



## Where are the foresters? The influx of forestry graduates to non-forestry jobs in Nigeria

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### Abstract

Foresters play important roles in the sustainable management of forest resources in many countries. In Nigeria, hundreds of forestry students graduate from various forestry schools annually. However, the high unemployment situation in Nigeria has left millions of graduates from higher education institutions jobless. Recent research shows that a major challenge facing forestry students and graduates in Nigeria is difficulty getting jobs and poor prospects for career achievement in the forestry (and forestry-related) sector. Our case study research is based on a survey of a cohort of 56 forestry students who graduated from the Federal University of Technology Akure – FUTA, Nigeria (a top-ranking forestry school in Nigeria), in 2016 to understand the cohort's job experiences five years after leaving school. First, our research shows that 84% of forestry graduates from the cohort were in non-forestry-related jobs, and the remaining 16% were in forestry-related, academic jobs as lecturers, researchers, and graduate students. Second, an estimated 90% of respondents acknowledged that forestry graduates were moving to non-forestry jobs mainly because of the lack of job opportunities in the forestry profession. Other reasons included earning a living, lack of interest/passion in the forestry profession, or the respondent being compelled externally to study forestry. Our research offers insights into the post-graduation experiences and current job engagement of forestry graduates in Nigeria with suggestions on the way forward.

Keywords: forestry jobs; foresters; forestry education; unemployment; Nigeria

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### Introduction

Forestry education in Nigeria started at the Federal College of Forestry (FCF), Ibadan, on 1 May 1941 with the goal of awarding vocational degrees. Subsequently, university-level programs commenced in the Department of Forestry at the University of Ibadan on 2 October 1963 (Popoola and Agbeja, 2008). As the creation of tertiary institutions increased post-independence in Nigeria, the number of institutions offering forestry programs also increased (Farinloye et al., 2020; Chukwu et al., 2018; Akande, 2008). By

2018, a total of 59 institutions (34 universities and 25 colleges and polytechnics) offered forestry-related degree programs in Nigeria (Chukwu et al., 2018). Further, an estimated 6,000 to 10,000 undergraduate students were enrolled in forestry-related programs across various Nigerian universities in 2019 (Onatunji et al., 2019).

In the past 20 years, studies have stressed the decline in enrolment into forestry education programs in developing and developed countries (Innes, 2010; Adekunle, 2008; Adewusi, 2008). Today, there may be an improvement in enrolment trends in Nigerian universities as a result of universities' admission arrangement, which re-assigns students with less competitive results to less popular programs in order to match the admission quota for those programs (Onatunji et al., 2019; Adekunle, 2008). Further, some students have been driven by admission challenges to study forestry, most likely to avoid rewriting the national entrance examination (Unified Tertiary Matriculation Examination - UTME) in the following year (Ogunsola et al., 2020). Babalola (2009) noted the inconsistency between training and national manpower requirements as a challenge facing forest education development in many parts of Africa. In Nigeria, students are not exposed to the best career development practices, and lecturers are not adequately equipped with up-to-date forestry instructional tools to properly guide students (Alao, 2010). These challenges are not unique to forestry education; rather, they mirror the wide range of challenges facing the entire education system in Nigeria, including inadequate government funding, obsolete curriculum, shifting educational policy, etc. (Otoja and Obodumu, 2017; Iruonagbe et al., 2015). In 2020, school closures occasioned by the Covid-19 pandemic led to the suspension of academic instruction and learning for several months across educational institutions in Nigeria (Adeyanju et al., 2021; Adeoye et al., 2020). This sent shock waves through an educational system already facing enormous challenges.

As in many countries across Africa, Nigeria's forestry sector has a long history of contributing to socio-economic development through the provision of skilled and unskilled jobs, foreign exchange earnings from forest product export, and domestic consumption as firewood, charcoal, furniture, and building materials (Rotowa et al., 2019; Lundgren; 2015; Fuwape, 2003; Adeyoju, 1974).

