

Building a Successful Forestry Career in Africa

*Inspirational Stories and
Opportunities*

Alex B. Onatunji, Juliet A. Owuor, Sandra Rodriguez-Piñeros,
Folaranmi D. Babalola, Scovia Akello and Opeyemi Adeyemi



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Building a successful career often takes a heart willing to learn. This picture is of forestry students from the Makerere University, Uganda, measuring the diameter of a tree in Budongo Central Forest Reserve, Uganda, during their practical class. Photo © Michael Mbogga

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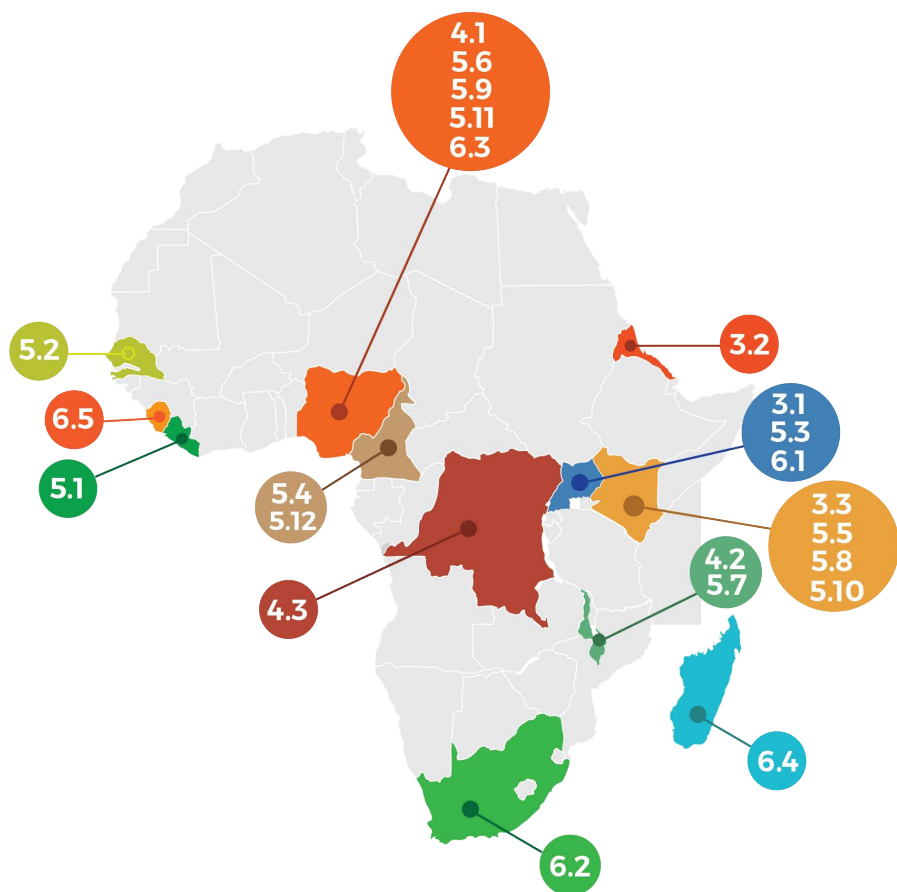
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Foreword

It is a wonderful honour to be asked to provide a foreword for a book that captures a number of issues and topics very close to my heart. Firstly, this book is focused on the future of forests and forestry. This is the field that I have worked in for about 40 years. When I look back, I cannot think of any other area that I would rather have had as the basis for my career. The book is also focused on education, more specifically education pertaining to forests and forestry. As an educator and having been a university-based academic and scientist for most of my career, I have a deep appreciation, but also an understanding of some of the challenges, regarding forest education. And lastly, as a fifth generation African, having lived on this wonderful continent all of my life, I greatly appreciate the effort that has been made to produce a book that will surely inspire young African forestry professionals.

Reading this book, you might question why I was asked to provide this brief perspective as a foreword. While there might be some reasons beyond my knowledge, I owe you the benefit of at least my perspective. After a very long association with the International Union of Forest Research Organizations (IUFRO), I had the great honour of serving as the President of the Union for a five-year term from 2014-2019. One of my stated goals in formally accepting the IUFRO presidency at the 2014 World Congress in Salt Lake City, USA, was to promote forest education and to support the International Forestry Students Association (IFSA). As the first African president of IUFRO, I also undertook to promote the interests of forestry and forest education in Africa. Consequently, during my term as president I had the wonderful opportunity to engage closely with members of IFSA and to participate in many of their activities. These included attending most of the International Forestry Students' Symposium (IFSS) and the privilege of hosting the symposium that was held in South Africa in 2017. Several contributors to this book (including students and forest researchers) became friends during my IUFRO presidential term. It has been a joy to read their inspirational stories.

The Joint IUFRO-IFSA Task Force on Forest Education was established in 2015 and thus during my presidency. This Task Force led by IUFRO Board Member, Dr. Sandra Rodriguez-Piñeros together with a powerful team, has achieved many goals important to the future of forest research. Given its relevance, I would like to believe that it is one of the Task Forces that will continue well into the future. In the run-up to my IUFRO Presidency, I had the opportunity to negotiate funding from the South African Government via our Department of Science and Innovation. And during this five-year period, I was able to provide a larger proportion of that funding to the Joint IUFRO-IFSA Task Force on Forest Education. The task force achieved some wonderful goals with that support for which I am



Prof. Mike Wingfield speaking to IFSS 2017 participants at the Forestry and Agricultural Biotechnology Institute, at the University of Pretoria, South Africa. ©Janice Burns

most grateful as they enabled me to accomplish some of my goals as IUFRO President. And at least in part, these activities also contributed to producing this important book.

Engaging with the team that have led the production of this book, I was able to see some of the titles suggested for it. What struck me was how difficult it would be to find a title that could possibly capture the breadth of the book's coverage. The inspirational stories of young African forestry professionals

are exactly that; an inspiration and a joy to read. They provide real-life insights and experiences that will provide guidance and encouragement to young people considering forestry and careers relating to forests and forestry. Yet the book provides much more. It includes deep insights into the value of mentorship and the importance of choosing powerful role models to support our goals. Furthermore, this book also includes perspectives on forestry career trends and routes of entry to numerous resources that are crucially important when deciding on a future that encompasses the broad areas relevant to forests and forestry.

The world's forests face threats greater than those in all of recorded history. These include the negative impacts of deforestation, degradation, desertification and climate change. Ironically, as a human race, we depend on forests far more deeply than is appreciated by most people. This is a tragic and frightening reality. And it is one that can only be resolved through education at every level of society. This emphasizes the importance of a book focused on forest education and our need for greater numbers of forestry professionals in the future. It can only be these people and those they are able to influence that will ensure a safe future for our forests. And while this book has a significant African focus, its relevance extends far more broadly. I have no question that it will be one of the most important resources to future forestry students but equally to educators in this important field of study. Personally, but also on behalf of all of those who will benefit from this book, I thank the Joint IUFRO-IFSA Task Force on Forest Education, and especially those who have contributed to producing this wonderful resource.

Prof. Michael (Mike) J. Wingfield

IUFRO Immediate Past President (2014-2019)

Message from the IFSA President

The International Forestry Students' Association (IFSA) is the biggest international network of students in forestry and related sciences. As such, education is one of our key focus areas. Our mission, *"enrich members' education through international events, networking and intercultural exchange,"* clearly reflects the importance of education for our organisation. We represent students from all over the world and from a wide range of backgrounds and so, an important aspect of IFSA activities is connecting students and providing mentoring opportunities. As we are the ones to immediately experience the effects of the decisions taken about forest education, we also want to be able to have a say in it. That is why IFSA has long been active in the field of forest education, representing students and making sure our voice is heard.

One of IFSA's strengths in our work on forest education is the partnership with IUFRO in the Joint IUFRO-IFSA Task Force on Forest Education. Not only has it been working to bring better education opportunities to forestry students all around the world, but also trying to actively improve forest education in general. The partnership has proven to be crucial in widening our reach and working together towards better education in the forestry sector. The effort by the Joint IUFRO-IFSA Task Force on Forest Education in the past years is something that will reflect far into the future and I hope it is going to leave a permanent mark in the forestry sector.

Africa is a growing region with a lot of young people and its importance in the upcoming years and decades will only become more evident. As forests are a crucial part of the solution to many major challenges of our time, I am hopeful that young African forestry professionals will take the lead and guide the continent as well as the whole world towards a more sustainable future where forests are appropriately appreciated. IFSA has a strong presence in Africa, with more than 25 Local Committees in 10 countries. IFSA directly organizes numerous activities, notably the Southern and the Northern Africa Regional Meetings, which connect hundreds of students in the region every year. IFSA also supports African students to take part in international events and conferences.

This book is a great resource that I am sure many young African forestry professionals will find inspiring and helpful in advancing their careers and creating a better future for themselves and everyone else in the world. I believe that sharing success stories, different experiences and diverse career paths is a very effective way to broaden students' horizons.

We are grateful to the IUFRO Special Programme for Development of Capacities (IUFRO-SPDC), for making the publication of this book possible. Lastly, a special thanks goes to the Joint IUFRO-IFSA Task Force on Forest Education for their commitment and passion in conducting this project.

For a world that appreciates forests

Alina Lehikoinen
IFSA President 2020-2021



List of Acronyms and Abbreviations

AFORNET	African Forest Research Network
AFWC	African Forestry and Wildlife Commission
ANAFE	African Network for Agriculture, Agroforestry and Natural Resources Education
CIFOR	Center for International Forestry Research
CIRAD	French Agricultural Research Centre for International Development
EFI	European Forest Institute
FAO	Food and Agriculture Organization of the United Nations
GEF-SGP	Global Environment Facility Small Grants Programme
GLF	Global Landscapes Forum
GOFE	Global Outlook on Forest Education
IFS	International Foundation for Science
IFSA	International Forestry Students' Association
IFSS	International Forestry Students' Symposium
ITTO	International Tropical Timber Organization
IUFRO	International Union of Forest Research Organizations
IUFRO-SPDC	IUFRO Special Programme for Development of Capacities
JTF	Joint IUFRO-IFSA Task Force on Forest Education
LEAD	Leadership for Environment and Development in Southern and Eastern Africa
NARM	Northern African Regional Meeting
NGO	Non-Governmental Organisation
SARM	Southern African Regional Meeting
SDG	Sustainable Development Goal
TETFUND	Tertiary Education Trust Fund
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
YAFP	Young African Forestry Professionals Publication Project
YIL	Youth in Landscapes Initiative

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The authors and the Joint IUFRO-IFSA Task Force on Forest Education would like to express their gratitude to the IUFRO Special Programme for Development of Capacities (IUFRO-SPDC) for logistical support in the publication of this book, based on funding made available by the Ministry for Foreign Affairs of Finland and the Forestry and Agricultural Biotechnology Institute at the University of Pretoria, South Africa. Thanks to Janice Burns (Thematic Networking Manager and IUFRO-SPDC Deputy Coordinator), Michael Kleine (Deputy Executive Director of IUFRO) and Dr. Mike Wingfield (IUFRO Immediate Past President) for their support.

We are also grateful to IFSA for joining our efforts and contributing to the data collection process, special thanks to Mirjana Volarev (Head of the Forest Education Sub-commission, 2019-2020) for her dedication to the project. We appreciate the support by IFSA's Communication Commission, specifically, Annebel Soer (Head of the Communication Commission, 2019-2020), Sylvanisa Putri (Head of the Design Sub-commission, 2019-2020, and Head of the Communication Commission, 2020-2021) and Simone Massaro (Head of the Web Sub-commission, 2019-2020, and IFSA Vice President, 2020-2021). The support by IFSA's 2019-2020 and 2020-2021 board is gratefully acknowledged.

Our appreciation to Prof. August Basil Temu for taking the time to review the final document and providing very valuable insights. We also thank Eva-Maria Schimpf (IUFRO-SPDC) for proofreading the content.

Finally, we are greatly thankful to the forestry students and graduates who responded to our open call for nominations and the professionals who have kindly agreed to share their experiences in this book. Their work in the forest sector is remarkable. Their inspiring experiences serve as testimony that individuals can contribute to the achievement of a more sustainable society wherein the natural resources and humans can coexist.

The Joint IUFRO-IFSA Task Force on Forest Education and Its Contribution to Forest Education in Africa

The Joint IUFRO-IFSA Task Force on Forest Education is a unique collaboration between the International Union of Forest Research Organizations (IUFRO) and the International Forestry Students' Association (IFSA).

The Joint IUFRO-IFSA Task Force on Forest Education has been able to bring together the different perspectives of the educational environment within its five years of existence. Our work aims to promote and facilitate research and innovation around forest education; to foster international networking on forest education especially using modern online communication and social media applications; to promote participation and mobility within forest-related institutions; and to provide capacity building opportunities for students and young scientists in both generic and specific skills.

The Task Force has been collaborating with African students and scientists since its inception, and as a result of this strong partnership, we have identified valuable opportunities to impact a wider range of African stakeholders. Some of our contributions to forest education in Africa include, but are not limited to:

- Supporting the organisation of a monthly “Nigeria Forestry Students and Graduates Roundtable Session” since June 2020
- Supporting the Young African Women in Forestry (YAFW) initiative in 2020
- Sponsoring students’ participation at the 22nd session of the 6th African Forestry and Wildlife Week, Skukuza, Mpumalanga, South Africa, in March 2020
- Sponsoring and conducting the Global Outlook on Forest Education (GOFE) study in four African countries: Cameroon, Ghana, Nigeria and South Africa, and publishing of the *“Global Outlook on Forest Education (GOFE): A Special Report: Forest Education in Africa”* in 2019
- Sponsoring IFSA Northern Africa Regional Meeting held at the Njala University, Sierra Leone, in 2019
- Sponsoring and facilitating two workshops on Sustainable Forest Management Toolbox Consultation and the GOFE project at IFSA Northern Africa Regional Meeting held at the University of Ilorin, Ilorin, Nigeria, in 2018
- Sponsoring a student to deliver a keynote address and poster on the topic “How Africa and African students benefit from networking in forest education and research” at the 7th Forest Science Symposium in Pietermaritzburg, South Africa, in 2017

- Organising a workshop on grant and research proposal writing and sponsoring students from six different African countries to participate in the IFSA Northern Africa Regional Meeting at the University of Energy and Natural Resources, Sunyani, Ghana, in 2017
- Sponsoring African students to help in our various projects.

In this particular case, we developed the Young African Forestry Professionals Publication Project (YAFP) to inspire young Africans to pursue a career in the region's forest sector. There is of course more work to be done, and that is why we need talented and motivated students who have the passion and zeal to make a difference. Africa's forests play an important role in the wellbeing of the society, and their conservation and sustainable use are crucial to attaining the Sustainable Development Goals (SDGs) and creating a path for a more sustainable way of life.

To learn more about our work, visit: (<https://www.iufro.org/science/task-forces/forest-education/>) or email: (jtf.education@ifsa.net)

Dr. Sandra Rodríguez-Piñeros, Coordinator (IUFRO)
Alex Bimbo Onatunji, Coordinator (IFSA)
Juliet Achieng Owuor, Deputy Coordinator (IFSA)

Global Forest Education Projects by IUFRO and Other Partners

IUFRO is also involved in two other ongoing projects on forest education. A short description is provided in this chapter. Both projects will end in 2021.

1. Global Student Networking and Green Jobs in the Forest Sector (EFI-IFSA-IUFRO)

This joint capacity development project is a collaboration by the European Forest Institute (EFI), the International Forestry Students' Association (IFSA) and the International Union of Forest Research Organizations (IUFRO). The project aims at providing insight into the future of the forest sector labour market through analysis of global employment trends and competence needs, facilitating global networking among future leaders and decision makers, and conducting a comprehensive capacity building programme for forest students and young scientists. The project is funded by the German Ministry of Food and Agriculture (BMEL).

The project activities include:

- Global student survey on educating towards forest-related employment conducted among students and recent graduates of forest-related programmes
- Experts Workshop on forest sector employment, green jobs and forest education in selected countries across the globe and related research and publications
- Dare to Explore Traineeship programme that offers students of forest(ry) programmes opportunities to work at the science-policy-interface at the international level, including research, communication, and policy-relevant activities.

Project website: (<https://ifsa.net/efi-ifsa-iufro-project/>)

2. Global Forest Education Project (FAO-ITTO-IUFRO)

The project is a partnership by the Food and Agriculture Organization of the United Nations (FAO), the International Tropical Timber Organization (ITTO) and the International Union of Forest Research Organizations (IUFRO). The project's goal is to catalyse, accelerate and enhance broad efforts in forest education at national and local levels globally and to make an assessment of the state of forest education in many parts of the world. The project is funded by the German Ministry of Food and Agriculture (BMEL).

The project activities include:

- Global assessment on forest education survey carried out to inventory ongoing activities, key actors, objectives and achievements at all levels of formal education
- International Conference on Forest Education to discuss the status of forest education, needed actions to improve forest education and provide recommendations
- Online forest education resources including an Online Platform on Forest Education "Forestra" and an Online Learning Course on Legal and Sustainable Supply Chains for Tropical Timber and Forest Products

Project website: (<http://www.fao.org/forestry/forest-education/en/>)

Introduction



There is no shortcut to success; it takes diligence and determination to reach your career peak. The Kabalega Royal Mile in Budongo Central Forest Reserve, Uganda. ©Michael Mbogga

Foresters work with people and nature, performing diverse tasks and finding solutions using traditional, innovative and a proper understanding of forest ecosystems and their multiple benefits to livelihoods and the environment. Nevertheless, the interest among young people in pursuing forestry as a profession does not match the importance of forestry. In many cases, studying forestry and related sciences at universities in Africa is more often taken up after students fail to secure admission into other fields such as medical science and engineering. This is often because they lack awareness about forestry degrees and information on what the degree could offer in terms of future career opportunities, and job prospects.



To the inquisitive minds, who want to know more about forestry as a profession, they turn to the internet and local libraries for information. Unfortunately, this information, in relation to local reality or context, is hard to come by or obsolete. To worsen the situation, there are many perceptions that paint a negative picture of forestry; which include outdated information about trends of the discipline, gender bias with the belief that the profession is best fit for men, few job prospects, less flexibility, and a high risk job, among others (Amanubo, 2020; Onatunji & Babalola, 2019).

