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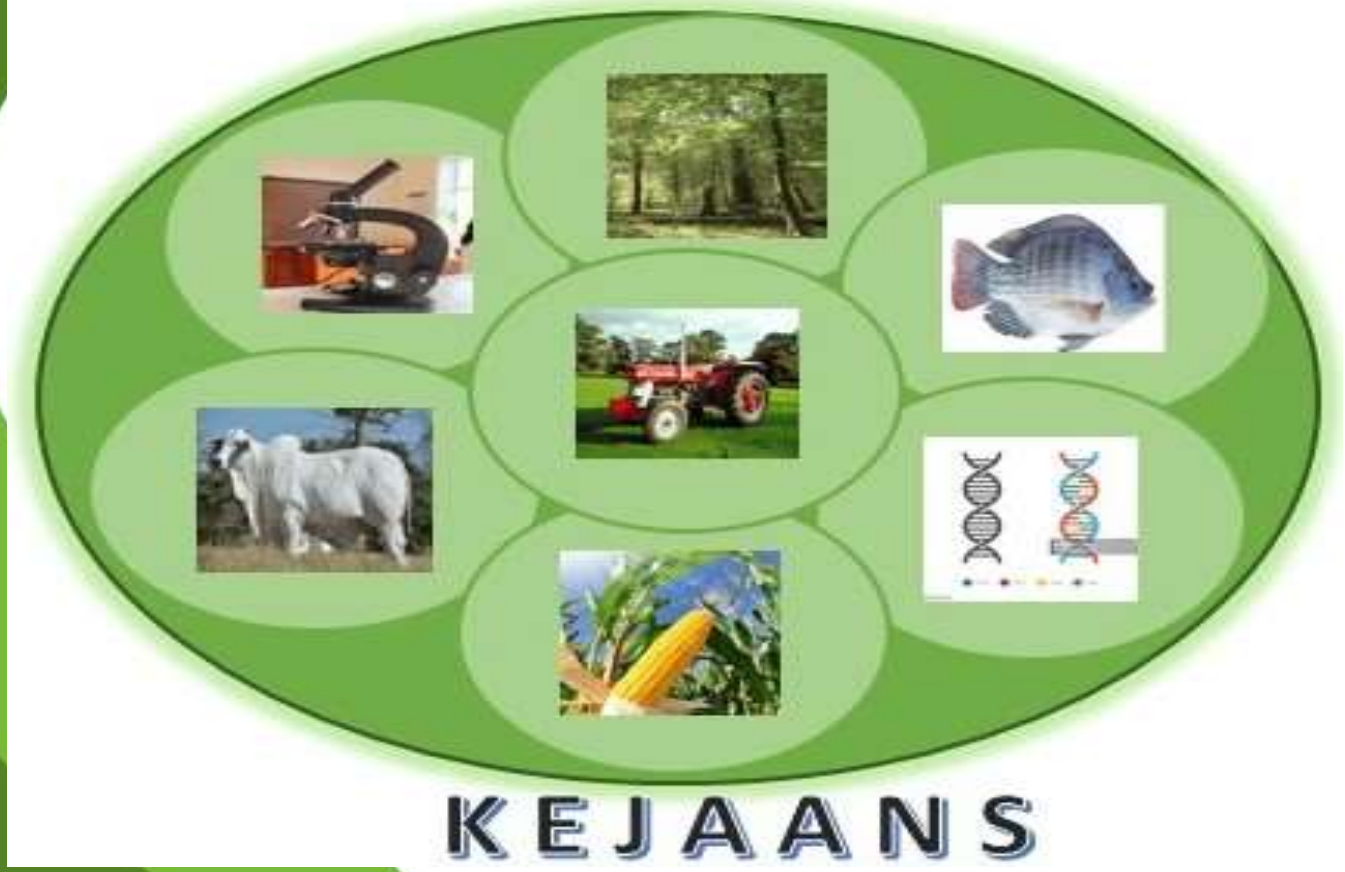