Reliable estimates of the forest sector's contribution to formal and informal employment in Nigeria are inadequate. Available estimates of the numbers of people engaged in forestry activities range from 17,000 in 1933 to 360,000 in 1947, and 586,000 in 1966 (Adeyoju, 1974). Recent estimates suggest over 5 million people work in the forestry sector (FAO, 2020). However, skilled-labor employment opportunities are not in demand when compared to unskilled labor, in demand in small-scale forest-based industries (Ogunsola et al., 2020). That is largely due to little or no formal education requirements for unskilled workers (Ogunwusi and Olife, 2012). Employment from forest-based enterprises is of increasing importance in the rural economies of developing countries, especially in Nigeria. Sawmills are the most widespread forest-based industries and one of the largest sources of rural employment, engaging over 800,000 people, especially in the southern forest zones of the country (FAO, 2020; Fuwape, 2003). Sawmills are usually small-scale labor-intensive enterprises involving between one and five workers in

over 1,000 sawmills that are widespread around towns in Nigeria's southwest region (Popoola et al., 2019). However, the economic productivity of these enterprises remains predominantly at the subsistence level (Nzeh, et al., 2010).

Forestry administration in Nigeria is the responsibility of federal, state, and local governments, providing limited public service employment in the federal or state forestry departments, research organizations, universities, technical and vocational colleges (FAO, 2003). Forestry graduates in Nigeria have little or no hope of finding suitable employment in the Nigerian forestry sector (Onatunji et al., 2019). Due to Nigeria's high unemployment rate (23.1% in 2018 totaling 20.9 million people), difficulty in finding jobs is a common experience for graduates across all disciplines (National Bureau of Statistics, 2018; World Bank, 2015). Hence, many graduates end up settling for any available job or working for themselves (World Bank, 2015). In this paper, we surveyed the 2016 graduate cohort of the Federal University of Technology Akure (FUTA), Nigeria to assess their post-graduation career choices five years after completing their undergraduate studies in forestry.

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## **Methodology**

### **1-Case study description**

The study participants were alumni of the Department of Forestry and Wood Technology (FWT) in the Federal University of Technology Akure (FUTA), located in Akure, the capital of Ondo State in southwest Nigeria. FUTA was founded in 1981 by the Federal Government of Nigeria and has produced more than 35,000 graduates in its 40 years of existence (Johnson, 2021). FUTA has ten schools offering over 30 academic programs across engineering, sciences, agricultural and environmental technology, management and health technology (Johnson, 2021). FUTA's giant strides in the area of technology places the university as the 7th best university in Nigeria by the Nigerian webometric ranking table as of July 2021 (Johnson, 2021). Study participants were a cohort of 65 students<sup>1</sup> who were admitted into the FWT department in 2011. After completing their five-year studies, 56 students graduated from the program in July 2016 and convocated in March 2017 (FUTA, 2017)

### **2-Surveys**

The survey questionnaire was created on Google forms and pre-tested with three participants who were members of the study population. An online focus group discussion was also conducted with the three pre-test participants to review and provide feedback on specific questions in the survey. Based on that, the survey was modified and updated. The survey questions focused on six categories, namely: experiences before starting undergraduate studies in forestry; experiences during forestry studies; perception of forestry education; experiences after graduation/jobs; mobility of forestry graduates; and postgraduate educational experience. Participants in this research were recruited through a message shared on the

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<sup>1</sup>All five authors are members of the FUTA Forestry Graduate cohort of 2016. We are currently lecturers and graduate students of Forestry in Nigerian, European and North American schools.

alumni WhatsApp group of the FUTA Forestry Graduate cohort (including authors of this paper) and several follow-up private messages and calls to individual participants. The WhatsApp message contained the link to the Google form, and a guarantee of confidentiality of the participants, with no personal information such as name and email address collected. The questionnaire took 20 to 30 minutes to complete and was administered to the study population between 2 July and 16 July, 2021. 43 respondents participated in this study from a total of 56 students in the 2016 Forestry Graduate Cohort (77% response rate).

### 3-Data Analysis

All data analysis was conducted using Microsoft Excel and the word cloud was created using Tagul software (<https://tagul.com/create>). We used descriptive statistics for frequency to summarize the research data.