Forestry students are often uncertain and less motivated about the future when pursuing forestry and related programmes. From these uncertainties and lack of motivation expressed by students, among other institutional and negative public perceptions, attracting students to study forestry in some African countries is becoming a big challenge. This is constituting a threat to the future of forestry as a discipline and the training of professionals in most countries. However, there are countries with a reverse trend. Examples include Tanzania, Mozambique, Ethiopia, Malawi, Nigeria and Rwanda, where admission to forestry technical and degree programmes is rising rapidly (Onatunji & Babalola, 2019; Temu & Kiyiapi, 2008).

Some gaps and deficiencies have been identified in the curriculum used in teaching forestry in schools and universities. These gaps and inadequacies have resulted in low levels of education provided to students and lack of competencies in leadership, communication, and networking skills among others. Consequently, these impact forestry graduates, especially in their success at work. In addition, a majority of forestry students are often less actively engaged in extracurricular activities such as volunteering, community activities, leadership and participating in capacity building events or training that can enhance their learning experience while in school (Rekola et al., 2017; Rekola et al., 2019).

Furthermore, the current employment trend of graduates is quite discouraging as many are unable to find a job in their area of specialization after graduation. Seeking self-employment in a publicly owned and managed sector such as forestry is indeed a major undertaking. Thus, there is the dilemma of attracting young people to the profession and of retaining graduates in the field of forestry after they complete their degrees (Gabay & Rekola, 2019; Ramcilovic-Suominen et al., 2016; Rekola et al., 2017, Rekola et al., 2019; Temu & Kiyiapi, 2008).

Despite the challenges facing forestry, the key roles that forests play in climate change adaptation and mitigation, biodiversity conservation, watershed functions, livelihoods and recreation cannot be over emphasized (Nyaland, 2008; Temu et al., 2005). As such, there are new career prospects emerging beyond the traditional

forestry industry jobs, such as green jobs. These new opportunities have a great potential to promote the principles of sustainable forest management and create substantial decent job opportunities for young people (Macqueen & Campbell, 2020).

Africa has consistently lost its forest area since 1990. The continent had the highest forest loss of 3.94 million hectares per year between 2010 and 2020. It is also reported that the Democratic Republic of Congo was the only African country in the top ten countries in the world with the largest forest cover of 126 million hectares (FAO & UNEP, 2020). Despite these statistics, there are opportunities for forest and landscape restoration initiatives for young people, specifically in green jobs towards climate change mitigation and adaptation strategies.

Forest and economic development will be a mirage if Africa does not invest in capacity building activities. The continent also needs to promote forest education at all levels and develop forestry professionals to build the continent we desire. Africa has been characterised as the world's youngest continent, with almost 60% of its population under 25 years-of-age as of 2019 (Mo Ibrahim Foundation, 2019). Hence, the need for a prosperous forestry profession for young people in Africa has been highlighted (Adeyanju & Ademujimi, 2016; Onatunji & Chinweuba, 2018; Onatunji, 2019a; Onatunji, 2019b; Opeloyeru & Onatunji, 2019; TFU, 2020). Furthermore, provision of mentorship to students and young professionals is pertinent to help them develop professional careers (Kovacevic et. al., 2018). This is among the reasons why this book features some outstanding academics who have provided support to their students.

The Joint IUFRO-IFSA Task Force on Forest Education, with support from IFSA and IUFRO-SPDC, launched the YAFP project in May 2020. The project uses a novel research approach in gathering success stories and achievements of young, emerging and established forestry professionals from Africa.

The overall goal of the project is to motivate and inspire young Africans to pursue forestry and related studies. It also aims to motivate current students and assist them in building successful careers in forestry. This is to be achieved by sharing success stories of young Africans, considered as role models, working in forestry and related fields. In the same vein, documenting and presenting these success stories is intended to encourage lecturers teaching forestry to provide appropriate mentorship for their students and future graduates. The book is also intended to create higher public and societal awareness of the prospects and opportunities inherent to forestry, increasing its recognition as a worthwhile profession.

Specifically, the objectives include:

- highlighting success stories of young African forestry professionals and mentors;
- compiling forestry and related networking organisations in Africa and for Africans; and,
- providing a short outlook on African universities offering forestry and related programmes.

The threshold educational level for the selection of candidates is a minimum of Bachelor's degree. The lists of universities offering forestry and related programmes, networking organizations and career options in forestry in Africa, provided in this book are not exhaustive. The scope of this book is university level; colleges offering certificate and diploma forestry programmes in Africa are not included. Also, this book does not aim to assess curriculum, teaching pedagogy, skills or competencies, among other forest education topics.

The information gathered and presented in this book shows that there are many untold career success stories of African forestry professionals. Nevertheless, very few publications have highlighted such success stories by Africans in the forest sector.

We welcome you to get motivated and inspired by the success stories featured in this book and encourage you to use them for your career development. Of course, we look forward to hearing from you via Web: (<https://ifsa.net/ifsa-iufro-africa-book-project/>); Email: (jtf.education@ifsa.net); and Twitter: (https://twitter.com/IUFRO_IFSA_JTF/).

How this Book Came to Be

In generating the content of this book, we used online surveys, literature review and interviews to collect primary data. The data were compiled to achieve the objectives of the project.



Writing this book took the efforts of many individuals from different countries and backgrounds. IFSA students at IFSS 2019 in Estonia during a workshop on cultural competencies. ©Juliet Achieng Owuor



Table 1: Overview of nominations received for YAFP

Categories	Number of Nominations	Number of Countries
Students	48	15
Early career professionals	70	18
Mentors	135	15
Total	253	25

Source: YAFP survey

Selection of the final candidates out of the received nominations was guided by predetermined criteria including: 1) the students nominating themselves must be currently studying at an African university; 2) the early career professional must have obtained university education in Africa; 3) academic mentors must be working in African institutions; 4) nomination of an academic mentor must be through students currently studying at or recent graduates of an African university during the period of this project; and 5) graduates of forestry and related programmes were targeted for nomination. Additionally, three former IFSA officials of African origin were selected due to their exemplary leadership and contributions to forestry development in Africa.

A three-step selection process was applied in the determination of the final candidates: 1) verification of candidature and eligibility; 2) blind peer evaluation of the candidates based on the set criteria; and 3) final selection of the candidates based on scoring and ranking from the blind peer evaluation, and with consideration of gender balance and geographical coverage.

In total, 23 persons from 12 African countries were selected. The selected persons were interviewed in the period between November 2020 and January 2021. They signed a consent form as acceptance of the conditions of the project and voluntary participation in the interviews to provide personal information. The interviews were transcribed and are the basis for the inspirational stories featured in this book. The success stories were drafted by members of the YAFP and underwent a thorough review process by the interviewees, YAFP team and other experts before publishing.

Identifying forestry and related networking organisations for African forestry students and early career professionals

The importance of networking has been highlighted in previous studies on forest education in Africa (Rekola et. al., 2019). With the idea of highlighting some organisations that forestry students and early career professionals can network with, a list of international and regional organisations was compiled based on the following criteria:

- Having activities that are directly related to forestry
- Could benefit students/early career professionals in terms of capacity development activities, funding, internship and service (leadership).

It is, however, important to note that the list is not exhaustive. The 26 organisations included in this book should act as a motivation for individuals to broaden the search based on their interests.



Identifying universities in Africa offering forestry and related degree programmes

There is scarce information on universities offering forestry and related degree programmes in Africa contained in the Forest Education Database, developed by the Joint IUFRO-IFSA Task Force on Forest Education and the Global Forest Information Service (GFIS). This component of the project serves the function of providing an update on where forest education programmes are offered on the continent.

The YAFP only focused on universities that offer forestry or related programmes where graduates receive a Bachelor's degree or higher. It should be noted that forestry colleges, which are still readily available on the continent, are not featured.

The data was collected from various sources such as the Global Forest Information System (GFIS): (https://www.gfis.net/content/education_programmes), IFSA's membership database, and from the nominations submitted in the YAFP survey. Information on Nigerian universities offering forestry degrees published by Chukwu, O., Ezenwenyi, J. U., & Mebude, K. O. (2018) was also very helpful. Further, information on departments of the different universities was collected from the individual websites, which are also included. In summary, a list of 101 universities from 25 African countries was compiled.

Please note that this list is only based on information that was available to the research team and any omission/mistakes are regretted. Also, the website addresses quoted were active at the time of publishing.

Exemplary Leaders

Inspirational Stories of Former International Forestry Students' Association (IFSA) Officials



IFSA officials at the first IFSA Northern Africa Region Strategic Meeting in Accra, Ghana, 2019 that produced “The Africa We Desire for Forestry Students”, an article on the IFSA website. ©David Shonowo Ayoola



“Study forestry to transform society”



- Amos Amanubo, IFSA Immediate Past President 2019-2020

Amos Amanubo is a 25-year-old forester from Uganda who opted to study forestry contrary to his childhood ambition of becoming a pilot. He realized that most of the nature-based resources and systems that drove the local economy and formed the lifeblood of his society were being destroyed. He grew up in an agrarian and forest landscape region (Arua town in West Nile region). Therefore, it was not a challenging decision to pursue agriculture or environment-related courses at the university since the region was on the brink of losing this vast productive landscape.

In 2019, he completed his Bachelor's degree in Conservation Forestry and Production Technology at the Makerere University, Uganda. He later worked as an Environmental and Social Impact Assessor at the Uganda Energy Credit Capitalization Company under the Ministry of Energy. He is currently a private forestry and environment consultant.

Amos also experienced discouragements like many other students who opted to study forestry. An example of such a challenge was an encounter with a neighbour who mocked his decision to study forestry, saying that people have cut down all the trees in the forest. He was not deterred by the discouragements, but rather saw them as an opportunity to provide a solution to the deforestation problem confronting his society. Interestingly, to strengthen his sense of belonging to the forestry fraternity, he had a major Kairos moment when he joined IFSA during



the second year of his undergraduate programme. In the same year 2017, he participated in the International Forestry Students' Symposium (IFSS) as an associate member of the Nelson Mandela University Forestry Students' Association, South Africa. During the IFSS, he met like-minded forestry students from around the world, who were passionate and loved forestry as a profession and future career. It was at this international forum that he gained insights into the diverse dimensions of forestry and how attractive the course was in other countries.



Amos Amanubo making a presentation at the International Forestry Students' Symposium 2019 in Estonia. ©Felipe Astorga

Amos has been involved in the establishment of an organisation with a focus on forestry, and also volunteered for different forestry organisations. His passion to serve humanity, with connection to forestry, helped him to hold several leadership positions such as co-founder of Green Trust Africa; Speaker of the Students Union of the Makerere University Lugbara; and Member of Steering Committee of Youth in Landscapes (YIL). He served as IFSA's Head of Council and Internal Affairs Councilor for the IFSA term 2018-2019 and rose to hold the highest position in IFSA by becoming the President for the IFSA term 2019-2020.

Through his work in IFSA and YIL, he has provided valuable inputs as well as developed capacity building initiatives for young people to better equip them to address local and global issues spanning from environmental and forest policy to landscape restoration. Amos has made an enormous impact on the lives of many forestry students and young professionals, reaching more than 20,000 around the world through YIL and IFSA.

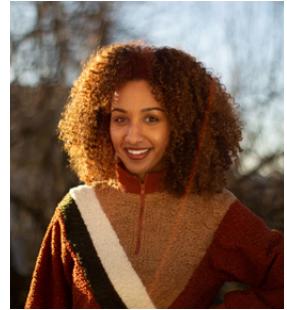
While at IFSA, Amos was involved in designing strategies to provide a platform for students of forestry and forest-related sciences at university-level. These programmes enriched the education of the forestry students through event-based learning initiatives. Most importantly, he promoted cultural understanding by encouraging mutual collaborations with IFSA's international partner organisations

for student exchange programmes, which allowed students to gain practical experiences with a wider and more global perspective. Additionally, at the 22nd session of the African Forestry and Wildlife Commission (AFWC) a team he led made policy recommendations aimed at transforming forestry and wildlife education and profession, for young people and women in Africa.

To Amos, forestry presents the opportunity to specialize in different fields that can directly contribute to people's livelihoods and ecosystems as well as addressing the most challenging and pertinent global environmental issues such as climate change, biodiversity loss, food security, deforestation and ecosystem degradation, among others. Amos is motivated to further his education to broaden the horizons of his knowledge and expertise necessary to prepare him for a professional career. He aims to focus on how forests can help in addressing environmental issues such as climate change and ecosystem degradation, and also stand out as a leading driver of sustainable socio-economic development, especially in Africa.

He has secured sources of funding for his MSc studies, including from the prestigious Mandela-Rhodes Scholarship for MPhil in Environmental, Society & Sustainability at the University of Cape Town, South Africa. He believes that one of the ways to add value to society is to study forestry and that the choice of forestry should be intentional to make the best out of it. *"There is no better time to pursue a discipline connected to the environment than now. I have never regretted choosing forestry and will encourage others to choose it."*

“*Do not be afraid to create a world for yourself in forestry*”



- Salina Abraham, IFSA President 2017-2018

IFSA has had several female leaders serving as president since its establishment nearly 50 years ago. **Salina Abraham** made history in 2017 by being the first African woman to provide leadership to IFSA, an organisation that has members in over 50 countries and represents the interests of over 10,000 students studying forestry and related sciences around the world. Born in Europe and raised in the US, the 26-year-old is very proud of her Eritrean origin in Eastern Africa.

Salina applied for a Bachelor's degree programme in Chemical Engineering but ended up in forestry. She is convinced that forestry is the right field for her because of the broad perspectives, diverse topics, evolution of the sector and its global nature; all of which she did not know about five to six years ago. In 2017, Salina graduated with a Bachelor's degree in Environmental Science Resource Management and Bachelor's degree in Economics from the University of Washington, Seattle, United States of America (USA), where together with other students she helped in establishing an IFSA local committee. Currently, she is pursuing a Masters degree in Public Policy at Harvard Kennedy School of Government, USA.

Salina began her international career at an early age of 20 years. First, she served in IFSA as the Head of the International Processes Commission in August 2015 and then she was elected as IFSA President at the 2017 IFSS held in South Africa. She applied for many jobs after her graduation until five months later, when she was employed by Global Landscapes Forum (GLF) as the first Youth Coordinator. She attributes the job opportunity to her prior volunteering experience for IFSA and GLF for three years.



One of her proudest moments while working at GLF was in 2018, during the conception and organisation of



Salina Abraham (front row, third from left) during the Youth in Landscapes Initiative Camp 2019 in Ghana. ©Shaibu Hamza Olobo

a regional conference and youth workshop, on Africa Landscape Restoration in Nairobi, Kenya, where over 90 students and young people across the continent participated. Besides the various strategic leadership positions she held, Salina is a renowned public speaker, having spoken at over 20 global conferences and events. Her closing keynote speech on *“The Way Forward”* during the GLF 2015 Conference in Paris, France, on Launching the new climate and development agenda has attracted about 42,000 views on YouTube (https://youtu.be/3j3iKIW_BtA).

Salina supported the formalization of the YIL, whose current membership stands at an estimated 50,000 members. She has helped to fundraise and implement activities worth over 15 million Euros. The Landscape Academy online courses on EdX platform, that she helped moderate, have attracted over 10,000 learners around the world. Based on her love of and commitment to Africa’s sustainable development, Salina is contributing to the creation of a GLF satellite hub in Nairobi, Kenya, and further recruitment of young African professionals to manage the office.

Salina received the prestigious Louis and Gabrielle Bacon Environmental Fellowship for her Master’s degree after receiving many rejections earlier. She stressed the importance of seeking help and encouragement from others during the application process, particularly in essay reviews and networking with scholars as each

university and programme has unique requirements and processes.

Salina believes that there are numerous opportunities in forestry, though it does not always feel like it because they are not easily visible. She advises young people from Africa to pursue a degree in forestry as there is an increasing momentum within the sector right now with the availability of funding opportunities and international donor initiatives. She cited an example where big companies and organisations in the world are investing their money in Africa's forest sector. For instance, the Africa Great Green Wall project recently received 16 billion dollars in funding: (<https://news.globallandscapesforum.org/49608/newly-seeded-with-16-billion-africas-great-green-wall-to-see-quicker-growth/>).

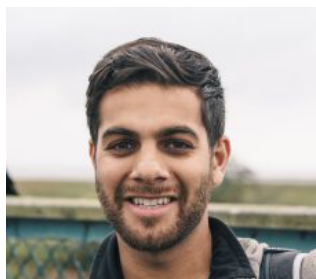
She further stressed that forestry students should not limit their career options and should be open to creating new possibilities in the sector, perhaps through focusing on the intersection of forestry and another field. The sky is not the limit for those currently studying forestry.

Salina encourages students to volunteer creatively to a cause they are passionate about and she calls for more young people to get involved in positions of influence and power to contribute to the dream of a prosperous African continent.

“*Forestry offers immense opportunities far broader than you could imagine*,”

- Khalil Walji, Coordinator Joint IUFRO-IFSA Task Force on Forest Education 2017-2019

Khalil Walji is a Canadian citizen, born in Kenya, with family roots which go back to East Africa. He holds a Master's degree in Integrated Studies in Land and Food systems (soil sciences, nitrogen cycling in agro-ecosystems) and a Bachelor's degree in Forestry Conservation Sciences (Global perspectives) both obtained from the University of British Columbia, Canada.



His academic pursuits were complemented by opportunities for on-the-job training which afforded him a unique lens into forest management and research in Uganda, South Africa and El Salvador. In these countries, he was able to conduct research on farmer resilience in agroforestry systems, and opportunities for forest carbon mitigation and adaptation. Since graduating he has worked at the Food and Agriculture Organization of the United Nations (FAO) Forestry Division. His engagement with FAO began as the IFSA Liaison Officer from 2015-2017, where he was responsible for strengthening the IFSA-FAO partnership. He started as an intern at the same organization before securing a full-time job. He is currently a technical project manager working with the Global Forest Education Secretariat who, alongside more than eight regional partners, are undertaking a global assessment and mapping the status and needs of forest education globally. Khalil is also a part of the coordination team, who lead the Monitoring Task Force - a core group of experts focused on monitoring ecosystem restoration efforts in support of the newly launched UN Decade on Ecosystem Restoration from 2021-2030.



