

# AAMPS

July 2023

# NEWSLETTER

Issue 15

## The Editor's Note

Yet another excellent AAMPS newsletter. Issue No 15 is as usual packed with useful information. First a great interview with my friend and colleague from Save Frankincense/ Global Frankincense Alliance **Dr Anjanette de Carla**. She is not only an exemplary scholar but a brave woman who has fought and still fights for greater awareness of the importance of frankincense globally and of the sometimes appalling working conditions that both men and women in this trade have had to suffer.

Our country paper on **South Sudan** draws attention to the geography and size of this poor and little-known new nation which has suffered droughts, civil conflict and floods. Few people know that some of the best shea butter in the world is found here, and locals are using it as their main cooking oil.

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Our highlighted scientist **Professor Olobayu Kunle** from Nigeria provides another example of academic excellence combined with service to their community and to African healing in general. We honour him in our small way through this newsletter article.

Let us not forget Ghanaian businessman **William Darko** who has built an innovative and highly successful value added business based around mushroom cultivation. Congratulations Mr Darko for showing other African entrepreneurs that people can find plants and products in their neighborhood that can really grow into a globally successful sustainable business. If you have not read it already, have a look at the free AAMPS ebook called **Green Gold**, available to download on our website.

Regards,

*Denzil*



# Meet the Monograph Co-Author: Focus on *Boswellia* Sp

**Dr. Anjanette DeCarlo**

## What Monograph are you working on?

Genus *Boswellia* species *B. carteri*, *B. frereana*, *B. papyrifera*

## Who did you work with and what was the best thing about working with that person?

I worked with Stephen Johnson on the three-species monograph. The best thing about Stephen (It's hard to pick just one!) is that he cares deeply about the trees and the accuracy of research about them.

## Tell us one fun fact about the species that you chose.

*Boswellia* can grow on rocks, with very little water or nutrients. It makes hundreds of phytochemicals in its resin.

## Why do you have such interest in this Species?

Humans have been using and trading frankincense for thousands of years. It has religious, cultural, and medicinal uses that are important to millions of people around the world.

## What uses does it have and have you used it yourself?

Frankincense is burned as incense in



different places of worship around the globe. It's used locally where it grows to fumigate homes, chewed for oral health, eaten for soothing the digestive tract. It's also used in Traditional Chinese Medicine (TCM) for its anti-inflammatory properties. Here is the fun fact: frankincense was traded along the silk route, starting thousands of years ago and that's how it became an important part of TCM. More recently, the essential oil distilled from the resin became popular in the United States.



## What kind of research have you done into it?

Please, visit [www.savefrankincense.org](http://www.savefrankincense.org)

### What are your thoughts on AfHP?

I have been honored to collaborate with Prof David Katerere and his students!

### In five years' time, what advances do you think this species would have made commercially and in research?

We look forward to supply chain

transparency for tree health, verification of best practices, as well as fair payments and livelihoods for the people who harvest the resins.

In research, we are currently working on comparison of wild vs cultivated *Boswellia* species. This will form a basis for decision making around investment in cultivation.

## Do you need extraction services? Want to get into Cannabis and Hemp and need advice?

Get in touch with the Cannabis Hub:

[SNkuna@csir.co.za](mailto:SNkuna@csir.co.za)

Tel: 061 869 6817 / 012 382 6506



# The Country Focus

## South Sudan

South Sudan is a landlocked country that is located in East Africa. It has 10 states and three administrative areas.

### Important Statistics

- The total population in Sudan is above 11,088,796.
- Registered pharmacists in South Sudan are 20,000.
- The ratio of physicians to patients is 1:65.574.

### Common Plant Species

- **Erect spiderling** (*Boerhavia erecta*): The fruits from this plant tend to stick on fur and clothes. The stems also produce a sticky substance that can trap insects.
- **Avocado** (*Persea americana*): The avocado plant is evergreen. Its fruits are popular for containing important nutrients, which include healthy fats.
- **Roselle** (*Hibiscus sabdariffa*): This plant produces fragrances that are used in making beverages. It's also used in making jam, and as a vegetable.
- **Grassnut** (*Triteleia laxa*): The blooms of this plant look like spears, which is why it is also called the Ithurriel's spear.



The grassnut has great ornamental properties, especially when grown in large numbers.