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This official scientific publication of the Faculty of Agriculture, Abdullahi Fodio University of Science and Technology Aliero, is a non-profit, open access, double-blind peer-reviewed Journal publishing four issues (January, April, July and October) per annum. The Journal is a platform open to collaborations with researchers, authors, institutions, research agencies and private companies related to Agriculture. The Mission of the Journal is to disseminate scientific knowledge through the publication of original research articles, research notes, book reviews, letters to the editor and reviews of Literature, representing a contribution to scientific and technological knowledge in respective areas covered by the Journal. The Kebbi Journal of Agriculture and Natural Sciences seeks to validate and disseminate new knowledge, making it public in order to strengthen the human capacity, constitute a link in the scientific community to the society and encouraging the expansion of University and academic researches.

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The Kebbi Journal of Agriculture and Natural Sciences has the sole aim of providing an intellectual platform and ideas for scholars, by promoting interdisciplinary studies related to agriculture and natural science through publishing the latest scientific research findings that are of direct policy implications and beneficial to the research community. Consequently, the journal covers all aspects of Crop Science, Animal Science, Agricultural Economics, Agricultural Extension and Rural Development, Food Science, Fisheries and Aquaculture, Biotechnology, Soil Science and Agricultural Engineering, Forestry and Environment, Wildlife, Agricultural Education, Agro-allied Industries as well as all Natural Science researches related to Agriculture.

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PERCEPTION OF STUDENTS TOWARDS FISHERIES AND AQUACULTURE AS A CAREER CHOICE IN COLLEGES OF EDUCATION IN ZAMFARA STATE

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ABSTRACT

This study investigated the perception of students towards fisheries and aquaculture as a career choice in Colleges of Education in Zamfara State, Nigeria. A descriptive survey research design was adopted, with a population comprising students from Federal College of Education (Technical) Gusau and Zamfara State College of Education, Maru. Using stratified random sampling, 200 students were selected, and data were collected through a structured questionnaire validated by experts, with a Cronbach's Alpha reliability coefficient of 0.81. Out of the 200 questionnaires distributed, 190 were retrieved and analyzed using descriptive and inferential statistics. The results showed that 78.9% of respondents demonstrated moderate to high awareness of fisheries and aquaculture. Students acknowledged fisheries' contribution to food security ($\bar{x} = 3.62$) and self-employment ($\bar{x} = 3.65$) but perceived it as less prestigious than other professions ($\bar{x} = 2.41$). Key factors influencing career choice included availability of practical facilities (76.3%), teachers' teaching methods (69.5%), and family influence (57.9%). Chi-square results revealed that gender and departmental affiliation significantly influenced students' perceptions ($p < 0.05$). The study concludes that although fisheries and aquaculture hold promise as career options, challenges such as inadequate facilities, gender stereotypes, and low prestige hinder student commitment. It is recommended that Colleges of Education strengthen practical training, improve teacher capacity, and promote awareness campaigns to attract more students to the field.

Keywords**:** fisheries, aquaculture, perception, students, career choice

Introduction

Food security, job creation, and national development are all greatly aided by fisheries and aquaculture (FAO, 2022). Nigeria has the potential to use fisheries and aquaculture as a tool for economic diversification and youth empowerment because of its abundant inland water resources (Akinbile et al., 2021). However, one of the most important factors influencing the sector's future growth is how young people view fisheries and aquaculture as a career path (Eze & Okeke, 2021). Because it affects the availability of skilled labor and entrepreneurial endeavors that can meet the growing demand for fish and fisheries products, students' interest in fisheries education is especially significant (Nwosu & Okonkwo, 2020).

Due in large part to sociocultural beliefs, a lack of awareness, poor incentives, and insufficient practical training, students in tertiary institutions throughout Nigeria have shown ambivalent attitudes toward careers in agriculture. For instance, Umunna, Adeeko, Ibrahim et al. (2024) evaluated how students in Niger State's higher education institutions felt about livestock farming and discovered that although most (71.6%) had a positive opinion, there were significant barriers, such as a lack of practical experience and a lack of knowledge about the potential of the field. In a similar vein, Agumagu, Ifeanyi-obi, and Agu (2021) found that roughly 73% of final-year agriculture students in Ogun State were open to farming as a sustainable source of income, although many pointed to a lack of funding and inadequate institutional support as obstacles.

