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"EMPLOYABILITY OF BACHELOR OF SCIENCE IN FISHERIES GRADUATES IN CALABARZON- INPUT FOR CURRICULUM"

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Abstract

This study assesses the employability of Bachelor of Science in Fisheries graduates from a State University in CALABARZON (2019-2022). A survey of 66 graduates revealed a demographic profile of predominantly single individuals aged 22-25, with a nearly equal gender distribution. Employment was reported by 68.18%, with 33.33% in permanent positions across diverse sectors: private (34.84%), public (39.39%), NGOs (12.12%), and non-profits (13.63%). Only 36.4% secured fisheries-related jobs, highlighting a mismatch between education and employment. Low pass rates in licensure exams for aquatic resources (12.12%) and aquaculture (27.27%) suggest curriculum gaps. Influences on career choice included family, course availability, affordability, and job prospects. The findings advocate for improved career guidance, curriculum revisions, and stronger industry links to better align graduates' skills with market needs.

Keywords: career guidance, CALABARZON, curriculum revisions, curriculum gaps, State College and Universities (SUCs)

Introduction

In the pursuit of sustainable development, the concept of decent work has emerged as a cornerstone, encapsulating the ideals of economic growth, employment opportunities, and equitable labor practices. Central to this vision is Sustainable Development Goal 8, which underscores the imperative of fostering sustained, inclusive, and sustainable economic growth, promoting full and productive employment, and ensuring decent work for all. Embedded within the broader framework of the 2030 Agenda for Sustainable Development, decent work embodies the principles of employment creation, social protection, labor rights, and social dialogue. These elements are not only fundamental to Goal 8 but also intersect with

and support the objectives of numerous other Sustainable Development Goals. As such, the pursuit of decent work transcends mere economic considerations. It is intrinsically linked to social progress, environmental sustainability, and the realization of human rights. By advancing the agenda of decent work, societies can strive towards a future in which opportunities for dignified and meaningful employment are accessible to all, laying the foundation for inclusive and sustainable development. The quote by Winston Churchill, "True genius resides in the capacity for the evaluation of uncertain, hazardous, and conflicting

information," underscores the essence of intellectual brilliance by highlighting the ability to navigate complexity and ambiguity effectively. This quote emphasizes the importance of critical thinking and discernment in making sense of intricate and contradictory data.

In the realm of fisheries education, evaluating institutional performance is integral to ensuring the effectiveness and relevance of academic programs. A key aspect of this evaluation involves assessing the outcomes and achievements of graduates from fisheries institutions, particularly colleges and universities. By gauging the employment profile and current status of graduates, institutions can gain valuable insights into the impact and efficacy of their educational programs. Tracer studies represent a cornerstone in the assessment procedures employed by fisheries institutions. These studies serve as a systematic and efficient means of tracking the trajectories of graduate's post-graduation, shedding light on their career pathways, accomplishments, and contributions to the field. By conducting tracer studies, fisheries institutions can obtain a comprehensive understanding of the labor market outcomes associated with their educational offerings.

The objective of the present study is to examine the nuances of the evaluation processes that fisheries institutions employ, with an emphasis on tracer studies. We aim to clarify the processes by which organizations assess the effectiveness and achievement of their educational initiatives by looking at these approaches. By shedding light on these assessment practices, this study endeavors to contribute to ongoing efforts aimed at enhancing the quality and relevance of fisheries education.