- **Okra** (*Albemoschus esculentus*): Okra is eaten as a vegetable. It harbors various nutrients, vitamins, and antioxidants.
- **Panicle hydrangea** (*Hydrangea paniculata*): This is a hardy plant, which is why it is commonly grown in winter. The leaves of this plant have high amounts of cyanide so consuming them is highly discouraged.

### Did You Know That:

- **the median age of the population in South Sudan is 18.6?** This makes this country one of those that have the youngest populations, globally.
- **the river Nile runs through South Sudan?** Nile is the longest river in the whole world.
- **South Sudan is one of the most linguistically diverse countries in Africa?** English is the recognized official language in South Sudan. Apart from the national languages like Nuer, Otuho, and Dinka, the country had about 60 other languages.

### References

1. Hussein *et al.*, (2022). Knowledge, Attitude and Practice of Community Pharmacists in Relation to Dispensing Antibiotics Without Prescription in Sudan: A Cross-sectional Study. *Integrated Pharmacy Research and Practice* .2022(11).
2. Spaulding *et al.*, (2023). South Sudan. *Encyclopedia Britannica*.

# Our Scientist Profile

## Professor Bayo Kunle

We are privileged to feature the story of Professor Olobayo Kunle, who is our guest in this section. Derive encouragement and insights from his journey as a scientist.

### **Can you give us a short introduction about yourself and your professional background?**

I am Olobayo Kunle, a Professor of Pharmaceutics at the National Institute for Pharmaceutical Research and Development (NIPRD), Abuja Nigeria, where I work in the Department of Pharmaceutical Technology and Raw Materials Development. I trained as a pharmacist about 40 years ago and eventually specialized in raw materials development and drug formulation. I have had the opportunity to have varied experiences as a Teacher, Researcher, policy maker, production manager and administrator in the pharmaceutical sector in Nigeria and internationally. I was most recently the Rapporteur/Member of the WHO Regional Expert Committee for the Traditional Medicines for COVID-19 (REACT).

### **At which institutions did you study and in which fields?**

I studied Pharmacy at the Ahmadu Bello University, Zaria, Nigeria which is one of the first generation universities in the country. I obtained an M.Sc. (Pharmaceutics)



in 1988 and a PhD (Pharmaceutics) in 1997 from the same university. I eventually had some training in Howard University, USA on the synthesis of some antimalarials.

### **Can you share a brief overview of what your field of expertise is about?**

Earlier in my career I sought to develop pharmaceutical excipients from locally available materials such as plants and agricultural waste, with a view to reducing the cost of medicines in Nigeria and by extension in Africa. As my appreciation of the importance of plant medicines in health care in Africa grew, I began to focus on understanding the processes and mechanisms by which efficacious and stable formulations of dosage forms of herbal medicines could be carried out. My studies have provided the understanding of the process of deformation of plant materials in the course of manufacturing solid dosage forms especially tablets given their peculiar physical characteristics.

I have also been involved in designing and conducting of clinical trials of herbal medicines, beginning with my role as the Coordinator of the pioneering clinical study of NIPRISAN, a herbal medicine for the management of SCD in NIPRD.

## **In what way can your profession aid in the development of the African herbal pharmacopoeia?**

Incidentally, I was part of the expert group that developed the maiden editions of the Nigerian and the West African Herbal Pharmacopoeias, respectively.

Fundamental to the development of a pharmacopoeia is a clear definition of its objectives which is easier to do, based on my training as a pharmacist. This will make the pharmacopoeia more valuable to a wider audience. In addition, an understanding of drug manufacturing and clinical applications of herbal medicines will contribute to the provision of a pharmacopoeia with information that could be useful both in the production of suitable dosage formulations and the clinical application of the content of the pharmacopoeia.

As a result of the high level of interaction with both medical and traditional medicine practitioners, pharmacists can play a critical role in the collection and collation of information on herbal medicines that can be included in the pharmacopoeia.

## **What drove you to pursue a career in your profession?**

Medicines work like magic in the treatment of diseases and I wanted to understand how they were made and why they worked so predictably. I eventually realised that the design and production of stable and easy-to-use dosage formulations were critical factors in the achievement of drug efficacy.

## **What do you enjoy the most about your**



**At a medicinal plant conservation site. Such facilities hold the hope for the future given the rapid loss of biodiversity on the continent.**

## **area of expertise?**

Producing medicines in the form in which they are eventually used by patients, especially in life threatening situations. The conversion of age-old herbal remedies into elegant formulations like tablets, capsules, and liquid oral preparations also brings me a lot of excitement.