Khalil has described himself as an avid outdoors person, reflecting fondly on many summers spent visiting his father in East Africa, exploring the coastal forests and grasslands of Kenya and Tanzania and the rolling, green hills of Uganda. However, it was his move out to western



Khalil Walji and Professor Mike Wingfield preparing congratulatory remarks for the award ceremony of the Global Competition on Best Practices in Forest Education at the IUFRO World Congress 2019 in Brazil. ©IUFRO

Canada, where he cemented his interest in a career in forestry while studying at the University of British Columbia.

Khalil's impact to the forestry family and youth engagement is best characterized through his service to IFSA, notably serving in several positions between 2015-2019 as IFSA-UBC Local Committee President, as Liaison Officer to FAO, and Coordinator of the Joint IUFRO-IFSA Task Force on Forest Education. Within a four-year period, Khalil took active roles to further student engagement by organising a number of events of global importance, and helping collaborate with global experts and professors to run workshops where students would be equipped with scientific, leadership and workplace skills. These events were critical to further expose students to the science-policy interface and gain familiarity with intergovernmental processes which dictate the global forest agenda.

Although officially no longer an active member of IFSA, Khalil has the pleasure of maintaining support and strengthening the IFSA partnership from the FAO side, where he is charged with supporting the development and handling of the new IFSA Memorandum of Understanding. Within Khalil's four years of service to IFSA,

he has impacted the lives of more than 200 students, and continues to maintain an active mentorship relationship with many young and budding forest students and professionals.

His diverse experiences and career have convinced Khalil that the world of forestry is open to a huge variety of opportunities for graduates. He is of the opinion that *“Forestry can no longer be perceived solely in regards to timber production, although this remains an important part of the forest sector. As societal demands have evolved, with it have the expectations of those who manage this globally important resource. Being a contemporary forester is to have a myriad of contemporary skills; to know how to use geographic information systems, to map global ecosystems, to analyse forest soils and also to understand how belowground ecosystem’s function, for carbon, for water and for production.”*

Khalil adds that *“forestry has undergone tremendous growth, in some instances expanding in scope in both curriculum and practice. It is, therefore, very important for prospective students to understand that forestry offers an immense variety of opportunities in the sector, which are far broader than what is traditionally perceived. It is a truly global and interdisciplinary science, and those who engage are bound only by their own unique and specific lens and interests.”*

Starting a Forestry Career Early

Inspirational Stories from Current Forestry Students



An aerial photograph of participants at IFSA's Northern African Regional Meeting 2018 at the University of Ilorin in Nigeria. ©Danladi Areola



“Forestry goes behind the confines of a classroom or career,”

- Islamiat Abidemi Adebayo, Nigeria

Islamiat Abidemi Adebayo (Nee-Raji) is a Nigerian who is currently residing and pursuing her PhD degree at the University of KwaZulu-Natal in South Africa under the joint sponsorship of the National Research Foundation and the World Academic of Science / African Renaissance Doctoral Scholarship (NRF-TWAS). Her research is focused on the effects of land use changes on fig-frugivores interaction across urban-forest gradients. She expects to graduate in 2021. Abidemi holds a Master's degree in Conservation Biology from the A. P. Leventis Ornithological Research Institute at the University of Jos in Nigeria with exceptional performance. Her undergraduate degree in Forestry and Wildlife Management was from the University of Ilorin in Kwara State, Nigeria, where she graduated as the first and only female student in her class and the best graduating student in her department.



From childhood, Abidemi dreamt of being a gynecologist and she applied for a degree in medicine but ended up in forestry, which she had never heard of. At the onset, she didn't want the course and tried to change to another programme, but she was encouraged to take up the course by her uncle, who was a lecturer at the Animal Production Department in the same university. She then decided to put more effort into forestry and, along the way, she had the chance to speak to one of the IFSA Northern Africa Regional Representatives (Uyi Asemota) in 2015 and her lecturers (Dr. Folaranmi D. Babalola and Dr. Tajudeen O. Amusa), who told her more about forestry and that she could get the best out of forestry. This motivated her and she fully dedicated herself to building a career in forestry.



Abidemi has won a number of scholarships and grants to pursue her master's and PhD degrees, and travel to different conferences and trainings, such as the Soil Association Responsible Forest Management



Islamiat Abidemi Adebayo examining Epomophorus whalbergi (Wahlberg's epauletted fruit bat) caught at the Diani Bay Resort during the 2020 Global South Bat Field training in Mombasa, Kenya. ©Bianca Otero

and Sustainable Forest Products Supply Chain Course in the United Kingdom (UK), travel and residential grant award for the Africa-Latin America First Bat Course on Ecology, Diversity, Conservation and Ecosystem services in Kenya, and the Frugivorous and Seed Dispersal Conference in Delhi, India, to mention a few. She advises aspiring scholars to be determined because securing scholarships sometimes comes with a lot of “NOs”, but one “YES” is worth the trouble. Aspiring scholars must be resilient and not give up till they get that “YES” they strongly desire.

She also added that excellent grades and meaningful networks should be built along their career journey to avail them with necessary information they need for scholarship applications. Making a proper plan ahead of every application and getting yourself a mentor are also important points mentioned by Abidemi as nuggets for successful scholarship pursuits. She adds that *“As the first and only female student in the department*

of Forestry and Wildlife Management, University of Ilorin, I realized early that I have a responsibility to support students, especially females, in forestry, its related field and beyond”.

Abidemi started actively volunteering during her National Youth Service, where she joined NGOs and was also involved in creating awareness on tree planting, conservation of forests and biodiversity in collaboration with the Ministry of Environment, Kogi State, Nigeria. Also, while pursuing her Master’s degree, she volunteered with the Nigeria Bird Atlas project and continued after graduating. The training she acquired during her Master’s programme and volunteer work motivated her to start the Ilorin Bird Club and Kwara State Atlas project in 2018

with about 43 subscribers, who have submitted 25 pentads so far. She also got involved in the Save Sahara Network, an NGO involved in tree planting and environmental education. She is currently volunteering in Bird Ringing in South Africa.

Closely related, she formed “The PILLARs Female Foundation” with about 153 females from different parts of the world. Zoom, WhatsApp and Facebook meetings are held in addition to one-on-one mentorship, where success stories and scholarship opportunities are shared and discussed. Abidemi has reviewed five award winning scholarship applications and mentored more than 100 students directly and indirectly. Currently, she has 23 students that she mentors one-on-one.

Abidemi believes that forestry is not just a course that one gets stuck with but a highly diversified field. As a forester, she studies trees, birds, bats, and their interactions and ecological impacts. You can get bits of everything, therefore it’s safe to conclude that in forestry one can still be an engineer, a lawyer or social worker. Forestry is beyond a career and goes beyond the confines of the classroom.

“*There is always a niche to explore in forestry*”



- Elias Gaveta, Malawi

Elias Gaveta is a PhD candidate in Transformative Community Development (Climate Change and Food Security) at Mzuzu University, Malawi. Elias chose to study forestry because he wanted something more challenging and fun. Elias, who is 35-years-old, was born, raised and lives in Malawi in the southern part of Africa. He is currently studying the role of climate smart agriculture like agroforestry on the nutritional wellbeing of farmers in Rumphi, Malawi.

He began his university education with a Bachelor's degree in Forestry at Mzuzu University in Malawi from 2005-2009. He obtained a Master's degree in Transformative Community Development in 2015 from the National University of Ireland, jointly with Mzuzu University. He advises those looking for a postgraduate scholarship, as a beneficiary for his Masters' and PhD education, that they should give it more time, learn more about their field of study, apply, and an opportunity will definitely show up. He also added many feathers to his leadership cap as the Fellow of Leadership in Environment and Development (LEAD) in Southern and Eastern Africa; Laureate candidate for One Planet Fellowship: (<https://bit.ly/3g9MNmP>), an initiative of African Women in Agricultural Research and Development (AWARD); as well as Environmental Trainer for Peace Corps Malawi, among others.



From his identification of the disconnect between science communication with local people, Elias was motivated to establish an organization named Conservation Arts Malawi: (<https://www.facebook.com/ConservationArtsMw/>) in 2017. Based on his previous experience working with farmers and rural communities on forest conservation, Elias was able to use the organisation to bring different stakeholders together and shared scientific information on climate change and conservation issues in the simplest way. He has also been managing different portfolios and tasks by working in

several internationally funded developmental projects since 2010. Some of the organisations and their focal projects include Concern Worldwide – Enhancing Adoption of Conservation Agriculture; CRS/Chikwawa Diocese – Wellness and Agriculture for Life Advancement (WALA) project; Karonga CADECOM and a Trainer for Peace Corps Volunteers Malawi.

On impact, Elias has worked with over 45,000 farmers in areas that support livelihoods through climate smart agriculture initiatives. He is proud that farmers have adopted technologies such as conservation agriculture, agroforestry, watershed management, and postharvest management that help them in adapting to climate change and also mitigating its effect on their land, income and the environment in general. He is keen on promoting the idea of urban forestry among city dwellers through *Conservation Arts Malawi*.

Beyond community impact, Elias is also contributing to scientific knowledge through publications and disseminating his findings at scientific gatherings. He participated in the 125th Anniversary Congress of IUFRO in Freiburg, Germany. He also wrote a chapter in a book titled “Changing Agricultural Education from within: Lessons and Challenges from the GO4IT programme”, available at: (<https://bit.ly/3a3IrtK>).



Elias Gaveta training Peace Corps volunteers on compost manure making in Malawi. ©Emma Bussard

Elias encourages students who want to study forestry in the future to see themselves as problem solvers. His belief is that becoming a professional forester is one of the most challenging careers in the face of increasing climate change, thereby providing new solutions needed to deal with emerging issues, such as deforestation, food insecurity, and environmental pollution. He also believes that there is a need for more forestry professionals working to maintain the balance between development and environmental management in order to have a world that can grow and sustain life.

For those already considering a career in forestry or forest-related science, Elias is of the opinion that there are opportunities for growth, jobs and innovation. There is room for bringing in new innovative ideas and transforming them into tangible solutions, which can lead to entrepreneurship related to forest management and resources. He considers forestry as an interesting career to pursue because, aside from studying trees and forests, one also studies people. Elias envisions himself building a further career in research, and becoming an advocate and environmental educator, so that he can raise more awareness and bring more people on board to support forest management initiatives.

“Working in the service of forest is one of the best ways to serve humanity,”

- Jean-Baptiste Ndamiyehe Ncutirakiza, Democratic Republic of the Congo (DRC)

Jean-Baptiste Ndamiyehe is a 30-year-old early career researcher and among the finest young researchers in the Democratic Republic of the Congo (DRC). He studied electrical engineering in high school, and had a dream of becoming an aircraft pilot. Unfortunately, Jean-Baptiste could not pursue his dream due to financial constraints. He ended up pursuing a career in forestry because of his love for nature and forests. As fate would have it, he crossed paths with his original dream. Jean-Baptiste is now a drone pilot. Currently, he is using remote sensing technologies such as drones and LiDAR to characterise the structure and dynamics of tropical forests. In his words, “It’s very pleasant and exciting to walk over tropical forest canopies”.



Jean-Baptiste holds a Bachelor’s degree in Renewable Natural Resources Management from the University of Kinshasa, DRC, with the financial support of *Projet d’appui à la formation en gestion des ressources naturelles dans le bassin du Congo* (FOGRN-BC project), a project of the Canadian International Development Agency (CIDA) that is aimed at reviving forest management training in the Congo Basin. Furthermore, he pursued his Master’s degree in Sustainable Forest and Biodiversity Management at the University of Kisangani on a project of the European Union and under the financial support of the *Forêts et Changement Climatique au Congo* (Forests and Climate Change in the Congo). Also, through the funding of the European Union, he is currently pursuing a PhD degree in the same field and at the same university on the project *Formation, Recherche, et Environnement dans la Tshopo* (FORETS) (Training, Research, and Environment in the Tshopo), implemented by the Center for International Forest Research (CIFOR).



He has obtained several other international funding opportunities, from the Belgian Institute of Natural



Jean-Baptiste Ndamiyehe preparing drones for piloting in Belgium.

©Jean-Baptiste Ndamiyehe

Sciences (IRSNB), the International Foundation for Science (IFS) and the Embassy of France in Kinshasa, DRC. His PhD research, which is jointly directed by scientists from Gembloux Agro-Bio Tech, the University of Kisangani, and the French Center for International Cooperation in Agricultural Research for Development (CIRAD), is at the cutting edge of technology on the use of new remote sensing technologies such as an unmanned aerial vehicle (UAV) and LiDAR. The study aims at characterising the structure and dynamics of tropical forests. The project has an increasingly strong impact in the forestry sector in DRC and throughout the Central African region. More details about Jean-Baptiste's research is available at: (<https://bit.ly/3nk61bi>).

Jean-Baptiste is also passionate about environmental education and advocacy. He was involved in planning several conferences and led a few campaigns in this area. For instance, in January 2014, he gave lectures on urban forestry in the framework of the forum "Environment, Forest, Climate" organised with the support of CIFOR and Global Climate Change Alliance (GCCA) for the actors (students, NGOs, state forest administration) that are involved in environmental management. With the support of the FOGRN-BC project and the German Development Cooperation Agency (GIZ), in conjunction with the Natural Resources Management Students' group of the University of Kinshasa, he led a mega campaign on the role of trees in the DRC as part of the open days at IBI-

village (Village Mampu) on July 5th, 2013. Due to his expertise in tropical forest ecology, Jean-Baptiste was invited to give a lecture on the subject on December 10th, 2019, at the AgroParisTech campus in Montpellier, France.

Currently, Jean-Baptiste is setting up a laboratory called *CARtographie, Télédétection et statistiques pour le suivi de l'Environnement (CARTE)* (Mapping, remote sensing and statistics for environmental monitoring), whose objectives include providing local expertise necessary for sustainable environmental management. He worked as a teaching assistant at the University of Goma before his PhD degree programme and plans to continue as an assistant professor after his graduation.

Moreover, Jean-Baptiste is planning to lead projects on the establishment of forestry centres and GIS laboratories for spatial data analysis, as well as training the new generation of forest scientists in GIS and remote sensing in DRC. He is encouraging students and upcoming professionals, specifically in DRC, to study forestry, given the roles that forests play in the environment and the shortage of forestry professionals in DRC. *"Forestry is interesting and involves science, where you can undertake new research with new technologies."*

Breaking Career Barriers

Inspirational Stories of Early Career Forestry Professionals in Africa



Students of Forestry from the University of Ilorin, Nigeria, conducting an ecological survey at Kainji Lake National Park, Nigeria. ©Danladi Areola



“*My passion lies in community forest conservation*”



- Abraham Boakai Massaquoi, Liberia

Rural-urban migration is a big problem in Africa. Many young people have relocated to the big cities in search of job opportunities, whereas an often neglected agriculture and forestry sector readily provides such prospects in the rural areas. After a series of trainings by conservation organisations while in high school and the presence of a community forest in his village, which to him was initially a burden, **Abraham Boakai Massaquoi** developed a keen interest in forestry. The 31-year-old from Liberia obtained a Bachelor's degree in Forestry from the University of Liberia in 2015 and a Master's degree in Biodiversity Conservation from Njala University, Sierra Leone, in 2020.

As a member of the Biodiversity Club at the University of Liberia, he ensured that every student undertook an initiative to plant a tree in the university and proudly, the trees still stand to date. He believes that most of the current forestry jobs in Liberia are with NGOs, which require candidates to have sufficient experience that can be obtained through volunteering, like in his case. Right before the completion of his Bachelor's studies, Abraham started working with conservation NGOs in his community as a contract staff and he currently works as an associate forester in the Multi-Stakeholders Forest Governance and Accountability Project (MFGAP) in Monrovia, Liberia. The project is funded by United Kingdom Aid through the Palladium Group and focuses on helping forest-dependent communities in the areas of conflict resolution, development of forest enterprises for livelihood improvement, and conservation education.



Abraham's professional success includes: support in the interpretation of the Liberia Community Forestry Law and drafting of a simplified guide; establishment of seven community forests totaling over 500,000 hectares; work with 17 community forests in Liberia; work with five local and four international NGOs broadly in the area of capacity building and project monitoring and evaluation; teaching and mentoring around 300 forestry students as a teaching assistant

at the University of Liberia on Forest Conservation and Administration, and advocating for the protection of key national protected forests, such as the Gola National Park and the Lake Piso Multi-Purpose Use Reserve. He is part of a multistakeholder team that collected biodiversity data from researchers and institutions for proper processing and storage using the Darwin Core format for publishing in 2018. He was proud to be part of the data team of the National Forest Inventory of Liberia from 2017-2019, almost 60 years after the first inventory was conducted.

Abraham has also received additional training from various international organisations such as Capacity Building Training in Data Management, by the FAO; Introduction to Biodiversity Informatics, by the Global Biodiversity Information Facility (GBIF) and training in conducting socio-economic surveys, biomonitoring and data management by Forest Income for Environmental Sustainability (FIFES), Liberia.



Abraham Massaquoi at Gola National Forest, a "transboundary peace park" between Liberia and Sierra Leone, during the National Forest Inventory of Liberia in 2019.

©Jefferson Sackie

In his opinion, it is incredible how different policies and actions are helping Liberia's forest sector to bounce back from the recent civil wars it went through. From the illegal exploitation of forest resources, the country progressed into commercial forestry, then conservation forestry, and finally community forestry in 2009 giving the rights back to forest owners. The country is currently working on carbon trading from its vast forest and unique forest sector.

Based on his experience and activities in the forest sector, Abraham emphasizes the need for increased higher forest education training in Liberia to help manage the more than 40 % of the upper Guinea forest that the country possesses. He encourages young people to pursue a career in forestry, which is needed to understand the importance of African timbers and the continent's large forests. Africa's forests stretching from the Upper Guinea Forest to the Congo Basin require more research on adequate conservation strategies and sustainable utilization for livelihoods.

Abraham finally stresses the importance of networking with organisations and like-minded people in job search and career development in the forest sector.

“*Prove to students that there are opportunities in forestry and they will gladly pursue it*”

- Adja Madiguene Diallo, Senegal

Adja Madiguene Diallo is a young forest scientist from Senegal, who has had several opportunities in the course of her career in forestry. Adja never planned to study forestry or related courses, mainly because she was not aware of the job opportunities in forestry. She was inspired when she met some mentors who encouraged her and opened her eyes to several career prospects available to forestry graduates in Senegal.