Tracer studies play a pivotal role in evaluating the effectiveness and relevance of policies, curricula, and strategies implemented by educational institutions, particularly universities. By tracking the current status and outcomes of their graduates, universities can assess their performance and identify areas for improvement within their educational programs. These findings serve as invaluable insights that inform future planning and decision-making at both institutional and national levels. As highlighted by the Tertiary Education Commission Ameyaw (2018), the outcomes of tracer studies serve as a basis for aligning academic programs with the needs of the economy. In an era marked by the complexities and challenges of the 21st century, advanced higher education emerges as a key mechanism for navigating reforms and fostering socio-economic upliftment. Graduate education is recognized as a catalyst for poverty alleviation and national development, equipping individuals with the knowledge, skills, attitudes, and values necessary for societal contribution. Tracer studies provide essential information about graduates of academic programs at higher education institutions (HEIs). Their findings offer insights that can inform the refinement of an HEI's mission and market niche, as well as guide adjustments to academic programs and course offerings to align with institutional goals. Additionally, stakeholders can leverage tracer study results to identify areas of expertise and lay the groundwork for enhancing existing curricula and procedures, while also fostering innovation.

Given the multifaceted benefits and implications of tracer studies, this study aims to contribute to the body of knowledge in this area. By examining the outcomes of tracer studies, we seek to gain a deeper understanding of their utility in evaluating educational programs and shaping institutional strategies. Through this endeavor, we aspire to facilitate continuous improvement and

innovation in higher education, ultimately contributing to the advancement of society as a whole.

The gap lies in the need to evaluate the current employment status of Bachelor of Science in Fisheries graduates, specifically within CALABARZON, Region 4A. Despite the State Universities of CALABARZON prioritizing excellence and quality in education, there is a lack of comprehensive data regarding the employment outcomes of graduates from the Bachelor of Science in Fisheries program.

This gap is particularly significant, given the institutions' mission to provide quality education aligned with the evolving needs of the labor market. Therefore, conducting a tracer study to assess the employment status of these graduates is essential for informing educational policies, curriculum development, and institutional strategies. By addressing this gap, the study aims to contribute to the advancement and upgrading of State College Universities in CALABARZON, ensuring that they remain responsive to societal demands and effectively prepare graduates for successful careers in the fisheries sector.

In this study, the researcher determined the current employment and productivity of Bachelor of Science in Fisheries graduates in CALABARZON. Specifically, the study addresses the following questions:

1. What is the general profile of the respondents in terms of the following: Sex, Age, Civil status, Year graduated, Eligibility and Reason(s) for taking the course(s) or pursuing degree(s)
2. What is the employment profile of the respondents in terms of the following:
3. What competencies did the respondents find useful in their first job that they learned in college?
4. What are the implications of the study's findings for enhancing the curriculum of the Bachelor of Science in Fisheries?

Theoretical Background

In terms of explaining the rationale of choices and decisions made by the graduates, the key player here would have to be motivation. There are two distinguishable types of motivations. There are intrinsic and extrinsic types of motivation. Intrinsic motivation is the individual's desire to perform a task for their own sake (Benabou & Tirole, 2003). Extrinsic motivation, as Benabou & Tirole (2003) also wrote, is having the intention of performing a task only when a receivable reward is presented. Intrinsic and extrinsic types of motivation have been widely studied, and the distinction between them has shed important light on both developmental and educational practices (Ryan & Deci, 2000). Ryan and Deci (1985) also wrote that human beings can be proactive and engaged or, alternatively, passive and alienated, largely as a function of the social conditions in which they develop and function.

Another theory that further supports the importance of motivation in this study is the expectancy-value theory, which proposes that motivation and effort are the combined result of people's expectations of success and the value they attach to that success Wang, Q., & Xue, M. (2022), the expectancy-value theory of achievement motivation exerts its effort to explain the people's choice of achievement tasks, persistence on those tasks, vigor in

carrying them out, and performance on them. He also argued that an individual's choice, persistence, and performance can be explained by their beliefs about how well they will do on the activity and the extent to which they value the activity.