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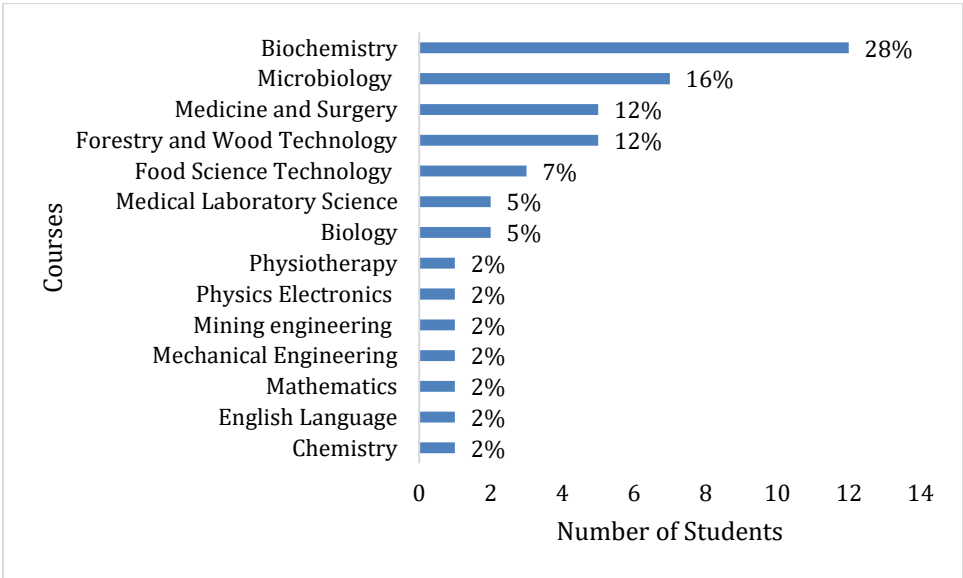
## Results

An overview of participants' demographics, including gender, age, and highest education level is described in Table 1. The survey included 43 respondents, 24 of whom were males and 19 females. The age range of participants were between 20 and 35 years, with the highest frequency recorded in the 25-30 age bracket. The participants were mostly bachelor's degree holders (n=33) while only 10 had a master's degree. In terms of participants' course choice before the university entrance examination (UTME), biochemistry was the most popular (n=12) among participants and only four participants chose forestry as their desired course of study (Fig 1). In total, 88% of students chose non-forestry programs, especially biological, medical sciences or other STEM (Science, Technology, Engineering, Mathematics) subjects as their first choice of study in the university. None of the participants chose non-STEM subjects, such as those in the arts and enrolled for social sciences.

**Table 1.** Overview of participants' demographics

Variable	Category	Frequency
Gender	Male	24
	Female	19
Age	20 - 24years	1
	25 - 30years	28
	31-35years	14

Highest Education level	Bachelor's Degree	33
	Master's Degree	10



**Figure 1.** Overview of participants' desired choice of programs in their first university entrance exam

The results show that 84% of respondents work in non-forestry-related jobs with business, banking and marketing, teaching and tech-related sectors occurring most often (Fig 2 and 3). The 16% working in forestry-related jobs were mainly in academia, including lecturers, researchers, graduate students (Fig 2 and 3). Furthermore, 90% of respondents agreed that forestry graduates are moving to non-forestry jobs (Fig 4). Many different factors necessitated the change of career path. The results show that most (n=24) moved to non-forestry jobs because of the lack of job opportunities in forestry. Other reasons were associated with earning a living (n=4), lack of interest/passion in forestry (n=4), or forestry was studied under compulsion (n=3) (Fig 5).

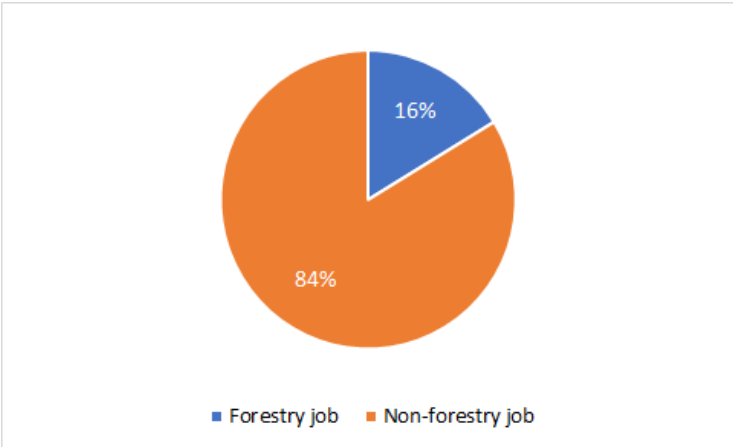


Figure 2. The two broad job categories of respondents in relation to the forestry sector



Figure 3. Overview of the different occupations of respondents.