Her passion for forestry was ignited after her internship at the National Centre of Forestry Research (ISRA/CNRF), Dakar, Senegal. Following the support of her mentors and the internship experience, Adja completed a Master's degree in Biotechnology applied to plant breeding at the University of Cadi Ayad, Marrakech, Morocco. After that, she pursued a postgraduate degree in Plant Biology at the University Cheikh Anta DIOP in Dakar, Senegal. In 2015, she earned a PhD degree in Forest Nature and Biomass at the University of Copenhagen, Denmark.

Adja is the Programme Leader of “Tree Breeding and Valorization of Forest Products” at the National Centre of Forestry Research (ISRA/CNRF). As the Head of the Programme, she has the mandate to release improved planting material for highly valued forest tree species, using both genomic information and field testing. In this programme, much interest is given to the optimization of timber and non-timber forest products value chains.



Adja uses DNA techniques to genetically sequence genomes to create new and improved varieties that have better productivity and resilience. She is currently designing pre-conceptual models for economically important forest species to add value, create incentives for primary stakeholders to participate in the value

chain and increase the resilience of local communities. Thus, to cope with global changes and improve the resilience of vulnerable communities in Senegal, Adja designed an integrated development model at community level called *HuB-PFNL* (or *HuB-NTFP*) aimed at establishing highly productive plantations based on research outputs (high yielding and adapted trees) managed by local communities with the support of the private sector. These *Hub-NTFPs* could, in the long term, become autonomous forestry companies, and suppliers of high quality forest products.

Adja gives high priority to establishing an interconnection between the private sector, farmer's organizations and research institutes. This interconnection is geared towards value-added creation through the enhancement of competitiveness and profitability, allows durable self-funding of forestry research in Senegal and success and sustainability of actions undertaken in rural zones. She believes that her work and research activities will bring transformation in both the development and business sector in Africa while reinforcing the resilience of communities. In addition, Adja firmly believes that studying forestry will provide professionals who can better manage forests to enhance communities' livelihoods and to achieve Sustainable Development Goals.

Adja won the PhD Merit Scholarship Programme and TWAS-ISDB Postdoctoral Fellowship. She has managed to secure research funding from the International Cooperation Moroccan Agency, Islamic Development Bank and the International Foundation for Science (IFS). She has published over ten scientific articles. Adja encourages upcoming students to study forestry, confirming that there are job and business opportunities available to foresters in Senegal and the African continent.



Adja Madiguene Diallo at an Acacia senegal (a high-yielding and tetraploid tree) progeny field trial in Dahra, Senegal. ©Ibra Padane

“*I did not choose forestry by mistake*,”



- Alfred Afeku, Uganda

Formal education in forestry started off as technical colleges in different parts of Africa, some of which exist to date. These colleges continue to provide technical manpower in the forest sector by offering certificate, diploma and higher diploma training. **Alfred Afeku**, a Ugandan, started his own professional forestry education at Nyabyeya Forestry College Masindi, Uganda, where he obtained a Technician Certificate in Forestry in 2010 and a Diploma in Forestry in 2011.

Choosing to study forestry was not a problem at all for Alfred; his journey started way back when he was born. He grew up in a rural community living at the fringes of Budongo Central Forest Reserve, a remote protected forest in Masindi, mid-western Uganda, deriving his livelihood from the forest, such as food, water, medicine and income. He interacted directly with the challenges of living adjacent to forest reserves ranging from human-wildlife conflicts to reducing forest resources due to overexploitation and effects of climate change. The continuous depletion of forest resources in his area due to illegal activities inspired Alfred to protect and preserve forest resources. He joined the Budongo Conservation Field Station in 2006 as a volunteer Research Field Assistant and later went on to Nyabyeya Forestry College, Masindi, to further develop his technical skills.

Alfred's higher education was financed by volunteers and local scholarships. His family was unable to finance his education because of its large size and the burden of livelihood priorities that competed for a meagre resource envelope. Resultantly, his schooling never had a straight trajectory as he kept dropping out of school due to lack of tuition, but he kept striving and never ceasing in achieving his dreams as an environmental expert. After high school, he got a sponsor to pay for his certificate course in forestry at Nyabyeya Forestry College. This was foundational to his acquiring scholarships for a diploma in forestry and later a government scholarship at the university.



Alfred's aspiration therefore is to help others in his community to realize their dreams through promotion of eco-friendly economic activities that safeguard and sustain their natural resources.

Alfred won the Principal's Merit Award for Best Performing Student in 2011, while at Nyabyeya Forestry College, and was awarded the Government of Uganda scholarship to pursue his Diploma and Bachelor's studies. During his studentship at Makerere University, Alfred served as the President of the Students' Council at the College of Agriculture and Environmental Sciences (2015-2016) and School of Forestry, Environmental and Geographical Sciences of Makerere University (2014-2015).

In September 2015, towards the end of his Bachelor of Conservation Forestry and Production Technology studies at Makerere University, Alfred got his current job at the National Agricultural Research Organization (NARO), Uganda. He has also worked at Nyabyeya Forestry College Masindi, Uganda, for one year before this current role and taught more than 300 students in forest botany, ecology, and beekeeping topics.

As an Agroforestry Research Technician at NARO, some of Alfred's exploits include, but are not limited to: training of 47 Agriculture Officers and more than 150 farmers on sustainable land management practices; capacity building for five farmer groups on the establishment and management of community agroforestry tree nurseries, with each nursery producing about 150,000 tree seedlings annually, and he projects over 158,000 trees should have been planted on farms; training of over 370 students from more than seven Universities and five Agricultural and Forestry Colleges in Uganda on internship on agroforestry practices and tree nursery operations; and training of about 500 smallholder tea farmers and aquaculture farmers on good agroforestry practices and farmer managed natural regeneration as climate and landscape smart approach to sustainable agriculture; and development of Climate and Landscape Smart Tea Practices Extension Guide for tea producers.

Alfred shares that many of the students in Uganda study forestry to obtain a qualification because they have no option, until later, when they discover that forestry is interesting. To him, gender inclusion in forestry studies is especially important and he is glad that females have started picking up interest in forestry and that the role of women in forest management is being recognized.

Alfred hopes that a time will come when forestry will not be viewed as a means to obtain a degree but a means to achieve global justice for the environment by protecting forestry resources. A profession which one can be proud of because

it impacts everyone's day-to-day life. He calls for a change of perspective and attitude among young people planning to study forestry towards a career in Africa.

Alfred's desire is to aggressively advocate for and contribute towards action for sustainable development, enhancement of socio-ecological resilience and building a sustainable economy in Uganda. He wishes to contribute towards Sustainable Development Goal 13 and Goal 15.



Alfred Afeku monitoring guava seedling in an agroforestry nursery at Rwebitaba Zonal Agricultural Research and Development Institute in Fort Portal, Uganda.

©Abraham Ahabwe

“Forestry is not limited to forest,”



- Emilienne Diane Bala Bala, Cameroon

Emilienne Diane Bala Bala, is a 28-year-old forest engineer from Cameroon. Her biggest motivation for studying forestry was her love for dealing with challenges. She came across a misconception that forestry is only for male students and she took up the challenge to debunk that by choosing to specialize in forestry. Interestingly, she has been enjoying her escapade in forestry, and she has never regretted the decision to pursue it. She studied forestry engineering at the Faculty of Agronomy and Agricultural Sciences (FAAS) of the University of Dschang and holds a Master's degree in Natural Resources Management from the same university. She is currently pursuing a PhD degree in Integrated Management of Forest Resources at the University of Dschang, Cameroon.

Diane is a vibrant young lady who has been involved in several forest-related projects. She was the coordinator of *Ecosystèmes et développement (ECODEV)* (Ecosystems and Development). Her roles, aside from overseeing the work of ECODEV, included: working with local communities, helping them with forest inventory, and helping with forest monitoring programmes to reduce illegality. She was a consultant for an NGO called *Forêts et Développement Rural (FODER)* (Forests and Rural Development) serving as an evaluator of the Standardized System of Independent External Observation implementation (SNOIE) project.



Moreover, Diane was an intern at CIFOR for eight months, where she worked extensively on woodfuel. During her internship, she assisted in reviewing the legal and political framework for woodfuel in Cameroon and neighbouring countries (Chad and Nigeria). She also reviewed woodfuel production systems, carbonization methods and types of existing wood fuel stoves. In addition, she worked on identifying woodfuel post-production technologies in Cameroon and other countries and analysed the appropriateness of woodfuel post-production technologies by consumers in each region of Cameroon.



Bala Bala Diane standing on a log in the wood yard at the train station in eastern Cameroon. ©Diane Bala

Additionally, Diane was a consultant for *Club des Jeunes Aveugles Réhabilités du Cameroun (CIARC)* (*Cameroon Rehabilitated Young Blind Club*), training people with disabilities in waste management, climate change, project design and business plan writing. Subsequently, seven projects written by the trainees (people with disabilities) in the city of Yaoundé received full funding and support for implementation.

Diane believes that young foresters in Africa must work to improve forest governance and to achieve the goal of sustainable forest development. She advocates for communities to be placed at the centre of forest management, especially from the decision-making process to implementation. Currently, she is working with an NGO named Field Legality Advisory Group (FLAG) as an intern. At FLAG, Diane is

analysing data and designing a database using reports (2000-2020) from Forest Independent Monitoring Missions in Central Africa.

Diane strongly believes there is a need for more forestry professionals in Africa and reiterates that forestry is not limited to forests. *“There are several job opportunities in forestry beyond planting and managing trees.”*

“When people understand the benefits of forests, they will fall in love with forestry,”

- Claire Nasike Akello, Kenya

Claire Nasike Akello is a passionate young Kenyan whose efforts have positively impacted the field of forestry, agriculture and environment in Kenya and the African continent. She is a founding member and Secretary-General of Natural Resources Management Students' Association (NARMSA) in Kenya, a full member of Greenbelt Movement, founder of the Hummingbird Foundation, landscape leader at the GLF, and Food for Life Campaigner at Greenpeace Africa. She was also the third recipient of the Wangari Maathai Scholarship Fund.



Nasike grew up in a home filled with all kinds of trees, which were not only important in shade provision and home beautification, but also provided medicine. Nasike learnt about trees as a child while living with her grandmother. Her grandmother was a midwife and herbalist. She used parts of trees to prepare medication for her clients. From an early age, Nasike was aware of the intrinsic value of trees and developed an uncommon love for trees. From daily interaction with trees, she developed knowledge about the use of trees and became fond of forests, be it planted or natural. She holds a diploma in Environmental Science from the Technical University of Kenya and a Bachelor's degree in Environmental Resource

Management with first-class honours from the same university. She is currently pursuing a Master's degree in Management of Agroecosystems and Environment at the University of Nairobi.



Nasike trains local communities (in Machakos, Kitui and Makueni counties) in ecological farming as an adaptive mechanism to climate change and campaigns for the adoption of ecological farming by smallholder farmers as well as inclusion in agricultural policies in Kenya. Besides



Claire Nasike Akello with Rose (a farmer) applying compost manure in a farm in Kitui county, Kenya.

©Green Peace Africa/Paul Basweti

that, she helps in designing and creating a range of campaign tools, builds capacity for small-holder farmers through ecological agriculture training, engages in writing opinion pieces (blog), prepares project reports, develops budgeting for campaign activities, and develops and prepares campaign strategy documents.

Nasike currently runs the Hummingbird Foundation, an initiative that aims at providing nutritious organically grown vegetables to school children

within the informal settlements in Nairobi. The foundation currently has gardens in two schools in Nairobi (Mathare School for Girls and Cherish Watoto). The foundation also teaches children the importance of environmental conservation and organic gardening. *"We believe that doing so will motivate these children to connect with nature and eventually protect it"* – Nasike said during the interview. In 2019, one of the schools under the programme (Mathare School for Girls), emerged as the winner of the Green Kids Award (an award that recognises children's ideas that focus on climate change and environmental degradation) and for having an outstanding garden in their school.

Having won several scholarships, Nasike advises forestry students to always demonstrate passion and translate the passion to impact their community when applying for a scholarship. She reiterates the need to look for university and funding opportunities that allow knowledge creation in the area of one's passion. She also encourages students to have a mentor who can guide them through the scholarship application process. Nasike believes in the pursuit of work experiences while studying, a practice that has put her ahead of her colleagues.

Nasike and her foundation propagate the benefits of forests as a means of making people (especially children) love forestry. *"When people have first-hand experience of the importance of forests, they will be happy to get into a forestry career."*

“Forestry is beyond immediate return and transcends time”

- Omobola Eko, Nigeria

Omobola Eko is a Nigerian and she graduated in 2019 with a Master’s degree in Forest Economics and Management from the Federal University of Agriculture Abeokuta in Ogun State, Nigeria. Her Bachelor’s degree in Forestry and Wood Technology was obtained in 2014 from the Federal University of Technology, Akure (FUTA) in Nigeria.



Omobola is currently working as the Project Coordinator of the “Urban Trees Revival Initiative” (UTRI): (<https://urbantreerevival.org/>) which she founded in 2019 in Nigeria. The organisation’s mandate is to advocate for the planting of more trees as the cheapest climate solution. Fruit tree seedlings are also donated for planting in public spaces by UTRI. Omobola is also the founder of GRO GARDENS, a forest nursery enterprise that she conceived in 2010 during one of her lectures. However, she did not implement it until 2016. GRO GARDENS deals in selling ornamental tree seedlings, landscaping compounds and leisure spaces, and beautification of homesteads and offices.

Omobola’s dream was to be a surgeon. She applied for a microbiology programme at the university, but was selected for forestry, which she had no idea existed till the day of admission. She was distraught because her perception then was that forestry offers very few employment opportunities. She struggled through the programme until her second year at university when she decided to embrace forestry. Her perception took a positive turn after meeting mentors who opened her horizons to the limitless opportunities in forestry. It is for this reason that she went on to study a second degree to update and capacitate herself to provide solutions to degradation challenges in Nigeria.



Through the Urban Tree Revival Initiative, Omobola has done incredibly well. With regards to tree planting, over 200,000 tree seedlings have been raised and donated to schools

and private entities for planting. The organisation has also provided over a thousand seedlings to the Lagos Government for planting during the celebration of the Lagos Tree Planting Day. Massive sensitization in the communities and schools, mainly primary and secondary schools is being done and attempts are made to influence policy-makers to make favorable changes in the environmental sector. With the use of research and advocacy, Omobola and her team have also been able to share information on solutions for problems of climate change by visiting over 60 schools and educating about 23,050 students.

Urban Tree Revival Initiative has had the honour of being featured in a United Nations documentary for “Nations United: Urgent Solutions for Urgent Times” available at: (<https://youtu.be/xVWHuJOmaEk?t=526>). The Urban Tree Revival Initiative also offers volunteering and internship opportunities to forestry students across seven States in Nigeria. The total number of volunteers per given time is around 45. Omobola was recently selected as one of the top 100 Young Conservation Leaders in Africa by the African Wildlife Foundation: (http://top100youth.africa/portfolio_page/omobola-eko/).



Omobola Eko planting a seed at the One Million Tree Project nursery in Lagos, Nigeria. ©Maama Adeshina

Omobola encourages and believes that building a career in forestry is beyond immediate returns. *“It is something that transcends time—not just the present but also the future”*. She adds that *“training in forestry should be embraced as being very timely in this era of a global climate crisis. As a forester, your knowledge in tree planting and landscape restoration is indispensable and your employability is guaranteed”*. It is her pleasure to welcome young foresters as they join a career that is very relevant to human existence.

“I never dreamt of a forestry career because I wanted to work in the field of medicine,”

- Frank Blessings Chimaimba, Malawi

The basic subject requirement in some African Universities for admission into highly competitive academic science programmes such as medicine and surgery is the same or close to the less competitive ones, such as agriculture and forestry. Many students learnt of the forestry programme for the first time from their university admission letters. This scenario mirrors the career story of **Frank Blessing Chimaimba**, a 27-year-old Malawian, who applied to study for a Bachelor's degree in surgery but was instead offered a slot in the Natural Resources Management programme at the University of Malawi.



It took Frank some time before he began to develop an interest in Natural Resources Management, but he eventually did and completed the Bachelor's degree in 2014. He was awarded a scholarship from the “AfriCity project” for his Master's degree in Environmental Sciences, which he enrolled for six months after completing his Bachelor's degree and working as a secondary school agriculture teacher. He completed the Master's degree in 2019.



He worked as a project officer intern at “Leadership for Environment and Development in Southern Africa” during his Master's studies. His work at that time included, but was not limited to, promotion of climate smart technologies such as improved cooking stoves, conservation agriculture and bee keeping; and support to Likangala River and Lake Chilwa Catchment restoration initiatives through tree planting and promotion of good agricultural practices. He was also involved in the management of Sadzi hill in Zomba, which was previously heavily deforested and posed many challenges to surrounding communities including soil and rock erosion, but the challenges are now history.



Frank Blessings Chimaimba preparing a drone for a flight at Emmanuel International's office in Mangochi, Malawi. ©Albert Mhango

Frank developed an interest in urban forestry during his Master's studies when he realised how unhappy the people were in cutting down trees within the city by the authorities in Zomba. His interest soon developed into research to investigate why there is more interest in rural forestry than urban forestry despite the increasing trend in rural-urban migration.

Frank is proud of a paper titled "*Urban tree species composition and diversity in Zomba City, Malawi: Does land use type matter?*" (Doi: <https://doi.org/10.1016/j.ufug.2020.126781>) that he and his colleagues published in 2020. The article is one of the first scientific papers on urban forests for Zomba and probably in Malawi. There was also an article published by Frank and his team in 2018 in "Malawi the Nation" newspaper on *Green Space for Livable Cities*: (<https://mwntation.com/green-space-for-liveable-cities/>); this generated positive public perceptions of the subject matter. Beyond publications, Frank has attended several conferences and workshops both within and outside Malawi, where he presented findings of his research. For example, he attended the Regional Centre of Expertise Conference held in Malawi in 2018 to present his thesis results.

Frank was of the opinion that developing and nurturing networks is a key strategy that can help forestry students to quickly acquire a job after studies. One of his networks that saw his career potential recommended his name for an interview. He passed the interview and was offered his current job as the Natural Resources Management Coordinator at Emmanuel International. In a Global Outlook on Forest Education (GOFE) survey carried out in 13 countries around the world, networking was among the key competences required by forestry graduates in getting jobs (Rekola et. al., 2017. Available at: (<https://bit.ly/3u1BAO8>)).

Frank believes that the YAFP project is being implemented at the right time when information on the immense opportunities in the field of forestry is still scarce. He advised students who may want to pursue a career in forestry to explore urban forestry with high chances of getting a job due to a limited number of experts in the field.