To further elaborate, in Maslow's hierarchy of needs, Maslow (1943) believed that individuals possess a set of motivation systems unrelated to rewards or unconscious desires. He further detailed that people are motivated to achieve certain needs, and that some needs take precedence over others. The earliest and most widespread version of Maslow's (1943, 1954) hierarchy of needs includes five motivational needs, often depicted as hierarchical levels within a pyramid. This five-stage model can be divided into basic needs (e.g. physiological, safety) and growth needs (e.g. love and esteem) which relate to fulfilling human potential (self-actualization). The basic needs are said to motivate people when they are unmet. Also, the need to fulfill such needs will become stronger the longer the duration they are denied. Therefore, one must satisfy lower-level deficit needs before progressing to meet higher-level growth needs. This is a very important concept to understand because it helps us understand the behavior of human motivation and how choices are made through personal needs and satisfaction. A major choice that people make, what career, vocation, or profession they should pursue, is definitely under the influence of the factors mentioned in Maslow's theory.

Lastly, in order to connect the essential concepts of motivation to career decisions, Holland's theory of career choice Holland (1997) wrote that in society, most people are one of the six personality types namely: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

Literature Review

The Internat Thesaurus 2005 defines a tracer study as an impact assessment tool where the "impact on target groups is traced back to specific elements of a project or program so that effective and ineffective project components may be identified" Brammer & Millington (2005) Since the target group for the tracer study is former students, it is frequently referred to as a graduate or alumni survey in educational research. Schomburg (2003) according to the author, graduate surveys are widely used for "analysis of the relationship between higher education and work." They offer quantitative, structural data on career and employment, the nature of work and related competencies, and details on the experiences and professional orientation of their graduates Nippa, M., & Reuer, J. J. (2019). Any program must evaluate its curriculum to make sure that its material is up to date, excellent, and meets the demands of the labor market. Tracer studies are one method used by institutions to accomplish this elaborates on the correlation between employability and work performance using social exchange models that involve reciprocity. Investments from the other person return investments from one person. The social exchange model, if someone provides something beneficial for you, you feel obliged to reciprocate, balancing the exchange. If management invests in the employability of the workforce, it will influence the exchange relationship between management and workers. Employees will strive to reciprocate this relationship by providing something in exchange. Cuadra et al. (2019) suggests that graduate tracer studies are a suitable method for evaluating the outcomes of training and education given in an academic setting. It is claimed that a tracer study is undoubtedly crucial to figuring out whether curriculum initiatives are successful (De Castro, 2017). It validates how well an organization performs in delivering high-

quality instruction and services (Reusia et al., 2020). Higher education institutions (HEIs) should regularly conduct tracer studies because they provide quantitative-structural data on employment and career, work character, related competencies and skills, and information on professional alignment, practices, and career plans of graduates Misra and Khurana (2018) Therefore, in the global economy, "employability of graduates has become an issue that is not easy to ignore." For graduates to be employed, individuals must have the required skills and adaptable abilities in the ever-changing job market. Recognizing the elements and qualities of employment is crucial for HEIs to influence the job status of their graduates.

Research Methodology

The study used the descriptive method of research to cover the employment characteristics and transition of BS Fisheries graduates from State College and University in (CALABARZON) from graduation to employment. The descriptive method is used when the research involves describing, recording, analyzing, and interpreting existing conditions.

The descriptive research design is employed in this tracer study, which, according to Mees et al. (2015), is a scientific approach that entails monitoring and documenting a subject's activity without in any way altering it. By employing a questionnaire or asking questions, it is a method of learning more or gathering information. The researcher employed the survey technique of study to determine whether or not those who earned a Bachelor of Science in Fisheries with an emphasis in Aquatic Sciences between 2019 and 2022 utilize their graduate degree for their profession or work. By using this approach, the graduates' employment situation will be evaluated. The difficulties graduates faced in choosing occupations and their motivations were then exposed. This method also showed the income and benefits they received.

Data Collection

The researchers used social networking sites, specifically Messenger and Facebook, to reach out to the target respondents. They also used email to distribute questionnaires. After the survey, the researchers were able to interpret and analyzed the gathered data from the BS Fisheries graduates batch of 2019-2022.