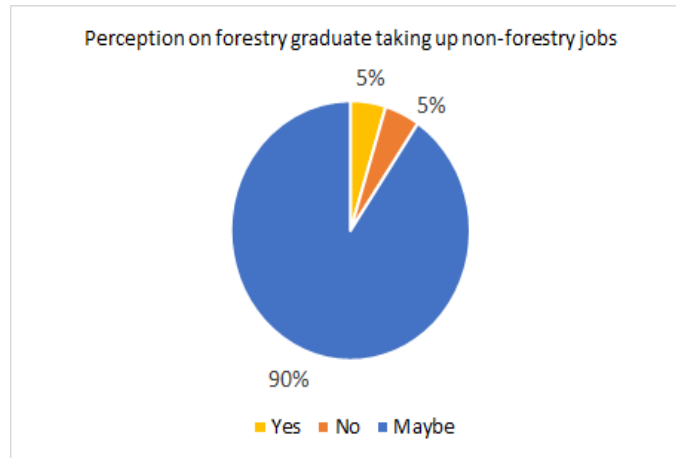


Figure 4. Perception of respondents on forestry graduates moving to non-forestry jobs

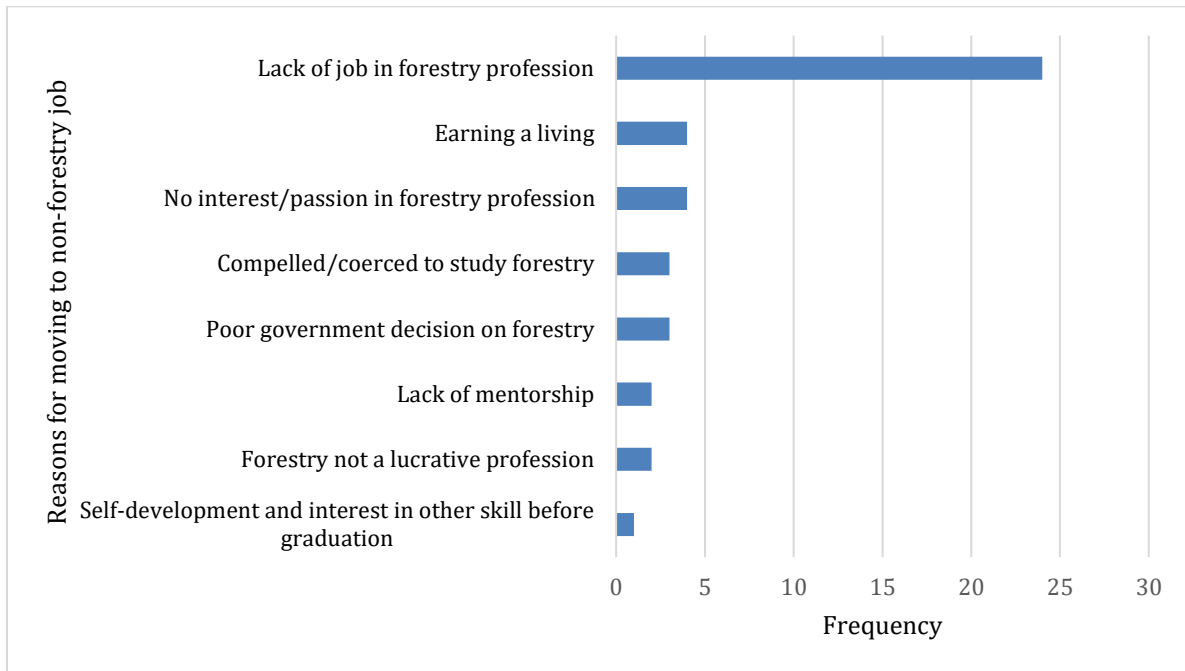


Figure 5. Reasons forestry graduates move to non-forestry professions

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## Discussion

### 1. Forestry graduates intended to study other programs in the university

Our findings revealed that very few forestry graduates (four out of 43) intended to study forestry as an undergraduate. This aligns with previous studies that reported reduced interest in forest programs among secondary school students (Ajekigbe, 2019; Chima and George, 2011), and current students in forestry programs (Onatunji et al., 2019; Adekunle, 2008). In two separate secondary school studies, only 13 out of the 100 students and only 63 out of the 3,000 students surveyed expressed willingness to study forestry in university (Ajekigbe, 2019; Chima and George, 2011). In another case, more than 60% of students currently enrolled in a Forestry Department were studying forestry by “accident” (Adekunle, 2008). These reports were not surprising because in many cases, students were unaware of such a course or preferred more prestigious professions such as medicine, engineering, and law. Other factors included the underrepresentation of forestry in the secondary school curriculum and inadequate knowledge of its career prospects (Ajekigbe, 2019; Chima and George, 2011). Despite this, Departments of Forestry in universities across Nigeria still admit students into their undergraduate programs annually. Reasons include competition for limited spaces in Nigeria universities (Ebuara et al., 2020), enrolment policies that re-assign students with less competitive results to less popular programs, such as forestry (Onatunji et al., 2019; Adekunle, 2008), and some students’ desire to avoid the uncertain process of reapplying for admission the following year (Kanyip, 2013).

## **2. Forestry graduates settle in non-forestry jobs**

Our findings show that a majority of Nigerian forestry graduates take up employment in non-forestry fields. This is consistent with Onatunji et al. (2019), who reported that only two out of 16 graduates from the 2010 forestry cohort of Moddibo Adama Federal University of Technology, Yola Adamawa State, were employed in the forestry sector. There are very few employment opportunities in the formal forestry sector (Ogunsola et al., 2020) and many of the secondary forestry industries that would have provided job opportunities in Nigeria are no longer functioning (Popoola et al., 2019). Meanwhile, forest operations such as tree