The entrepreneurial potential of fisheries and aquaculture in tertiary agricultural education is also highlighted by recent studies. Fishery and aquaculture were identified by respondents as one

of the main scopes through which knowledge and skills were imparted (87.2%) in the "Perception of Youth in Selected Tertiary Institutions on Agricultural Education as a Means of Ensuring Food Security in Ogun State." But the same study noted that insufficient resource personnel, inconsistent electricity, and poor financing of agricultural education reduced the efficacy of these programs.

Examining how students view fisheries and aquaculture as career paths is crucial given the significance of Colleges of Education and other postsecondary institutions in developing future professionals and educators. Gaining an understanding of these students' perspectives on these fields can help inform workforce readiness and direct curriculum and policy changes to promote youth involvement in the industry.

Perception is a key factor in determining students' career choices in agriculture-related fields at colleges of education. Although many students recognized the value of aquaculture in ensuring food security, Nwosu and Okonkwo (2020) found that a lack of practical experience prevented many from becoming interested in pursuing it as a career. Similarly, Ango, Mamman, and Abdullahi (2020) discovered that students' lack of interest in agriculture-related studies in Zamfara State was influenced by inadequate facilities and unfavorable teacher attitudes. Furthermore, despite acknowledging aquaculture's profitability, Eze and Okeke (2021) contended that prestige concerns impacted students' decisions, with many choosing occupations outside of agriculture. According to Adekunle et al. (2024), students in Ogun State had a comparatively high level of awareness about aquaculture, but their enthusiasm was limited by a lack of practical experiences and contemporary teaching methods. All of these studies show that awareness by itself does not ensure student interest; rather, exposure to hands-on training, the caliber of instruction, and the social values associated with fisheries and aquaculture all influence perceptions. The growing demand for fish around the world makes aquaculture a viable business opportunity. 68% of Ogun State students surveyed by Adekunle et al. (2024) acknowledged aquaculture as an entrepreneurial field, but obstacles like inadequate facilities and few real-world opportunities stifled their enthusiasm. To increase aquaculture's appeal, respondents suggested adding farm visits, demonstrations, and opportunities for hands-on learning. This result is in line with the Food and Agriculture Organization's (FAO, 2022) emphasis on the importance of experiential education and vocational training in preparing youth for aquaculture entrepreneurship, especially in developing countries. Therefore, if given the right training materials, aquaculture education in education colleges has the potential to develop entrepreneurial skills.

Students' perceptions of agricultural careers are also influenced by their socioeconomic background. According to Ango et al. (2020), students were deterred from choosing careers in agriculture by obstacles like drudgery, a lack of employment opportunities, and the personalities of agriculture teachers. According to Okeke and Eze (2021) and Oladipo (2019), students' decisions about fisheries and aquaculture are greatly influenced by the availability of contemporary facilities, instructional resources, and governmental regulations. According to these studies, students' opinions of aquaculture may continue to be unfavorable or uninterested in the absence of structural support, such as contemporary learning environments and focused legislative initiatives.

Colleges of Education play a vital role in shaping future attitudes toward fisheries and aquaculture, especially because they train future teachers who will influence the next generation of learners. According to Nwosu and Okonkwo (2020), embedding practical, skill-oriented fisheries programs in teacher training not only improves awareness but also enhances students' entrepreneurial potential. Such integration also contributes to addressing broader national concerns such as youth unemployment and food insecurity. In this sense, Colleges of Education are uniquely positioned to bridge the gap between awareness and active participation in fisheries and aquaculture, thereby strengthening agricultural education and national development.