As an initial part of preparation, the researchers gathered relevant information from the university library, citing examples of tracer studies to help them have a clear vision of what to expect in the study. They also read about successful tracer studies from other universities published on the internet. This also helped them orient themselves to the standard procedure. Upon determining that the Bachelor of Science in Fisheries graduates in CALABARZON from Batch 2019-2022 would be the target population for the tracer study, the researchers requested a comprehensive master list of the group. As the primary data source, the BSF graduates received questionnaires and answered them online for the researchers. In addition, the researchers used books, unpublished materials, and other reading sources containing information related to the study. They also used the internet as a source of information. Providing examples of tracer studies will help researchers gain a clear understanding of what to expect in their study.

Data Analysis

This study utilized percentile and frequency distribution methods to analyze and interpret the data.

Percentage

This was done to determine the frequency counts and percentage distribution of personal variables related to the respondents. Government of Canada, Statistics Canada. (2021, September 2)

The formula is $\% = \left(\frac{F}{N}\right) \times 100$

$\%$ = the percentage
F = the frequency
N = Total number of respondents
100 = constant value

Discussion of Findings

1. Profile of the Respondents

Table 1 shows the data provides comprehensive insights into various aspects of the Bachelor of Science in Fisheries program at a State University college in CALABARZON from 2019 to 2022. Across these years, a total of 66 graduates were recorded, with male graduates slightly outnumbering females. While there were fluctuations in the number of graduates each year, the gender distribution remained relatively balanced.

The majority of graduates fell within the typical undergraduate age range of 22-25 years, with a significant proportion slightly older. The vast majority were single, indicating a predominantly young and unmarried student population.

In terms of career paths, teaching doesn't seem to be a common choice among graduates, as none passed the License Examination for Teachers. However, a subset pursued roles requiring passing the Fisheries Technologies Examination and the Civil Service exam. Most graduates did not hold any license.

Family influence emerged as a significant factor influencing students' choice of course or career, followed by course availability and affordability. Financial accessibility was highlighted as crucial, alongside considerations of career prospects and potential for employment abroad. Peer and familial influence were also noted as influential factors.

2019		
2020	27	40.90%
2021	11	16.66%
2022	2	3.03%
	26	39.35%
Eligibility		
LET	0	0.00%
LEFT	8	12.12%
CSC	8	12.12%
NO License	50	75.75%
Reason for taking BS Fisheries		
High Grades in the course or subject related to the course	2	3.03%
Good grades in high school	1	1.51%
Influence of parents or relatives	17	25.75%
Peer Influence	1	1.51%
Inspired by a role model	2	3.03%
Strong passion for the profession	6	9.09%
Prospect for immediate employment	4	6.06%
Availability of course offering in chosen institution	12	18.18%
Prospect of career advancement	3	4.54%
Affordable for the family	11	16.66%
Opportunity for employment abroad	0	0.00%
No particular choice or no better idea	7	10.60%

Variable	Frequency	Percentage
Sex		
Male	36	54.54%
Female	30	45.5%
Age		
22-25	38	57.57%
26-30	24	36.36%
31-35	2	3.03%
36 above	2	3.03%
Civil Status		
Single	59	89.39%
Single parents	1	1.51%
Married	5	8%
Widow/Widower	1	1.51%
School Year Graduated		

2. Employment profile of BS Fisheries graduates for the school years 2019-2022

The data provides a comprehensive overview of the employment status, arrangements, and sectors where Bachelor of Science in Fisheries graduates from a State University college in CALABARZON have found employment. Out of the total 66 graduates, approximately 68.18% reported being employed after graduation, highlighting a significant portion of graduates entering the workforce. Among the employed graduates, approximately 33.33% hold regular or permanent positions, indicating stability in their employment within the fisheries field.

The graduates are distributed across various sectors, showcasing the diverse employment opportunities within the fisheries industry. Approximately 34.84% are employed in the private sector, engaging with commercial enterprises related to fisheries, while around 39.39% are employed in the public sector, indicating roles within government agencies or institutions involved in fisheries management and regulation. Furthermore, a notable proportion of graduates, comprising approximately 12.12%, are engaged with Non-Governmental Organizations (NGOs), reflecting involvement in advocacy, conservation, or community development initiatives

related to fisheries. Additionally, approximately 13.63% are employed in non-profit organizations, suggesting roles dedicated to social or environmental causes within the fisheries sector.