finding, chain-saw operations, loading, transporting, and selling processed tree products provide employment for many rural community dwellers (Popoola et al., 2019). Given that employment opportunities in the forestry sector are concentrated in the informal and unskilled labour sector, which requires little or no education, forestry graduates in Nigeria, with an average of four years of university education, are reluctant to take low-paid, unskilled jobs (Ogunsola et al., 2020; Popoola et al., 2019; Ogunwusi and Olife, 2012). This and other unemployment challenges rocking the Nigerian job market have necessitated an influx to teaching, banking, and small-scale entrepreneurial endeavors that pay the bills (Abdulrahman, 2021; Adetayo, 2021; World Bank, 2015). The proliferation of privately owned primary and secondary schools has provided employment for many university graduates who endure months of unpaid salaries and job dissatisfaction (Abdulrahman, 2021). Similarly, experiences of Nigerian graduates working in the banking sector, one of Nigeria's biggest employers, indicate many accepted bank jobs to make ends meet and escape the tight job search (Adetayo, 2021).

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## **Conclusions**

In this article, we have discussed the programs forestry graduates intended to study in the university. We highlighted two broad job categories and the various occupations of forestry graduates after completing their forestry studies in Nigeria. Finally, we examined the reasons forestry graduates move to non-forestry professions. Clearly, forestry graduates were inclined to study STEM courses, especially biological and medical sciences, at their first attempt to enroll for undergraduate studies. Although many forestry graduates spend four to five years studying a course that would not necessarily be their choice, their endurance did not pay off, as many could not find forestry-related employment five years after graduating from forestry programs. We must stress that our description and analysis of the influx of forestry students to non-forestry jobs reflects the unemployment situation in Nigeria. Despite these challenges, career success stories emerge from a very few young forestry professionals in Nigeria, which suggests that hope is not lost (Onatunji et al., 2021). Government authorities need to invest in the revival of moribund forest industries and/or establish new, large-scale advanced technology industries to create green jobs for forestry graduates and thus, address the unemployment challenge alongside creating economic prosperity.



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