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Research Questions

1. What is the level of awareness of fisheries and aquaculture among students in Colleges of Education in Zamfara State?
2. How do students perceive fisheries and aquaculture as a career option?
3. What factors influence students' perception of fisheries and aquaculture careers?
4. Do demographic factors such as gender and department significantly influence students' perception of fisheries and aquaculture as a career choice?

Materials and Method

This study adopted a descriptive survey research design, which was considered suitable because it allowed the researcher to collect data from a representative sample and describe students' awareness, perception, and attitudes toward fisheries and aquaculture as a career choice. The population of the study consisted of all students in Colleges of Education in Zamfara State offering agricultural or science-related courses, specifically those enrolled in the Federal College of Education (Technical) Gusau and Zamfara State College of Education, Maru. From this population, a sample size of 200 students was selected using a stratified random sampling technique to ensure proportional representation across departments, levels of study, and gender. One hundred students were drawn from each college.

The main instrument for data collection was a structured questionnaire designed by the researcher. The instrument contained three sections: Section A collected demographic information such as gender, age, department, and level of study; Section B focused on awareness and perception of fisheries and aquaculture, measured on a four-point Likert scale ranging from Strongly Agree to Strongly Disagree; and Section C examined factors influencing students' career choices in fisheries and aquaculture, including teaching methods, incentives, socio-economic factors, and availability of resources. The questionnaire was subjected to face and content validation by three experts in Agricultural Education and Educational Research. A pilot test carried out on 30 students outside the study area produced a Cronbach's Alpha reliability coefficient of 0.81, which was considered acceptable for internal consistency.

Data collection was carried out through direct administration of the questionnaires by the researcher with the assistance of trained research aides. Of the 200 questionnaires distributed, 190 were retrieved, giving a return rate of 95%. The data obtained were analyzed using both descriptive and inferential statistics. Frequency counts, percentages, means, and standard deviations were used to answer the research questions, while chi-square tests were conducted to determine the significant influence of demographic variables such as gender and department on students' perception of fisheries and aquaculture as a career choice. All analyses were carried out using the Statistical Package for Social Sciences (SPSS, version 25.0), with the level of significance set at $p < 0.05$.

Results and Discussion

Research Question 1: What is the level of awareness of fisheries and aquaculture among students in Colleges of Education in Zamfara State?

Table 1: Students' Awareness of Fisheries and Aquaculture (n = 190)

Awareness Level	Frequency	Percentage (%)
Highly Aware	65	34.2
Moderately Aware	85	44.7
Low Awareness	25	13.2
Not Aware	15	7.9
Total	**190**	**100**

The findings show that 78.9% of respondents (highly aware and moderately aware combined) had knowledge of fisheries and aquaculture as a field of study and career path. This implies that exposure through coursework and informal sources (family practices, community fish farming) has significantly increased awareness. However, about 21.1% still showed little or no awareness, highlighting the need for improved sensitization. These results are consistent with Bello *et al.* (2020), who reported that more than 70% of secondary school students in Borno State were aware of fisheries as a profession, largely due to agricultural education and teacher influence.

Research Question 2: What are students' perceptions of fisheries and aquaculture as a career choice?

Table 2: Students' Perception of Fisheries and Aquaculture (n = 190)

Perception Statement	Mean ($\bar{x}$)	Std. Dev.	Remark
Fisheries provides self-employment opportunities	3.45	0.72	**Agree**
Fisheries contribute to food security	3.62	0.68	**Strongly Agree**
Fisheries is as prestigious as other professions	2.41	0.91	**Disagree**
I would like to pursue fisheries as a career	2.98	0.84	**Agree**
Fisheries is labor-intensive and unattractive	3.02	0.80	**Agree**

The results indicate that students largely recognized the importance of fisheries for food security ($\bar{x}$ = 3.62) and self-employment ($\bar{x}$ = 3.45). However, their perception of fisheries as a prestigious profession was relatively low ($\bar{x}$ = 2.41), suggesting a lingering bias that undervalues vocational and agricultural careers compared to professions such as medicine, law, or engineering. This aligns with Adekunle *et al.* (2021), who found that while students acknowledged aquaculture's entrepreneurial potential, they rated its prestige lower than other professional careers.