His message of encouragement to the young people is that forestry is their future, so they have to put all their efforts together towards protection, development or improvement of their natural resources for a brighter future.

“Forestry provides real opportunities to offer meaningful impact in the community,”

- Joseph Indo Muli, Kenya

The African continent faces a lot of brain drain annually on the premise of its citizens who could contribute to its development moving outside the continent to seek better education, job and living opportunities. Presented with an option of staying abroad after his Master's of degree in Natural Resource Management for Tropical Rural Development at the University of Florence, Italy, **Joseph Indo Muli**, a 33-year-old Kenyan, preferred to return to his home country, Kenya.



Joseph kickstarted his career as an unpaid intern at Kenya Forest Service (KFS) before completing his Bachelor's degree in Agroforestry and Rural Development at Moi University, Kenya. The volunteering experience on key issues pertaining to participatory forest management gave him advantage during an interview session that got him his first job. From being an intern, he received a three-year appointment as a project manager on improved community-based natural resources management funded by the Danish Development Agency (DANIDA).

The inadequacies he felt about managing a 31,000 USD project grant as a recent Bachelor's degree graduate encouraged him to pursue a Master's degree in Business Administration (MBA) from Mount Kenya University in 2014. The MBA enabled him to improve his managerial skills and deliver his tasks well on the project. A few months after the project, he got a job as Kwale County Region Forester. Six months later, reflecting on his work with the communities, Joseph secured a scholarship opportunity for a Master's degree in Italy. He retained his job at the county government in addition to other benefits upon his return from Italy.



Joseph was born and grew up in an urban area in Mombasa, Kenya, where there were no forests. He had his own share of personal struggles in joining the university



Joseph Indo Muli (fifth from left) leading a county consultation meeting on sustainable energy with GIZ at their offices in Kisumu, Kenya. ©Nyamawi Charo

to study forestry in lieu of computer science. Many people advised him to change the course because forestry was not for him and he is not a farmer, until he finally personally resolved to study. Today, he says that “*studying forestry was a blessing in disguise*” to him.

His personal aspiration was to get into a career that could help him make an impact. Through his experience as a forester he has been able to work with the communities making real impact and transforming rural livelihoods. He is of the opinion that there are

numerous opportunities in Africa from natural resources, as many people depend on them for their livelihoods.

In his bid to help communities take key roles in managing and utilising their natural resources and forests sustainably, Joseph founded the Kwale County Environmental and Climate Change Community Action Group: (<https://bit.ly/32c1KwF>). The group has a digital platform, which focuses on creating awareness on sustainable environment and climate change. Through the various projects and activities he has carried out, Joseph has successfully influenced about 10,000 people planting trees on their farms thereby increasing tree cover from 5.5% to 15%.

He has also facilitated the formulation of policies that back up restoration initiatives, supported 300 community groups to develop nature-based enterprises in beekeeping as well as Aloe vera and butterfly farming. He was able to train commercial tree nursery operators, who have in return raised about 10,000 seedlings. Joseph is building the next generation of foresters and environmentally conscious youth through educational outreach activities in about 20 schools, and this has resulted in the planting of over 10 million trees so far in the Kwale region of Kenya.

Joseph’s advice to other young Africans who may be facing career uncertainties in forestry is that they should not only look at the privilege of gaining employment among other opportunities in forestry, but think of becoming job creators for others in the area of forestry and agriculture in Africa.

Finally, Joseph believes that Africans need to start looking for their own solutions that provide and generate economic, environmental and social benefits for now and for posterity.

“*I am fortunate to have studied forestry*,”



- Onyekachi Chukwu, Nigeria

Onyekachi Chukwu is a Nigerian currently pursuing a PhD degree in Forest Biometrics and Information Systems at the University of Ibadan, Nigeria, and he holds a Master's degree in Forest Biometrics and Remote Sensing obtained from the same university in 2017. He also completed his Bachelor's degree in Forestry and Wildlife at the University of Maiduguri, Nigeria, in 2015.

Onyekachi is also a lecturer in the Department of Forestry and Wildlife, Nnamdi Azikiwe University (UNIZIK), Awka, Nigeria. He has also been volunteering with Climate Change Intelligence Cope since 2020. His dream was to be a medical doctor, but he was offered admission to study engineering for his diploma and thereafter forestry for his undergraduate degree. His motivation came from the practical experiences that he gained in the forestry programme. Additionally, associating with professional foresters helped him appreciate forestry, as well as being the local committee President of IFSA in the University of Maiduguri, Nigeria, (2014-2015).

For his excellent performance, Onyekachi received the award of Innovator of the Year 2015 from the University Maiduguri and he was the 2017 Best Master's Graduating Student of his department at the University of Ibadan. He also received the 2019 Award of Excellence from the Forestry and Wildlife Students' Association UNIZIK, and holds the traditional title of *Obata obie* (Peace Ambassador).

As an academic, he has published over 50 research papers in reputable international and local academic journals, book chapters and conference proceedings that have greatly disseminated his research findings over the years. It is worth noting that a paper titled "Spatial Distribution of Nigerian Universities offering Forestry Education using Geographic Information System": (<https://bit.ly/2OLYzIV>) published in 2018 has turned out to be very helpful for both students and those seeking guidance on employment. He is a member of seven forestry and allied professional bodies and a reviewer to several academic journals.





Onyekachi Chukwu and his students at the Forestry Association of Nigeria Annual Conference 2020 at the Forestry Research Institute of Nigeria in Ibadan, Nigeria.

©Josiah T. B. Riki

As a lecturer, Onyekachi also offers mentorship to students. From 2019-2020, he mentored and supported five students to attend and present their research findings, as well as network with other professionals at the annual conferences of the Forestry Association of Nigeria, a prominent forestry organisation. He also championed the establishment of digital platforms for his department, where students, alumni and staff can communicate. The platforms are providing opportunities for professional foresters and alumni to interact, and students can have access to expert advice on their careers.

Outside academics, Onyekachi raises public awareness on the importance of trees and forests. He has been featured on both television and radio of the Anambra Broadcasting Service, and UNIZIK FM radio. He started the “Birthday Tree Initiative”, through which he

encourages people to plant trees on their birthdays. Over 200 trees have been planted through this initiative. He is planning to register this initiative as an NGO and extend it beyond birthdays to cover other forms of anniversaries.

During his undergraduate days, Onyekachi founded a “Catch Them Young” programme, through which he taught high school students the basics and importance of tree planting. Students were also provided with seedlings to plant and nurture during their six years of high school.

Onyekachi has many “firsts” to his credit. For example, he was the first forestry student to organise a tree planting campaign during his undergraduate studies at the University of Maiduguri. He also championed the publication of the first forestry students’ magazine titled “Sahara Echo” in 2014, where undergraduate students showcased their writing and creative skills. These activities drew the

attention of the Vice-Chancellor, and in the end, the Forestry Department was offered a contract to plant trees across the university campus. He is also the first quality assurance officer of the Forestry Department in UNIZIK, where he ensures best practices and quality of academic delivery.

Onyekachi does not believe that the offer of admission to study forestry represents a loss of career dreams. He suggests establishing a professional body like the “Institute of Chartered Foresters” for African countries—an institute that would assess professionals for issuance of a Chartered Forester Certificate—could motivate students to become recognised experts as well as increase professionalism in the sector. Furthermore, he advises forestry students and young professionals in Africa to believe in themselves, and explore the many career opportunities that forestry can grant.

“We have to fight for our forests, which are our main sources of livelihood,”



- Phoebe Wangui Mwangi, Kenya

Phoebe Wangui Mwangi is a 25-year-old Kenyan who wanted to pursue a Bachelor's degree in International Relations, but was offered admission for a Bachelor's degree in Environmental Resource Management at the Technical University of Kenya in 2014. By the time she graduated in 2018, her perception had changed and she was ready to work in the field of environmental sustainability.

Phoebe is a good example of young females in the field of forestry in Africa with potential to take on leadership positions. She served as the President of the Natural Resources Management Students' Association (IFSA-Kenya) and was actively involved in registering the association as a member of the IFSA in February 2019. Barely a month later, her act of selflessness was rewarded when she was selected as one of the IFSA's delegates to the fourth session of the UN Environment Assembly of the UN Environment Programme (UNEP) at their headquarters in Nairobi, Kenya, in 2019. She travelled for the first time outside her home country, to South Africa, to participate in the 2019 SARM of IFSA. She was also fully sponsored by IFSA and the Joint IUFRO-IFSA Task Force on Forest Education as one of the IFSA delegates to the 22nd session and 6th African Forestry and Wildlife Week, Skukuza, Mpumalanga, South Africa, in March 2020.

Phoebe encourages forestry graduates to be persistent and proactive in their job search and believes that it is possible to get a job in the forest sector at the national level without prior political connections. From experience, she also emphasises the need for students and graduates to volunteer to acquire work experience, which increases their experiences and chances of securing a job after graduation. While at the university, she volunteered for the Hummingbird Foundation for three years, during which she established vegetable gardens and tree nurseries in schools.



The volunteering experience gave her an upper hand when she applied for a position in a mass recruitment that attracted over 18,000 applicants for 5,000 positions. She secured a contract position with Kenya Forest Service (KFS) and worked on the “Green Zones Development Support Project” funded by African Development Fund and African Development Bank. The project has the responsibility of managing three out of Kenya’s five water towers including Mt. Kenya, the Aberdare Mountain Range, and the Mau complex. The overall aim of the project is to promote forest conservation and livelihood support, and sustainable and inclusive value chains development. She now works as an assistant environmental officer for the same project.

Phoebe has made significant positive impacts in her community through her volunteering and official assignments. She is currently involved in value addition of forest products by engaging over 500 farmers in agroforestry and educating them on forestry and conservation issues. She has also reached over 1,000 school children on practical education on gardening, tree seedlings raising and tree planting.



Phoebe Wangui Mwangi training a primary school pupil on how to plant tree seedlings in Othaya, Nyeri County, Kenya.

©Felix Mwangi

Phoebe encourages young people who are currently pursuing, or planning to pursue, a career in forestry that it is not a boring field as some people think. She recommends that they should choose it, so that they can fight for nature, which can never fight for itself, noting that nature is our main source of livelihood and sustenance. She advises those that have been offered admission into forestry programmes to maximise the inherent career opportunities forestry can offer. She believes that publishing books like this, that focus on career development, are a welcome idea to promote the field and build capacity for future foresters in Africa.

“*I never chose forestry, it chose me*,”



- Temitope Rebecca Abisoye, Nigeria

Temitope Rebecca Abisoye is a Nigerian and holds a Bachelor’s degree in Forestry and Wood Technology from the Federal University of Technology, Akure (FUTA) in Nigeria. She is currently a Mastercard Foundation Scholar at the University of Cape Town, South Africa, for a research-based Master’s degree in Conservation Biology.

Temitope applied for an undergraduate programme in microbiology but was offered a placement in forestry instead—a course she had barely heard of and only associated with carpentry. In her second and third year of the undergraduate programme, she took up a leadership position within an IFSA Local Committee as the Vice President of IFSA-FUTA. This position exposed her to a lot of information and made her appreciate the programme even more. Her participation in IFSA also provided her with networking opportunities and exposure that turned the initial dislike to passion and determination to pursue a postgraduate programme.

In her final year as an undergraduate student, Temitope co-founded a non-profit organisation called “EdenWorld Initiative”, which aims to salvage nature to meet human needs and aspirations, while fulfilling necessary ecosystem functions and ensuring a sustainable environment. Her activities include climate advocacy and education, tree planting and forest education, food seed support for local farmers, biodiversity conservation, waste education, advocacy for a healthy water usage, and research. These are in line with SDGs 2 (Zero Hunger), 7 (Clean Water and Sanitation), 13 (Climate Action) and 15 (Life on land). EdenWorld Initiative envisions to have planted 30 million trees and raised 60,000 climate ambassadors in schools by 2030. Through the EdenWorld Initiative: (<https://edenworld.org.ng/>), Temitope and her team have raised over 17,500 tree seedlings, which were used for community, school, rural and urban tree planting, and educated about 7,139 secondary school students on climate change and tree planting. Additionally, the organisation has been able to establish urban gardens and conduct workshops and training on tree growing.





Temitope Rebecca Abisoye at a street march to demand action on climate change, 2019, in Lagos, Nigeria. ©Seun Alao

After graduating in 2017, Temitope conducted her National Youth Service with the Forestry Research Institute of Nigeria, Ibadan (2018-2019). Owing to the fact that she kept her professional web links updated with activities from EdenWorld, her current employer identified her on LinkedIn and made contact for a job that she gladly accepted, at World Ecological Concepts Limited as the Biodiversity Project Coordinator. The organisation is a global training and environmental consulting firm specialized in capacity building, innovative research and consultancy. In her position, Temitope is charged with developing green business ideas and supporting forest and environment enthusiasts to turn their passion into entrepreneurship.

In addition, she is a pioneering founder of the Young African Women in Forestry (YAWF) network, which aims to unite young African

women in forestry in order to enhance international cooperation, showcase their activities, increase knowledge and mentorship, encourage networking, raise awareness of forest challenges, and strengthen their participation in forest-related spaces, decision making, and green enterprises.

According to Temitope, most people have a general belief that there is no money in forestry, but contrary to this belief, there are ways one can make money in the sector. The challenge is that most of the young people in forestry do not join the right network to access opportunities. Also, everyone needs to find their strength in forestry and build on it. It could be forest business, data analysis, research, agroforestry, ethnobotany, work with international bodies etc. She added that *"every field has its own challenges, but there are many opportunities in forestry, which foresters are yet to access."*

Most of the challenges facing the world, especially climate change and disease influxes, call for better management of the environment, such as tree growing. This solution is leverage for foresters to make an impact. She emphasises that a large proportion of the goods we consume are from forests and to sustain these, it is important that everybody understands the roles that forests play. She believes that the globe as a whole needs more foresters and thus young people should be encouraged to take up forestry as a career.

“*Involvement of young people in forestry will secure forest resources for generations*”

- Vianney Rodel Ngumdo Vouffo, Cameroon

Vianney Rodel Ngumdo Vouffo is Cameroonian and holds a Master's degree in Natural Resource Management, which he completed at the University of Dschang, Cameroon, in 2018. He obtained a Bachelor's degree in Forestry and Wildlife Engineering in 2015 and a Postgraduate Diploma (2017) from the same university.



Before he defended his Master's thesis, Vianny successfully secured a position as a research assistant with the Ebo Forest Research Project, an NGO dedicated to participative primates conservation in one of the biodiversity hotspots in the Gulf of Guinea, Central Africa. Aside from research that has led to the discovery of several species, the project is dedicated to community sensitisation on benefits of biodiversity conservation. As a research assistant, Vianny spearheaded mammal surveys and biodata analysis. Outside the Ebo Forest Research Project, Vianny served as a junior consultant on a project that focused on diagnosis of the participation of local populations in securing protected areas in Cameroon in 2018. In the same year, he was a communication assistant on the project building forest governance capacities of Cameroonians.



Although Vianny lacked direct mentorship and guidance as an undergraduate student, he was sure of pursuing an agriculture-related programme. He was very lucky that he had two years at the university to make the decision on the programme of his choice and did not think twice when he came across forestry as an option. Among other things, he believed forestry would fuel his love for travelling. He later met foresters who turned out to be both friends and mentors. He decided to pursue his Master's degree immediately after completing his Bachelor's programme to redeem time before he got too preoccupied with other responsibilities. He plans on pursuing a PhD in the near future.

Owing to his keen interest in community awareness in the Ebo Forest Research Project, Vianny has appeared on environmental programmes on the national radio of Cameroon, where he spoke to the general populace on the importance of preserving biodiversity and protecting the environment for the wellbeing of current and future generations. He has also participated in workshops training young Cameroonians in environmental leadership. In 2020, Vianny created a YouTube channel: (<http://bit.ly/2Qq5GHH>) where he shares podcasts, videos and PowerPoint presentations relating to conservation as well as raising awareness on the importance of forests. Through active participation in teaching and research mentorship, Vianny can boast of four of his students who successfully defended their Bachelor's dissertations in 2020. He is also part of a team that formed the Cameroon Primatology Society with the aim to foster research and conservation of primates in Cameroon.

Vianny believes that a wide range of opportunities exist in forestry, and these are open to new students and young graduates. Policy advocacy, resource exploitation and processing, wildlife conservation, research, landscape management and planning, among others, are the available options. Moreover, forestry offers an opportunity to build a better world while conserving and preserving for future generations.



Vianny-Rodel Nguimdo Vouffo mounting camera traps in Ebo Forest, Cameroon. ©San Diego Zoo Global (copyright SDZG)

Beyond Teaching

Inspirational Mentors of Young African Foresters



Becoming an effective mentor often requires a listening ear and a cheering mouth.

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“Forestry is not just an academic course but a pathway to diverse career options,”

- Dr. Justine Namaalwa Jjumba, Uganda

Dr. Justine Namaalwa Jjumba, born 1973, is a highly motivated and passionate forester. She completed a PhD degree in Forest Economics at the Norwegian University of Life Sciences (UMB) in 2006, a Master's degree in Natural Resources Management and Sustainable Agriculture from the Norwegian University of Life Sciences (NLH) in 2000 and a Bachelor's degree in Forestry from Makerere University, Uganda, in 1998.



Like many other students admitted to study forestry, she never anticipated the amazing career in forestry that she is now enjoying. Dr. Justine Jjumba dreamt of becoming a medical doctor during her high school years. While applying for a Bachelor's programme, she opted for medicine as the first choice, dental surgery as the second choice and not to leave the last option blank, she selected forestry. She was admitted to the forestry course, but she was bewildered, wondering how a woman could be a forester. This disappointment developed into frustration and lack of focus and interest because she did not know what she would make out of forestry. The narrative changed when she met two foresters (her undergraduate instructors) who motivated her. The encounter marked the beginning of her journey into achievements and a good life. Dr. Justine Jjumba graduated as the best student in the programme and this remarkable academic feat prompted the university to retain her as a graduate assistant.



Dr. Justine Jjumba was appointed to teach, carry out research, supervise students and support community outreach activities. Currently, she is a senior lecturer and Head of the Department of Environment Management at Makerere University. She teaches and researches on natural resource economics, agriculture and agribusiness, resource modelling, bio-economic modelling,

forestry resource assessment, forestry and climate change, and forest resource use and management. She has over 21 publications in international journals. Her research work is both as a university staff member (mainly for academic research) and as a member or associate of research organisations (e.g. the Uganda Land Alliance) and consulting firms (SARC Ltd.).

