exchange knowledge on fish production;
6. Agencies such as National Directorate of Employment and Agricultural Development Programme should regularly train students and unemployed graduates on fish production.

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