Research Question 3: What factors influence students' choice of fisheries and aquaculture as a career?

Table 3: Factors Influencing Career Choice (n = 190)

Factor	Frequency	Percentage (%)	Rank
Availability of practical facilities	145	76.3	1
Teachers' attitude and teaching methods	132	69.5	2
Family/parental influence	110	57.9	3
Perceived profitability of the profession	102	53.7	4
Peer influence	88	46.3	5
Incentives/scholarships	72	37.9	6

The most influential factors shaping students' career choice were the availability of modern facilities (76.3%) and teachers' teaching methods (69.5%). These findings reflect the significance of practical exposure in shaping students' career aspirations. The result agrees with Ango et al. (2019), who reported that teaching methods and the use of modern agricultural facilities were key determinants of students' willingness to pursue agriculture-related professions in Zamfara State. Parental influence (57.9%) also played a significant role, consistent with Ogunremi *et al.* (2017), who noted that family background shapes students' orientation toward aquaculture careers.

Research Question 4: Do demographic factors such as gender and department significantly influence students' perception of fisheries and aquaculture as a career choice?

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Table 4: Chi-Square Analysis of the Influence of Demographic Factors on Students' Perception of Fisheries and Aquaculture (n = 190)

Variable	χ^2-value	df	p-value	Decision
Gender × Perception	6.81	2	0.033	Significant
Department × Perception	10.24	3	0.017	Significant

The chi-square results indicate that both gender and departmental affiliation significantly influenced students' perceptions of fisheries and aquaculture ($p < 0.05$). Male students were more inclined to view fisheries as profitable and adventurous, while female students often perceived it as labor-intensive and less attractive. Similarly, students from agricultural education departments expressed more favorable perceptions than their peers in pure sciences. This finding echoes Adesina *et al*. (2017), who emphasized that gender stereotypes and field of study shape agricultural career perceptions among students in Nigerian tertiary institutions.

Conclusion

This study examined the knowledge, attitudes, and variables influencing Zamfara State College of Education students' decision to pursue a career in fisheries and aquaculture. Due in large part to their exposure through agricultural courses and local practices, the majority of students were found to be moderately to highly aware of fisheries and aquaculture. Although many still saw fishing as less prestigious than other professional occupations, students generally saw it as crucial for self-employment and food security.

Students' desire to pursue careers in the field was found to be strongly influenced by a number of factors, including the availability of practical facilities, the attitudes of teachers, the influence of family, and perceived profitability. Additionally, it was demonstrated that perceptions are strongly influenced by gender and departmental background, with male students and those in agricultural departments displaying more positive orientations. The study concludes that while there is a lot of potential for encouraging students to pursue careers in fisheries and aquaculture, a number of obstacles still stand in the way, including poor facilities, gender stereotypes, and low prestige. Resolving these problems could increase students' enthusiasm and solidify fisheries education as a means of empowering young people and advancing the country.

Recommendations

Based on the findings, the following recommendations are made:

1. In order to give students practical experience and spark their interest, educational institutions should increase the availability of state-of-the-art aquaculture facilities, labs, and demonstration farms.
2. Teacher Capacity Building: Teachers in science and agriculture should receive training and encouragement to use creative, interactive teaching strategies that increase students' interest in fisheries and aquaculture.
3. Awareness Campaigns: To increase knowledge of the career options in fisheries and aquaculture, particularly for female students, governments, non-governmental organizations, and private stakeholders should host conferences, workshops, and media campaigns.
4. Incentives and Scholarships: Offering grants, scholarships, and programs to support entrepreneurs to students pursuing careers in fishing will promote greater involvement and lower socioeconomic barriers.
5. Integration into Career Guidance: Colleges of Education's career guidance units ought to include information about fisheries and aquaculture in their counseling programs, emphasizing both its economic potential and connection to food security.

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