Dr. Justine Jjumba has participated, as a lead implementer, in an action research on “Strengthening the competitiveness of Uganda’s agricultural agro-processing sector through enterprise or firm level interventions for agri-business development using the value chain approach.” In addition, she has participated in several research activities and consultancies relating to evaluation of programmes, such as the “Evaluation of Finnish Development Research”; the “Feasibility Assessment for Conservation Agreements and Identification of Suitable Value Chains in Selected sites in Uganda”; assessing the progress of implementation of the National Adaptation Programme of Action (NAPA) for Uganda; and development of the Land Governance Assessment Framework for Uganda.

Dr. Justine Jjumba is also engaged in other leadership and administrative roles within and beyond the university. She is currently the Coordinator of the Mastercard Scholars Programme at Makerere University, focused on supporting academically talented youth with financial challenges. She also serves on various university committees. Beyond the university, she serves as a board member for



Dr. Justine Namaalwa Jjumba, with forestry students from Makerere University, conducting a forest resource assessment practical session in Budongo Forest Reserve, Uganda. ©Michael Mbogga

several research-related organisations. Through her career journey, Dr. Justine Jjumba sees forestry as more than just an academic course; she sees it as a pathway to diverse career options. She understands forestry to be more than planting and managing trees but as a degree programme that exposes students to uniquely diverse training, such as managing other natural resources, land use management, conflict management, economics, policy and laws, working with communities (developing negotiation skills). Besides, forestry offers a research component, which stimulates creative thinking, analytical, presentation and scientific writing skills. *“These are skills employers are looking for in the job market and which can easily fit multiple career options.”*

Due to the lack of career guidance at high school, students often go for popular courses. As a result, Dr. Justine Jjumba reiterates the need to provide mentorship and career guidance for students in secondary schools way before completion. She opines that mentorship is a voluntary informed engagement between someone more knowledgeable and a junior member who is seeking guidance in a field or career. Besides, she understands that mentorship can be formal or informal and it can also be intended or not intended. She encourages lecturers (mentors) to empathetically listen to their students to know best how to effectively help them. *“Our culture in Africa encourages looking up to elders for guidance and encouragement and it is one of the ways Africa can grow; therefore, university lecturers should be willing to give back to society by providing mentorship to students.”*

“I see my students as colleagues finding solutions to problems,”

- Prof. Coert Geldenhuys, South Africa

Little did **Coert J. Geldenhuys** know when he was growing up in a rural area adjacent to forests along the Wild Coast, Eastern Cape of South Africa, he would one day become a professor of forestry. From grade six to twelve, his passion for trees could not be hidden when he began growing vegetables and raising tree seedlings to sell to his neighbours. He later went to Stellenbosch University, South Africa, where he studied a Bachelor's degree in Plantation Forestry from 1965-1968 based on the advice he received about forestry from a friend to a classmate. He completed other postgraduate studies and in 1989 earned a PhD degree in Botany from the University of Cape Town. He never regretted studying forestry because he has been all over the world in the course of his career, and has enjoyed working in the many different types of forests in the countries he visited.



Prof. Coert began his career immediately after completing his Bachelor's degree, starting a research programme in the South African natural evergreen forests and doing forestry planning in the Namibian woodlands, as a member of the South African Forestry Research Institute between 1969 and 1990. He continued research into the ecology and management of natural evergreen forests at Division Environmentek at the Council for Scientific and Industrial Research (CSIR). By May 1997, he established his one-man business "ForestWood cc" and by a twist of fate, Prof. Coert was called upon to teach and supervise postgraduate forestry students at the Department of Forest & Wood Science at Stellenbosch University, where he has been appointed as an Extraordinary Professor in Forest Science since January 2004.



He also holds a part-time teaching engagement with the Department of Plant and Soil Sciences at the University of Pretoria since 2011, and at Nelson Mandela University since 1999. He has successfully travelled to and worked



Prof. Coert Geldenhuys explains strangler fig roots in a set of trails on Príncipe Island, Democratic Republic of Sao Tome and Principe to group. ©Frederica Teixeira

in more than 50 countries in the world, carrying out projects, teaching and supervising postgraduate students, among other activities. He received the South Africa Institute of Forestry Award for Excellence in Forestry in July 2016 and has more than 185 scientific publications, 230 research and consultation reports, and 50 popular articles to his credit on various topics related to forest ecology, sustainable use of timber, non-timber and non-wood forest products and forest rehabilitation.

Prof. Coert is very encouraged that many of his former students are in leading positions in their universities across Africa, contributing to the education of young people, and that there is a lot of potential in Africa that needs to be developed. Eméline S. P. Assede, one of Prof. Coert's students and mentees said: *"He gave me confidence, believed in my potential, and provided me with very invaluable guidance and comments on my thesis. His support enabled me to successfully apply for five research grants. We have attended several congresses together such as the IUFRO 2014 World Congress in Salt Lake City with some financial support from his company. I would never have been a Lecturer-Researcher at the University of Parakou, Benin, without his mentorship. He is the best mentor students and young researchers can ever come across."*

To him, mentorship is about guiding students, not instructing them on what to do but rather discussing and giving them a broader perspective in an informal way. Mentorship requires good and regular communication with students, understanding their backgrounds as well as being available for them when needed. He is not fond of titles which he believes create hierarchies which easily break down communication especially with students. To help his students' progress academically, Prof. Coert often finds himself trying to provide advice on other personal matters too, such as financial and family challenges.

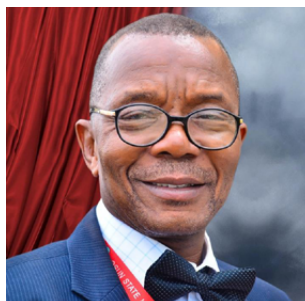
Being well versed in the use of Information Communication Technology has also helped him to effectively communicate with most of his students from different parts of Africa and the world whom he has worked with in the field and online. He admits that it can be challenging for lecturers to provide quality mentorship if one has a big class of students. In his case, he spends more time providing mentorship to postgraduate students who he works with more. He aptly concluded that *"mentorship does take time; you have to make time to communicate with your students."*

Prof. Coert Geldenhuys views the YAFP project as an African voice to solving African problems. He encourages students to venture into the area of entrepreneurship and look beyond being employed.

“Providing mentorship is about self-preservation,”

- Prof. Labode Popoola, Nigeria

It is no longer news that most people who studied forestry did not choose to, especially in Africa. One of the very few people who intentionally chose to study forestry and who made the best out of the profession is **Prof. Labode Popoola**. Despite graduating as the best student (in character, academics and sports) from Saint Patrick's College, Ibadan, and later, Government College, Ibadan, Nigeria, none of the “popular” courses appealed to him aside from Agriculture.



Prof. Labode earned a Bachelor's degree (Hons) in Forest Resources Management in 1984, a Master's degree in Forest Economics and Management in 1987 and a PhD degree in Forest Economics in 1990, all from the University of Ibadan, Nigeria. Forestry has taken Prof. Labode around the world in teaching, research and community service. He started his academic career in 1988 and he has held every position in the university system in Nigeria, from Graduate Assistant to Vice-Chancellor. He was the visioner and pioneer Director of the University of Ibadan Centre for Sustainable Development from 2010-2015. Prof. Labode has one patent and over 150 scholarly publications in reputable local and international journals.

Prof. Labode is a member of many professional associations, including: Forestry Association of Nigeria, where he was National Secretary for many years and later National President; African Sustainable Development Network (ASUDNET); Commonwealth Forestry Association; Africa Forest Forum (AFF); and, the United



Nations Sustainable Development Solutions Network, where he is a member of the Leadership Council, Network Strategy Council and National Director. He served as the pioneer Secretary General, and is currently the President of the West African Research and Innovation Management Association. He has won many awards, honours and distinctions which include: Award for Invaluable Service to the Forestry Profession from the Council of the Association of Nigeria (2002); Fellow, Forestry Association of Nigeria, Osun State Merit Award for Excellence in

Science, Research and Community Development, Award for Invaluable Service in Agroforestry from the International Centre for Research in Agroforestry, African Women in Agriculture and Rural Development (AWARD) – Gender and Diversity Programme of the CGIAR in recognition of dedication and commitment to mentoring among several others.

Prof. Labode has immensely benefited from the mentorship of great professionals and mentors who guided and influenced his career decisions at different stages. Among them are Emeritus Prof. Kolade Adeyoku (the first professor of Forestry in Africa), Prof. Obafemi Bada, Emeritus Professor David Okali, Professor Chelunor Nwoboshi and Prof. Eji Fasehun. *“To whom much is given, much is expected,”* but Prof. Labode has surpassed expectations as he has mentored more than twenty-six PhD students across Africa, eleven of whom are already full Professors. Additionally, he has also motivated myriads of students, especially those that were “boxed” into forestry, exposing them to benefits of studying forestry and the opportunities that lie therein.



Prof. Labode Popoola (fourth from right) with postgraduate students during a field training in Korup National Park, Cameroon
©Labode Popoola

Aroso Opeyemi Temidayo, one of his mentees testified that; *“Prof. Labo Popoola has had a tremendous impact on my life from my undergraduate days till now. He has brought out the best in me by encouraging me to move out of my comfort zone, he is someone I look up to academically and career-wise. He has nominated me severally to attend workshops and training. One of such instances is when he asked me to present a paper that we had both worked on. It was really a great task filling up those mighty shoes but then I did. That helped me overcome stage*

fear and I can now confidently walk up a stage anywhere to give a presentation. My academic writing skills have tremendously improved because of his constant tasks in writing scientific papers. He is a knowledgeable man, very versatile and someone who knows his onion.”

He encourages institutions of higher learning to institutionalise mentoring either within their curriculum or as an extracurricular activity. Prof. Labode believes that mentoring is giving someone wings to fly and the mentors must be approachable, available and be willing to share knowledge. However, he emphasises that mentors must understand that their mentees also have some knowledge. *“Providing mentorship is about self-preservation when you provide mentorship, you are creating a future for yourself as well.”*

“Lecturers should give mentorship a chance,”

- Associate Prof. Tahiana Ramanantoandro, Madagascar

Dr. **Tahiana Ramanantoandro** is a national of Madagascar currently working as an associate professor at the School of Agronomy at the University of Antananarivo, where she is also the Deputy Director of Research.



Dr. Tahiana graduated in 2005 with a PhD in Process Engineering at the École des Mines de Saint-Etienne, France. Her PhD thesis investigated the effect of wood machining parameters on visuotactile perception of wood surface. She obtained her research-based Master's degree in Wood Sciences at the University of Bordeaux in France. In addition, she pursued a professional Master's degree in Territory Management at AgroParisTech, Paris, France. For her undergraduate studies, she attended the School of Agronomy, University of Antananarivo, Madagascar, and graduated with a Bachelor's degree in Forestry Science.

From 2004-2006, Dr. Tahiana worked as a teaching and research assistant at the wood machining laboratory of the Institut Clément Ader Tarbes, France. She also worked at École Supérieure du Bois, Nantes, France from 2006-2011 as a lecturer of wood science and technology, and project management. She has been a visiting professor at this institute since 2011. In 2014, she returned to Madagascar to take up the position of Associate Professor at the University of Antananarivo because she wanted to make a significant contribution to the efficient and sustainable use of forestry resources in tropical regions. These various experiences allowed her to create a research laboratory in wood sciences in Madagascar, and to develop high-level research on this topic in Africa. Indeed, her research interests are wood timber identification, variability of wood's physical, chemical and mechanical properties and forest products valorization into materials and charcoal. Her professional experiences have enabled her to develop a wide professional background that helps her develop her activities in Madagascar.



Dr. Tahiana was aware of the existence and the role forests play in human livelihoods. She chose forestry as a career because she wanted to contribute to forest conservation. She noted that the current challenges of deforestation should be a pointer to the world that more foresters are needed. There is vast unexplored land that can be used for tree planting. Opportunities also exist due to the increasing demand for eco-friendly materials and products. This is information that should reach all middle and high school students to guide their career choices.

Dr. Tahiana believes that mentorship is a relationship with students in order to support them to achieve their goals and is more about instilling scientific skills. She considers this as one tool that lecturers can use to foster interest in forestry among students while giving them both the academic and life skills they need to be successful. Above all, mentorship involves taking an active role in the students' education and helping them explore a stable career. For Dr. Tahiana, mentorship is research-based, thus she works mostly with Master's and PhD students.

In testimony of Tahiana's great mentorship, one of her students, Andriambelo Radonirina Razafimahatratra, gave this testimony about her, *"For almost ten years, our collaboration has been fruitful and allowed me to have six peer-reviewed publications and 14 papers published in international conferences. She helped me to get scholarships to pursue my PhD thesis in Wood Sciences at ICA laboratory in Tarbes, France, that she co-supervised from 2014-2017. As an early career scientist, she is my role model. She taught me that teamwork allows better achievement, and a trustful relationship between mentor and mentee leads to a long-lasting collaboration. She gave an aspiration for the development of my future career, and helped me to fulfill my dream"*.

Dr. Tahiana draws on the experience she has gained from mentoring over forty students through her career journey. Her approach is showing enthusiasm and taking interest in students and knowing their objectives. As a mentor she focuses on bridging any gaps that students may have by creating personal relationships with her mentees. She has proved over the years that sharing professional networking opportunities with students improves their interpersonal and communication skills. She also particularly encourages and supports her students to apply for scholarships and grants, so that they can concentrate on their studies without financial burden and they can gain experiences through internships in developed country's laboratories.

Most importantly, Dr. Tahiana conducts extensive research to widen her knowledge base, so that she offers her mentees the best she can. She emphasises, *"Lecturers should give mentorship a chance because besides scientific knowledge it also*

provides the tools for students to succeed in life. Since we have more experience, we owe it to the profession to help motivate others in their career pursuit". Students she mentored have won several international prizes and awards, some of which include nomination for Africa Academy of Science Young Affiliate, IUFRO-EFI Young Scientists Initiative award, best scientific poster presentations in international conferences, best PhD thesis in wood science in France, among others. A number of her mentees are now professional researchers, while some are in senior government positions or gone ahead to pursue international careers.



Assoc. Prof. Tahiana Ramanantoandro giving a lecture on tropical wood identification to students from École Supérieure du Bois in Nantes, France.

©Tahiana Ramanantoandro

“Forestry lecturers that do not prioritize mentorship do the profession a disservice”

- Dr. Adegboyega Ayodeji Otesile, Sierra Leone/ Nigeria

Dr. Adegboyega Ayodeji Otesile is a Nigerian working as a senior lecturer at the School of Natural Resources Management, Njala University, Sierra Leone. Dr. Otesile had wanted to be a civil engineer but then his passion for nature outweighed his proficiency in mechanical and building drawings. His proficiency in biology and agriculture drove him to pursue a course in botany as his first degree. Although many people discouraged him from pursuing botany for his undergraduate degree because they believed he would end up as a primary or secondary school teacher, he was not deterred and went ahead. After obtaining his first degree, he completed a Master's degree in Silviculture and Forest Biology at the University of Ibadan, Nigeria.



He secured an appointment as a forestry officer with Ogun State Forestry Department, a position he held for about 15 years. During his first two years on the job, he realized that his interest was in scientific research and the need for career advancement. This led him to enroll in a PhD programme. The programme took longer than expected because of balancing family, work and studies, and he had to switch from full-time to part-time studies. After acquiring his PhD degree in Forest Policy, Administration and Management, he expanded his search for better opportunities and found his current position at Njala University.



Dr. Otesile believes that one of the best ways of winning over more young people to forestry is by helping them understand the potentials and monetary value of forestry. This will not only motivate students but also attract other individuals to the forest sector. In addition to the conventional approaches of dissemination through workshops and training, a certain level of practicality should be attached to forestry. Rural communities could be involved and encouraged to participate in tree growing activities with some level of accruable financial benefits



Dr. Adegboyega Ayodeji Otesile conducting quality control at a forest tree nursery in Sierra Leone under the “Freetown the Tree-Town - 1Million Tree Campaign” in 2020.
©Bridget Sheriff

built into the process. The end result will be solving community challenges using forest-related approaches, thus making them and their generations buy into forestry.

Dr. Otesile relates mentorship to midwifery. Just like a woman needs a midwife to bring forth life safely, so does a student need a mentor to hold their hands through their career journey. In forestry particularly, mentorship demonstrates to students that there are limitless opportunities that easily blend with other disciplines. Dr. Otesile has walked the talk of mentorship so well that his reputation in this regard precedes him. He has mentored over 35 students since he began his lecturing career in 2014. Over the years, seven students have received scholarships under his guidance. Also, five early career professionals have been employed with his recommendation including Aruna Kainyande, who graduated with a first

class degree and was employed by Miro Forestry Company, Sierra Leone; he is currently on study leave for a postgraduate programme in Germany. He has also been offered an appointment to lecture and carry out research at Njala University.

Kadijatu Bridget Sheriff, who was mentored by Dr. Otesile, says *“Through his mentorship, I graduated with a First Class and the best student in my department. He guided me to successfully host the 2019 Northern Africa Regional Meeting (NARM) of the International Forestry Students’ Association as the Head of the Organizing Committee; Njala University, Sierra Leone”*. Kadijatu is the first female to host NARM in the region as the head of the organising committee. She is also currently working at the Njala University as a research and teaching assistant while also pursuing a sponsored Master’s degree at the university.

Dr. Otesile is of the opinion that mentees should seek out mentors. However, he also added that mentors can identify individuals (mentees) that have potential to be harnessed because most times they will just need a slight push in the right direction to be impactful. The mentor should be careful to look at the potential

of each individual student and help them improve based on their capacities. It is key to note that these students need to be interested in being mentored and are willing to learn. Mentors should also be aware that students are enticed by their conduct, personalities and achievements, and the students will want to be like them.

He further says that a lecturer who doesn't engage in mentorship is actually doing a disservice to the forestry profession. Some of the well-mentored students return to universities as assistant lecturers and research assistants that contribute to the sustainability of forest education. Without quality mentorship, this loop is broken. Additionally, a well-mentored individual will more easily take on mentees compared to one that was not.