Variable	Frequency	Percentage
Are you presently employed		
Never Employed	3	4.5%
No	18	27.27%
Yes	45	68.18%
Present Employment Status		
Part-time	7	10.6%
Casual	4	6.06%
Self employed	7	10.60%
Temporary	3	4.54%
Contractual	23	34.38%
Regular /Permanent	22	33.33%
Types of Organization		
Non-Profit	9	13.63%
NGO	8	12.12%
Public	26	39.39%
Private	23	34.84%

3. Skills gained by Fisheries Graduates

The data reveals insights into the job relevance experienced by Bachelor of Science in Fisheries graduates from a State University college in CALABARZON. Out of the total 66 graduates surveyed, approximately 36.4% reported that their current employment was directly relevant to their fisheries degree, indicating a substantial portion of graduates finding positions within their field of study. However, the majority of graduates, comprising around 63.6%, indicated that their jobs were not directly related to their fisheries degree, suggesting a significant proportion of graduates may have pursued alternative career paths or entered into industries outside of the fisheries sector.

Variable	Frequency	Percentage
Is your job related to the course you took up in college		
No	42	63.6%
Yes	24	36.4%

4. Competencies of BS Fisheries Graduates

The data details the distribution of competencies among 33 candidates who took the Fisheries Technology Licensure Examination. The competencies with the lowest representation are in aquatic resources and aquaculture, with only 12.12% (4 candidates) indicating proficiency in aquatic resources, which involves the sustainable management and conservation of aquatic ecosystems. Similarly, 27.27% (9 candidates) demonstrated competency in aquaculture, which includes skills related to the cultivation and management of aquatic organisms. This indicates that these areas had the fewest candidates with demonstrated expertise among the examined competencies.

Variable	Frequency	Percentage
Competencies that you learned in college and found to be very useful in your first job.		
Post-Harvest	7	17.98%
Aquatic Resources ecology	1	2.56%
Capture Fisheries	7	17.98%
Aquaculture	24	62.00%
In Fisheries Technology Licensure Examination what is the highest percentage among competencies?		
Post-Harvest	5	12.50%
Aquatic Resources ecology	11	27.50%
Capture Fisheries	7	17.50%
Aquaculture	17	42.50%
In Fisheries Technology Licensure Examination what is the lowest percentage among competencies?		
Post-Harvest	8	24.24%
Aquatic Resources ecology	4	12.12%
Capture Fisheries	12	36.36%
Aquaculture	9	27.27%

Conclusion

In conclusion, the demographic profile of Bachelor of Science in Fisheries graduates from a State University in CALABARZON shows a predominantly young, single student population aged 22-25 years. While career paths varied, teaching was uncommon, and most graduates did not hold professional licenses. Family influence, financial accessibility, and career prospects were significant factors in their educational and career choices. Employment data reveals that 68.18% of graduates found jobs, with a third securing stable positions across diverse sectors, including private, public, NGOs, and non-profits. Despite this, only a minority found jobs directly related to their field, indicating their adaptability. However, low proficiency in aquatic resources and aquaculture suggests a need for curriculum enhancement and additional training in these areas.

Recommendations

To enhance the prospects of Bachelor of Science in Fisheries graduates from a State University in CALABARZON, it is recommended to strengthen the curriculum and training in aquatic resources and aquaculture, and provide specialized support for licensure exams. Career counseling should be enhanced to help align students' aspirations with diverse job opportunities, and financial support should be maintained to ensure accessibility. Engaging families and communities is crucial for ongoing support, while partnerships with private, public, and non-profit sectors can facilitate internships and job placements, broadening employment opportunities and better preparing graduates for their careers.

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The author hereby declares no conflict of interest and this article is his original work.

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