Basic Tips for Successful Scholarship Application

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“Information is key to winning scholarships,”

Securing a scholarship to pursue a career in forestry goes far beyond the financial benefits to cover tuition, accommodation, research and others. There is prestige and reputation conferred on recipients of scholarships. This is coupled with the joy of accomplishing a dream of acquiring desired qualifications in the forestry profession. This chapter offers tips that will assist upcoming foresters in obtaining scholarships towards building their careers.

It is an established fact that direct admissions into forestry programmes are dwindling in Africa; most students admitted into forestry programmes did not directly apply for it. For students who found themselves in a forestry programme against their first choice, you need to make up your mind early in studying the programme. The reason is that mindset has a lot of influence on obtaining good grades that are necessary in securing a competitive scholarship slot. Among what such students can do to help in making up their mind is to find out information on forestry and career prospects in forestry. This is one of the reasons why this book was written.

You should keenly study the call for scholarship application before you apply. The success story of securing a scholarship begins with preparing the right application. As a result, do not start preparing your application until you understand the call. Most applicants miss out vital points and valuable information by not studying the call for application properly. You will know if you are eligible or not through studying the call. Applying for something that you do not meet the requirements is a waste of time.

If you want to be ahead of your colleagues in getting scholarships, you have to personally seek information. Personal efforts in searching for information is pertinent to getting the right information at the right time. Hence, you need to search the internet for scholarships and other forms of funding opportunities. Information obtained will assist you in developing a personal list of scholarships with their requirements, guidelines and timeline. Work towards putting together your application. Ask for assistance on issues that are not clear.

Seek appropriate assistance from your lecturers, colleagues and those that have won such scholarships in the past. Be mindful of those you ask for assistance; some people will encourage you while some will try to discourage you. You should know what you want, and keep focused on achieving it.

Furthermore, networking is very important in achieving your career aspirations. Hence, make friends with people of like-minds, join academics and professional online groups and social media that discuss and share valuable information on scholarships and opportunities that will make you learn about (or more) on scholarships and the right way of putting together your application. To build more capacity for yourself, participate in seminars, workshops, webinars and possibly attend conferences if you have the means. All these platforms have a way of keeping you up to date and abreast of the current scholarships and their application process.

If you are asked to give reasons why you are qualified for the scholarship, focus on explaining how the scholarship investment is worthy of contributing to achieving your education and long-term goals. Make sure that your response is tailored towards the purpose of the scholarship and do not fail to showcase your past success. For postgraduate scholarships, make reference to your previous dissertation or thesis and how your findings have contributed to scientific knowledge. It is good to support your reasons with personal examples and what makes you different and outstanding. But when you are supporting your reasons with life challenges, be positive and focus on how you were able to overcome them and how they make you a problem solver. It is advisable that you ask experienced persons to review your motivation essay(s) to improve the quality. Make sure you complete your application prior to the deadline and take time to read it thoroughly before submission.

Moreover, make sure that your Curriculum Vitae (CV) or Resume is tailored to the application and not too general. It is very important that you include specific experiences relevant to the call in the CV. If there is a template provided for the application, make sure that you adhere to it. Many funders are now looking for experienced, responsible, industrious and entrepreneurial candidates; most importantly, those that will convert the scholarship into a productive career after their graduation. Hence, the experience you have gathered over the years in jobs, vocations, leadership, volunteering, among others, comes in handy. Do not spend all programme years at the university reading, and playing without acquiring any non-academic experience. Look for paid student jobs like research assistants, even if it is on an hourly basis, that can count for your work experiences. Also, engage in volunteering activities to gain leadership experiences. Find an internship even if it is unpaid that can later count as part of your job experiences.

Reports from referees are very important supporting documents required for the scholarship selection process. Ensure that you get referees that know you properly and can properly describe your success stories, potential and abilities. Contact your referees and let them know ahead before you submit their contact

for your application and give them ample time and not close to the deadline. Let the referees know what the scholarship is all about and what they need to write about you. Above all, always maintain contact with your referees, not only reaching out to them when you need a favour from them.

Invest your valuable time and resources in what can make you productive in putting together a winning scholarship application. Read wide on ways to improve your scholarship applications. Also reach out to former scholarship recipients, so that they can give you tips on how they managed to obtain the scholarship that you are interested in. As you put in your scholarship applications, be open about the outcome. Celebrate your success, do not count yourself a failure if not successful but take it as a learning opportunity and celebrate the success of others.

Finally, it is very important that you keep motivating yourself about forestry and your future career in the profession. Gone are the days that forestry was considered a “second class profession”. There are lots of green jobs and diversifications for those that studied forestry. You can find some of the career options available in forestry in the last chapter of this book. Equally, many countries, governments, financial institutions and funding organisations are allocating money to offer scholarships and research grants to forestry and forestry-related programmes from undergraduate to postgraduate levels. Look beyond the sky, believe in yourself, discover your potential as a forestry student or graduate with a bright future.

You can also find some forestry opportunities on these Facebook groups: Young Professionals in Forestry - Jobs, Internships and Training: (<https://bit.ly/3thxfRX>), IFSA: (<https://bit.ly/3e13VZt>) and IUFRO: (<https://bit.ly/3wTl3rK>).

Success in your academic and career pursuit in forestry!

Forestry and Related Networking Organisations for African Forestry Students and Early Career Professionals



Students networking at the IFSA stand at the XXV IUFRO World Congress 2019 in Curitiba, Brazil. © Amos Amanubo



The chapter highlights some organisations that forestry students and early career professionals can network with. The list is not exhaustive but includes regional and international organisations that are meant to guide and motivate you to broaden your search.

Table 2: A highlight of forestry and related networking organisations

Organisation	Description
International Forestry Students' Association (IFSA) Tennenbacher Straße, 4 - 79106 Freiburg im Breisgau Germany https://ifsa.net/	<p>IFSA is the leading worldwide network of forestry students with over 130 Local Committees (University associations) spread across over 50 countries. It seeks to create global cooperation among students of forest and related sciences, to broaden knowledge and understanding and a space for youth in international forest processes to achieve a sustainable future for our forests.</p> <p>Through their network, IFSA facilitates student meetings, enables participation in scientific debate, and supports the involvement of youth in decision making processes regionally and globally.</p>
International Union of Forest Research Organizations (IUFRO) Marxergasse 2 A-1030 Vienna, Austria https://www.iufro.org/	<p>IUFRO promotes global cooperation in forest-related research and enhances the understanding of the ecological, economic and social aspects of forests and trees. IUFRO is "the" global network for forest science cooperation with members in more than 120 countries representing over 15,000 scientists.</p>
Center for International Forestry Research (CIFOR) c/o World Agroforestry Centre United Nations Avenue, Gigiri Mailing address: P.O. Box 30677 – 00100, Nairobi, Kenya https://www.cifor.org/	<p>CIFOR conducts research on the most pressing challenges of forest and landscape management around the world. Using a global, multidisciplinary approach, they aim to improve human well-being, protect the environment, and increase equity.</p>
African Forest Forum (AFF) United Nations Avenue, P.O. Box 30677-00100 Nairobi, Kenya https://afforum.org	<p>The African Forest Forum is an association of individuals with a commitment to the sustainable management, wise use and conservation of Africa's forest and tree resources for the socio-economic well-being of its peoples and for the stability and improvement of its environment.</p> <p>They provide independent analysis and advice to national, regional and international institutions and actors, on how economic, food security and environmental issues can be addressed through the sustainable management of forests and trees.</p>

Organisation	Description
<p>Commonwealth Forestry Association (CFA)</p> <p>The Crib, Dinchope Craven Arms Shropshire SY7 9JJ UK</p> <p>http://www.cfa-international.org/</p>	<p>The Commonwealth Forestry Association (CFA) links people from around the world with an interest in professional forestry and focuses particularly on the exchange of information and experience.</p> <p>CFA publishes world-class science in their peer-reviewed forestry journal, the International Forestry Review. It also encourages professional excellence and promotes career development using a range of awards. CFA promotes capacity building by helping to organise training courses, workshops, and conferences.</p>
<p>FAO Regional Office for Africa</p> <p>P.O Box GP 1628, Accra, Ghana</p> <p>http://www.fao.org/africa/regional-office/en/</p>	<p>The FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger. Their goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.</p>
<p>International Tropical Timber Organization (ITTO)</p> <p>International Organizations Center 5th Floor, Pacifico Yokohama, 1-1-1 Minato-Mirai Nishi-ku, Yokohama, 220-0012 Japan</p> <p>https://www.itto.int/</p>	<p>An intergovernmental organisation promoting the sustainable management and conservation of tropical forests and the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests.</p>
<p>United Nations Forum on Forests (UNFF)</p> <p>Two, United Nations Plaza, DC2-2301, New York, NY 10017, USA</p> <p>https://www.un.org/esa/forests/index.html</p>	<p>UNFF supports the objectives of the International Arrangement on Forests and aims to contribute to progress on the Sustainable Development Goals, the Aichi Biodiversity Targets, the Paris Agreement adopted under the UN Framework Convention on Climate Change and other international forest-related instruments, processes, commitments and goals.</p>
<p>African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE)</p> <p>ANAFE Executive Secretary, Kenyatta University Directorate Building 4th Floor, Wing C</p> <p>http://www.anafeafrica.net/</p>	<p>The general objective of ANAFE is “to improve in a sustainable manner, the contribution of agricultural, forestry and the related natural resources education and training to social and economic development of the African peoples.”</p>

Organisation	Description
<p>World Agroforestry Centre (ICRAF)</p> <p>World Agroforestry (ICRAF) United Nations Avenue, Gigiri PO Box 30677, Nairobi, 00100, Kenya</p> <p>http://www.worldagroforestry.org/</p>	<p>A centre of science and development excellence that harnesses the benefits of trees for people and the environment.</p>
<p>United Nations Environmental Programme (UNEP)</p> <p>United Nations Avenue, Gigiri PO Box 30552, 00100 Nairobi, Kenya</p> <p>https://www.unenvironment.org/</p>	<p>The leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.</p>
<p>African Community Forestry Network</p> <p>228-240 Banbury Road Oxford, OX2 7BY, United Kingdom</p> <p>https://internationaltreefoundation.org/african-community-forestry-network/</p>	<p>The aims of the network are to enable African CBOs and NGOs engaged in community forestry and agroforestry to: learn and share best practice, unite and support local CBOs and NGOs to advocate for local community rights.</p>
<p>Tropical Biology Association (TBA)</p> <p>P.O. Box 44486, 00100 – Nairobi, Kenya</p> <p>http://www.tropical-biology.org/</p>	<p>TBA puts people at the heart of conservation, giving them the skills and support they need to be effective on the ground. TBA's training enables scientists, project managers and educators, working in the tropics, to manage and safeguard biodiversity, long term.</p>
<p>Society for Conservation Biology (SCB)</p> <p>1133 15th St. NW, Suite 300 Washington, D.C. 20005, United States of America</p> <p>https://conbio.org/</p>	<p>The SCB serves as the premier international membership society for professionals, students and nonprofits dedicated to advancing the science and practice of conserving biodiversity.</p>

Organisation	Description
<p>International Union for Conservation of Nature (IUCN)</p> <p>Wasaa Conservation Centre, Mukoma Road (off Magadi Road, City Square) P. O Box 68200-0200 Nairobi, Kenya</p> <p>https://www.iucn.org/</p>	<p>IUCN aspires to influence, encourage and assist societies to conserve the integrity and diversity of nature and ensure that any use of natural resources is equitable and ecologically sustainable.</p>
<p>Forestry Research Network of Sub-Saharan Africa (FORNESSA)</p> <p>Co-ordinator, FORNESSA c/o Forestry Research Institute of Ghana P. O. Box UP 63 KNUST, Kumasi, Ghana</p> <p>https://www.fornis.net/</p>	<p>The Network is a non-profit, non-governmental scientific organisation open to forestry and forest-related organisations and individuals. The goal is to support and strengthen forestry research in order to contribute to the conservation, sustainable management and utilization of forest resources in Sub-Saharan Africa.</p>
<p>Convention on Biological Diversity (CBD)</p> <p>413, Saint Jacques Street, suite 800 Montreal QC H2Y 1N9, Canada</p> <p>https://www.cbd.int/</p>	<p>The CBD entered into force on 29 December 1993. It has 3 main objectives: The conservation of biological diversity The sustainable use of the components of biological diversity The fair and equitable sharing of the benefits arising out of the utilization of genetic resources</p>
<p>United Nations Framework Convention on Climate Change (UNFCCC)</p> <p>UN Campus Platz der Vereinten Nationen 1 53113 Bonn, Germany</p> <p>Haus Carstanjen Office Martin-Luther-King-Strasse 8, 53175 Bonn, Germany</p> <p>https://unfccc.int/</p>	<p>The United Nations entity is tasked with supporting the global response to the threat of climate change. The ultimate objective of all three agreements under the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enable sustainable development.</p>

Organisation	Description
Youth in Landscapes Initiative (YIL) GLF Bonn, Charles-de-Gaulle-Straße 5, 53113 Bonn, Germany https://youth.globallandscapesforum.org/	The YIL Initiative is a growing global network and movement of over 50,000 young people working and studying in landscapes around the world. The Initiative is a partnership between the IFSA, Young Professionals for Agricultural Development (YPARD) and the Global Agroecology Alliance (GAEA) who joined forces to deliver workshops, mentorship, training and networking. Whether online or in-person, YIL programs connect, support, and inspire young people to step into courageous leadership.
Global Landscape Forum (GLF) GLF Bonn, Charles-de-Gaulle-Straße 5, 53113 Bonn, Germany https://www.globallandscapesforum.org/	The GLF is the world's largest knowledge-led platform on integrated land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement. The Forum takes a holistic approach to create sustainable landscapes that are productive, prosperous, equitable and resilient and considers five cohesive themes of food and livelihoods, landscape restoration, rights, finance and measuring progress.
Global Youth Biodiversity Network (GYBN) https://www.gybn.org/	The GYBN is an international network of youth organisations and individuals from every global region who have united with a common goal: preventing the loss of biodiversity and preserving earth's natural resources.
Young Professionals for Agricultural Development (YPARD) YPARD Global Coordination Unit Hosted by the GFAR Secretariat c/o Food and Agriculture Organization of the United Nations, 00153 Rome, Italy https://ypard.net/	YPARD is an international movement by Young Professionals for Young Professionals for Agricultural Development. YPARD operates as a network; it is not a formalized institution. At the heart of YPARD as a movement are its members, who are encouraged to become active in their area, spread the news about YPARD to other young professionals, encourage a stronger voice of youth in their own organisations and share their views and ideas with other young professionals in the network.
British Ecology Society (BES) 42 Wharf Road, London, N1 7GS, United Kingdom https://www.britishecologicalsociety.org/	Their vision is for nature and people to thrive in a world inspired by ecology. They rely on the commitment of hundreds of volunteers to help themes – from the editors who work on their journals, reviewers in their Grants Review College, the teams behind each of their Special Interest Groups, the trustees and members of their Board of Trustees and committees to the helpers at their Annual Meeting.

Organisation	Description
<p>Children and Youth Constituency to United Nations Framework Convention on Climate Change</p> <p>UN Campus Platz der Vereinten Nationen 1, 53113 Bonn, Germany</p> <p>Haus Carstanjen Office Martin-Luther-King-Strasse 8, 53175 Bonn, Germany</p> <p>http://www.youngo.uno/</p>	<p>YOUNGO is the Youth Constituency of the UNFCCC. It consists of many youth-led organisations, groups, delegations, and individuals working in climate change-related fields.</p> <p>YOUNGO runs various Working Groups focusing each on specific aspects of climate change within the UNFCCC negotiations and events to ensure that perspectives of young and future generations are taken into account in the multilateral decision-making processes. Besides that, YOUNGO members observe and report on climate negotiations, and the implications of their outcomes.</p>
<p>The Greenbelt Movement</p> <p>Adams Arcade, Kilimani Road off Elgeyo Marakwet Rd P.O BOX 67545-00200 Nairobi, Kenya</p> <p>http://www.greenbeltmovement.org/</p>	<p>The greenbelt movement is a values-driven society of people who consciously work for continued improvement of their livelihoods and a greener, cleaner world.</p>
<p>African Forest Policies and Politics (AFORPOLIS)</p> <p>Post Box. 16388 Yaoundé, Cameroon</p> <p>https://aforpolis.org/</p>	<p>AFORPOLIS is a scientific network and association that aims to advance cutting-edge knowledge on the emergence and evolution of the governance of forestlands in Africa. It promotes multidisciplinary and multi-actor activities including regional and continental scientific conferences, research-development projects, capacity building events and science-policy interactions in the field of forestland policy and sustainability.</p>

Outlook on Universities in Africa Offering Forestry and Related Degree Programmes



There is a lush and flourishing opportunity to help Africa maximise its forest for sustainable development goals by promoting forest education. ©Danladi Areola



This chapter presents information on Universities in Africa that offer forestry and related degree programmes. Only those institutions that award at least a bachelor's degree in forestry and related programmes are included in this chapter. It is important to note the forestry colleges are not featured but their importance in Africa is not overlooked.

Please note that this list is only based on information that was available to the research team and any omission/mistakes are regretted. Also, the website addresses quoted were active at the time of publishing.

Table 3: Universities in Africa offering forestry and related programmes

University	Department	Website
Algeria		
Institut National de la Recherche Forestière	Recherche forestière	
University of Tlemcen	Forest Resources	https://snv.univ-tlemcen.dz/pages/157/forest-resources-department
Benin		
University of Abomey-Calavi	Faculty of Agronomic Sciences	http://www.uac.bj
University of Parakou	Faculty of Agronomy	http://www.univ-parakou.bj
Burkina Faso		
Institute of Rural Development (IDR)	Forestry Engineer	
University of Ouagadougou	Life and Earth Sciences (UFR/SVT)	http://ujkz.bf/ufr-svt/
Cameroon		
Universite de Dschang	Faculty of Agronomy and Agricultural Sciences	http://www.univ-dschang.org/fasa
University of Buea	Environmental Science	http://www.ubuea.cm/5182-2
Democratic Republic of the Congo		
Université Catholique de Bukavu	Ingéniorat en Agronomie	http://www.ucbukavu.ac.cd

University of Kisangani	Biodiversity and Sustainable Forests Management	
Official University of Bukavu, Bukavu	Department of Biology (Ecology)	http://www.univofbukavu.org
Egypt		
Agriculture Research Center	Department of Timber and Forestry Research	
Alexandria University	Department of Forestry and Wood technology	https://www.alexu.edu.eg/index.php/ar/
University of Cadi Ayad	Faculty of Sciences Semlalia	https://www.uca.ma
Equatorial Guinea		
National University of Equatorial Guinea	Faculty of Environment - Department of Forest	http://unge.education/main
Ethiopia		
Bahir Dar University	Natural Resources Management	https://bdu.edu.et/caes
Debre markos University	Burie College of Forestry,	http://www.dmu.edu.et
Haramaya University	Haramaya College of Forestry,	https://www.haramaya.edu.et
Hawassa University	Wondo Genet College of Forestry and Natural Resources	https://www.hu.edu.et
Jimma University	Natural Resources Management	https://www.ju.edu.et/jucavm/?q=node/234
Wollo University	Department of Forestry	https://www.wu.edu.et
Ghana		
Kwame Nkrumah University of Science and Technology	Social Forestry	https://canr.knust.edu.gh/
Presbyterian University College	Environmental and Natural Resources Management	https://www.presbyuniversity.edu.gh/site
University for Development Studies	Forest & Forest Resources Management	https://nyc.uds.edu.gh/fnre/dffrm

University of Energy and Natural Resources	School of Natural Resources	http://www.uenr.edu.gh
Kenya		
Kenyatta University	Agroforestry and Rural Development	https://www.mmarau.ac.ke/departement-of-forestry-and-wildlife-management.html
Maasai Mara University	Forestry and Wildlife	https://www.mmarau.ac.ke/departement-of-forestry-and-wildlife-management.html
Moi University	Forestry	https://agriculture.mu.ac.ke
South Eastern Kenya University	Environmental Science and Land Resources Management	https://www.seku.ac.ke/index.php/academic/schools.html
University of Eldoret	Forestry and Wood Science	https://www.uoeld.ac.ke/school-natural-resource-management
University of Kabianga	Agricultural Sciences and Natural Resources	http://kabianga.ac.ke/main
University of Nairobi	Management of Agroecosystems and Environment	http://bit.ly/39074Hg
Technical University of Kenya	Department of Geoscience and the Environment	http://tukenya.ac.ke
Liberia		
University of Liberia	College of Agriculture and Forestry	http://www.ul.edu.lr
Madagascar		
University of Antananarivo	School of Agronomy, Forestry and Environment	http://www.univ-antananarivo.mg
Malawi		
Lilongwe University of Agriculture & Natural Resources	Faculty of Natural Resources - Dept. of Forestry	http://www.luanar.ac.mw

Mzuzu University	Faculty of Environmental Science - Department of Forestry and Environmental Management	https://www.mzuni.ac.mw
Mozambique		
University Eduardo Mondlane	Faculty of Agronomy and Engineering Forest	https://www.uem.mz
Nigeria		
Adekunle Ajasin University	Forestry and Wildlife	https://aaua.edu.ng
Ahmadu Bello University, Zaria	Forestry and Wildlife Management	http://abu.edu.ng
Alex Ekwueme Federal University, Ndufu-Alike	Forestry and Wildlife Management	https://funai.edu.ng
Bayero University Kano, Kano	Forestry and Wildlife Management	https://www.buk.edu.ng
Benson Idahosa University	Forestry and Wildlife and Environmental	https://www.biu.edu.ng
Bowen University, Iwo	Forestry and Environmental Technology	https://bowen.edu.ng
Chukwuemeka Odumegwu Ojukwu University	Forestry and Wildlife Management	
Cross River University of Technology	Forestry and Wildlife	https://www.crutech.edu.ng/index.php/forestry-and-wildlife-management
Delta State University, Asaba Campus	Forestry and Wildlife	http://www.delsu.edu.ng
Ekiti State University, Ado Ekiti	Forestry and Wildlife	http://eksu.edu.ng
Federal University Dutse, Dutse	Forestry	https://fud.edu.ng
Federal University Dutsin-ma, Dutsin-ma	Forestry	http://www.fudutsinma.edu.ng

Federal University Gashua, Gashua	Forestry and Wildlife Management	https://fugashua.edu.ng
Federal University Kashere, Gombe	Forestry and Wildlife	http://fukashere.edu.ng
Federal University Lafia, Nasarawa	Forestry and Wildlife	https://fulafia.ed.ng
Federal University of Agriculture Abeokuta	Forestry and Wildlife Management	https://unaab.edu.ng
Federal University of Technology Akure	Forestry and Wood Technology	http://fwf.futa.edu.ng/home/186
Federal University of Technology Owerri	Forestry and Wildlife	https://futo.edu.ng
Federal University Otuoke, Bayelsa	Forestry and Wildlife	http://fuotuo.ke.edu.ng
Federal University Oye-Ekiti, Ekiti	Forestry and Wildlife Management	https://fuoye.edu.ng
Federal University Wukari, Wukari	Forestry and Wildlife	http://fuwportal.edu.ng
Ibrahim Badamasi Babangida University	Forestry and Wildlife	https://ibbu.edu.ng
Imo State University	Forestry and Wildlife	https://www.imsu.edu.ng
Kano State University of Science and Technology, Wudil	Forestry, Wildlife and Fisheries	https://kustwudil.edu.ng
Kebbi State University of Science and Technology, Kebbi	Forestry and Fisheries	http://ksusta.net
Michael Okpara University of Agriculture Umudike, Umudike	Forestry and Environmental Management	https://cnrem.mouau.edu.ng/department/forestry-and-environmental-management
Modibbo Adama University of Technology, Yola	Forestry and Wildlife Management	http://mautech.edu.ng

Nasarawa State University Keffi	Forestry and Wildlife Management	https://nsuk.edu.ng
Nnamdi Azikwe University, Akwa	Forestry and Wildlife	https://unizik.edu.ng
Olabisi Onabanjo University, Ago -Iwoye	Forestry and Wildlife	http://oouagoiwoye.edu.ng
Ondo State University of Science and Technology	Forestry and Wildlife Management	http://www.osustech.edu.ng
Rivers State University of Science and Technology, Port Harcourt	Forestry and Wildlife	http://rsu.edu.ng
University of Agriculture Makurdi, Benue	Social and Environmental Forestry	http://uam.edu.ng
University of Benin, Benin	Forestry and Wildlife	https://agric.uniben.edu
University of Calabar, Calabar	Forestry and Wildlife Resources Management	https://www.unical.edu.ng
University of Ibadan, Ibadan	Forest Resources Management	https://rnrs.ui.edu.ng
University of Ilorin, Ilorin	Forestry and Wildlife	https://www.unilorin.edu.ng
University of Maiduguri, Maiduguri	Forestry and Wildlife	http://www.unimaid.edu.ng
University of Port Harcourt, PortHarcourt	Forestry and Wildlife	http://www.uniport.edu.ng
University of Uyo, Uyo	Forestry and Wildlife	https://uniuyo.edu.ng
Usmanu Danfodiyo University, Sokoto	Forestry	http://www.udusok.edu.ng
Rwanda		
University of Rwanda, Butare	School of Forestry and Biodiversity and Biological Sciences	https://ur.ac.rw
Senegal		
Cheikh Anta Diop University	Institute of Environmental Sciences	https://www.ucad.sn

University of Thiès, Thiès	Ecole Nationale Supérieure d'Agricul- ture de Thiès	http://www.ensa.sn
Sierra Leone		
Njala University, Sierra Leone	School of Natural Resources Management	http://www.njala.edu.sl
South Africa		
Nelson Mandela Metropolitan University Port Elizabeth	School of Natural Resource Management	https://snrm.mandela.ac.za
Stellenbosch University, Stellenbosch	Department of Forest and Wood Science	http://www.sun.ac.za/english/faculty/agri/forestry
University of KwaZulu- Natal	Department of Ecology	http://www.ukzn.ac.za
University of Pretoria	Department of Plant and Soil Sciences	https://www.up.ac.za/plant-and-soil-sciences
University of Venda, Thohoyandou	Department of Forestry	http://www.univen.ac.za
Sudan		
Sudan University of Science and Technology	College of Forestry and Range Science	https://www.sustech.edu
University of Bahri	Forestry	https://bahri.edu.sd
University of Juba	College of Natural Resources and Environmental Studies	
University of Khartoum	Faculty of Forestry	https://forest.uofk.edu
University of Kordofan	Faculty of Natural Resources and Environmental Studies	http://kordofan.edu.sd/index.php/en
Upper Nile University	Faculty of Forestry and Range Science	
Tanzania		
Sokoine University of Agriculture	College of Forestry, Wildlife and Tourism	https://www.sua.ac.tz

Tunisia		
National Agricultural Institute of Tunisia	School of Rural Development, Water, and Forests	http://www.inat.tn/fr
Uganda		
Makerere University Kampala	Forestry, Biodiversity and Tourism	http://www.mak.ac.ug
Ndejje University, Luwero	Faculty of Environment and Agricultural Sciences	https://www.ndejjeuniversity.ac.ug
Zambia		
Copperbelt University Kitwe	Department of Plant & Environmental Sciences	https://www.cbu.ac.zm/snr/department-of-plant-environmental-sciencespes/
Zimbabwe		
Bindura University of Science Education	Department of Natural Resources	https://www.buse.ac.zw
National University of Science and Technology	Department of Forest Resources and Wildlife Mgt	https://www.nust.ac.zw/fas/index.php/en/departments/forest-resources-wildlife-management

Opportunities Beyond the Forests: Unveiling Fascinating Career Options in Forestry



Forestry students at the University of Ilorin, Nigeria, undergoing practical training on tree planting. ©Folaranmi Babalola



From the success stories of the role models, a common theme that resonated with most of them was the lack of information about opportunities in forestry, significantly influencing their attitude towards the programme. It is important to be intentional in decision making, especially when it comes to careers. One of the major factors that influence students' career path is a clear understanding of what they will become, where they will work, the impact they can make and the wages (although this is not always the case). Though this is obvious for careers like medicine, law, engineering and education, it is not so for forestry. Information on the outcome of studying forestry and where the graduates will work has not been widely disseminated in Africa. As a result, the majority of the students had unintended enrolments as they had limited knowledge about forestry programmes. Thus, they entered into forestry by chance and not choice, but later realised that it is what they really wanted to study.

Forestry provides a wealth of career opportunities because of its multidisciplinary nature and this explains why outstanding forestry graduates are highly sought after by employers for their versatility. Whether you like to work in an office, outdoors, or at a laboratory, forestry can accommodate all that and satisfaction is almost guaranteed. A selection of possible career paths that students can take is provided in Table 4. Please note that the list below is not exhaustive but includes some of the popular and contemporary job areas that young people can explore.

Table 4: Career Options in Forestry

Job Area	Brief Description
Forest Management	These experts manage the growth and health of different types of trees and vegetation. The work might include planting or harvesting trees, working with contractors to sustainably extract timber, and otherwise provide technical expertise to fellow foresters and beyond.
Silviculture	These individuals study the regeneration, quality, composition, and growth of the trees in a forest and other areas. They are well-trained in managing vegetation (e.g. thinning operations) spotting pests and diseases that could ravage woodland/forest areas.
Soil Management	A soil scientist looks at the composition and health of soil as well as land and water resources. Forest soils, however, are unique and require a particular skill-set. They look at forests and the soils, including how they grow and change with chemicals and natural processes. Their time is often split between lab work and fieldwork.
Conservation	They manage, improve, and protect natural resources, including forests, to maximize benefits to society, biodiversity and wildlife. For example, they protect rangelands, and assist farmers and production managers in the use of natural resources.

Policy and Law Aspects	Forestry law is a type of environmental law that focuses on the regulations, rules, and sustainable management activities that define the health and productivity of forests for years to come. Additional training on law may be required, or alternatively, working for years to gain the knowledge to become a forestry consultant for law firms and environmental think-tanks. At a later stage one can become a policy analyst.
Forest Inventory and Remote Sensing	Those working in forestry have tools to help them gauge the effects of environmental changes and are also very handy in environmental management. GIS and modelling technology can recreate a forest inside a computer, where complex data can be sorted and analyzed to provide different views into the future. Scientists using such technology can create accurate, three-dimensional visual images or maps of forests and test various management scenarios before implementation. It's a good career for people who like technology and statistics.
Ecology and Ecosystem Management	As an ecologist, you are responsible for creating an understanding of how natural and anthropogenic activities on the environment can influence ecosystems. This career allows one to interpret and analyse the cause and effect relationships between species, habitat and management interventions. The career involves conducting surveys to monitor and record correlations, carrying out field tests and filing data-heavy reports, on behalf of companies, governments or not-for-profit environmental groups.
Forest Operations (Harvesting and Roads)	Forest engineering is a hybrid of engineering, forestry and management. It provides individuals with the skills to solve engineering problems in the natural environment, while balancing economic, societal and environmental requirements. Forest engineers construct and evaluate the operational systems that make the forest industry work. This can include: designing and building new roads; planning harvest operations and logistics; integrating new technologies; supervising employees and contractors; and ensuring safety standards are maintained. They also spearhead the planning of harvesting operations in forests.
Forest Land Manager	Land managers administer, maintain and develop forests, rangelands and other natural sites for conservation or resource development. Land managers also handle land ownership rights, create long-term protection and development plans. They monitor forest and land use practices to ensure adherence to legal requirements. They work in the private and public sectors.
Forest Economy	Forest economists and risk analysts understand the present and forecast the microeconomic and macroeconomic implications of forest management. These professionals are dedicated to following sound economic principles, financial and cost accounting, and generally accepted accounting principles. In the forest products industry, they help develop and monitor business plans. Conducting research, monitoring data, analyzing information and preparing reports are part of their day-to-day work responsibilities.
Wood Scientist (Physicist/Chemist/Biologist)	A wood scientist studies the physical, chemical and biological properties of wood to find ways of processing the raw material into different products such as pulp, paper, construction timber and into products, such as chipboard, fibre board and laminated beams.

Forest Ethnology	Forests are very cultural resources and different people around the world relate to them differently. To some they are even sacred (spiritual). Ethnologists are responsible for conducting comparative studies of cultures or certain aspects of cultures, in order to determine historical relations and make generalizations concerning human cultural processes and behaviour.
Forest Entomology	An entomologist is a scientist who studies insects. Entomologists have many important roles, such as the study of the classification, life cycle, distribution, physiology, behavior, ecology and population dynamics of insects. Entomologists also study urban pests, forest pests, agricultural pests and medical and veterinary pests and their control. These scientists may work with beneficial insects like honeybees, silkworms, ladybird beetles and parasitic wasps. Entomologists are researchers, teachers and consultants and can work for private companies, universities or government agencies.
Forest Pathology	Forest pathologists work to identify the causes of tree diseases and find cures for even the most virulent illnesses that threaten forests. They have to understand botany, fungi, insects, ecology, and soil types; be well-rounded; and understand the environment, in which trees grow. In addition to fieldwork, tree pathologists use computer modeling to study the progression of tree diseases.
Forest Biometry and Statistics	They develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information to researchers. May specialize in fields such as bio-statistics, growth and yield science, agricultural statistics, business statistics, or economic statistics. A forest biometrician is responsible for implementing, maintaining and supporting forest growth and yield models and other forest inventory-related systems.
Forest Geneticist / Biotechnologist	The subdiscipline of genetics is concerned with genetic variation and inheritance in forest trees. The study of forest genetics is important because of the unique biological nature of forest trees (large, long-lived plants covering 30% of the Earth's surface) and because of the trees' social and economic importance. Forest genetics is the basis for conservation, maintenance, and management of healthy forest ecosystems; and development of programmes which breed high-yielding varieties of commercially important tree species.
Business Management and Accounting	There are countless entrepreneurship ideas in forestry ranging from wood and non-wood forest services, tree nurseries, forestry consultancies, commercial and plantation forestry.
Forestry Institutions	Many young foresters in Africa have established their own not-for-profit and community-based organisations that help in tree planting activities, biodiversity conservation, community and rural action, capacity building of students, youth and women among others. Some are able to seek competitive international funding and grants for their work.

Aside from the above, more crosscutting opportunities such as research, academia, consulting, government, regional and international opportunities are available in forestry. Ecotourism is one very viable area for forestry professionals offering a myriad of options. There are also several opportunities emerging on green jobs and payment for ecosystem services.

The situations and circumstances that the successful role models in this book faced are what students still face in contemporary society. However, the content of this book contributes towards clearing doubts, debunking misconceptions, and provides extensive information for students to make informed decisions. Africa needs more forestry professionals and in particular those who are passionate about making positive impacts. We sincerely hope you would like to be part of the generation transforming the continent's forest sector.

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Appendix: About the Authors



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About the Book

Have you heard about forestry or a related science degree before? If yes, what comes to your mind? Do you ever wonder what professional career opportunities there are for you, as an African, in this field, in and outside of your country? Are you looking for a degree that allows you to develop your capacities, discover your passion, contribute to society, earn a living, and become a successful professional? Worry no more, because you are now reading the right book that will provide answers to your questions: **"Building a Successful Forestry Career in Africa: Inspirational Stories and Opportunities"** provides a ray of hope and a beacon of light for young people as it tells some of the many untold career success stories of African forestry professionals.

Many young people on the verge of choosing a career or students currently studying forestry often wonder if it is possible to be a successful young forestry professional in Africa. A team of young Africans is providing an answer in this little book of hope, by showcasing the opportunities in forestry and related fields in Africa for young people. You will find inspiring stories of young people in Africa, who have defied all odds with purpose, passion, and determination and have made giant strides in the forestry sector and their careers.

The 23 inspirational stories featured in this book come from 12 African countries and are from students who are making progress in their careers as with their studies, from young people holding strategic international leadership positions, and who, like many others, have found fulfilling job opportunities. You will read about some lecturers who have gone beyond teaching by mentoring their students, thus recognizing their effort and providing a model for others, an effort that will help create the much-needed positive visibility of career options in forest-related fields.

This book gives valuable tips on how to apply for a scholarship as well as provides a curated list of national and international networking organizations and contacts. Are you interested in pursuing a forestry or forestry-related degree already? – The authors have listed 101 universities offering such degrees in 25 African countries, along with their websites, and have provided a summary of some fascinating career options in forestry.

Africa has the potential to raise a critical mass of talented foresters to meet its sustainable forest management goals and restore its drylands, as the world's youngest continent, with over 60% of its population in 2019 being under the age of 25 years.

Now is the right time to become a fulfilled forester in Africa. Will you be the next one?