## **What kind of research are you currently doing?**

Assessing and identifying the gaps that result in the underutilization of TMs in the management of health emergencies in Africa.

## **Which successes in your field are you most proud of?**

The pioneering scientific and clinical evaluation of NIPRISAN, resulting in its commercial production and sales as one of the earliest herbal medicines registered in the country. The pioneering work of my team in understanding and dealing with the challenges of making herbal medicines into pharmaceutical

dosage forms is something that I am also proud of.

### **What changes or developments would you like to see in your field?**

A commitment to the collection, collation, and testing (including clinical testing) of herbal medicines claims in Africa by both the proponents and opponents of the mainstreaming of TMs. I also look forward to the provision of adequate funds by both the public and private sectors for the development of herbal medicines.

I look forward to when the production of herbal medicine will stop being a niche activity but rather a profitable business venture.

### **What opportunities are available to young people who would like to follow the path to your profession?**

The opportunities in the area are abundant as demonstrated by the recent COVID-19 pandemic when we were unable to provide even basic medicines when the major producers stopped exports. We were also unable to participate in the global efforts that resulted in medicines/vaccines for treating and managing the disease. Young people can look at studying and improving existing techniques which can then be used to develop indigenous solutions to our healthcare needs in the continent. The rapidly evolving use of ICT in drug R&D also provides exciting opportunities for upcoming scientists.

### **What advice can you offer to young**



**The abundance of raw materials for the pharmaceutical industry which requires the provision of standards in an African Pharmacopoea is illustrated by the delivery of starting materials to a manufacturing facility for the production of a widely used product.**

### **aspiring scientists in the pharmaceutical industry?**

That they study and understand current trends in the industry globally, with the clear objective of applying them to our peculiar problems using as much of our local materials and knowledge as possible. In addition, they should understand the historic role of herbal medicines in the healthcare of our people, assess the present status, and identify how to intervene to ensure the preservation and utilization of the very important information. They should understand the urgency of the situation given the loss of biodiversity and the rapidly aging knowledge holders.

They should not be discouraged by the many challenges and the general lack of appreciation of the work of scientists in Africa because the impact of the pharmaceutical industry and the scientists on whose work it thrives is critical to the lives of the citizens of the African countries.

# Business Profiles

## Adventure Masters

### INVESTING IN MUSHROOM VALUE CHAIN FOR

- ✓ JOBS AND WEALTH CREATION
- ✓ WOMEN ECONOMIC EMPOWERMENT
- ✓ YOUTH EMPLOYMENT
- ✓ POVERTY REDUCTION
- ✓ IMPROVED NUTRITION
- ✓ FOOD SECURITY

### IN AFRICA

## The Founder - William Darko

William Darko is a private business entrepreneur and the Chief Executive Officer of Adventure Masters Enterprise (a private business enterprise registered in Ghana in the year 2007).



Mr. Darko is an expert in mushroom production activities. He provides skill training and consultancy services in the mushroom value chain to Institutions,

Cooperate bodies, Farmer based organizations (FBOs), Non-governmental organizations (NGOs), Youth and women groups, and the job seeking groups of people in African society. His organization offers mushroom production as an alternation livelihood and a sustainable income activity for the job seeking groups of people in Africa.

Mr. Darko's passion is to positively impact the lives of the poor and the needy in Africa through wealth creation in the mushroom value chain. This would contribute to the achievement of the Sustainable Development Goals (SDGs).

## The Problem

Adventure Masters aims to liberate the African continent from

- Poverty, hunger, malnutrition and food insecurity.
- Unemployment and low income for farmers in rural communities.
- Gender inequalities.
- Environmental pollution.

## Our Solution

We offer solution by

- enhancing mushroom production in Africa for food security, improved nutrition and healthy eating – contributing to SDGs 2,3 & 12 (No Hunger), (Good Health), (Responsible Consumption).
- offering skill training in mushroom value chain technology to youth groups and low-income farmers for jobs and sustainable income –





contributing to SDGs 1 & 8 (No poverty), (Good Jobs and Economic Growth).

- Empowering women economically by enhancing women jobs and sustainable income through the mushroom value chain – contributing to SDGs 5 & 10 (Gender Equality), (Reduced Inequalities)
- Applying forest by-products and agricultural waste materials into mushroom production – contributing to SDG 13 (climate action)

### The Impacts Our Products

.Our products have positively impact on cuisine businesses, including the hotels, vegetarian restaurants, Chinese vegetable shops and restaurants, the shopping malls, supermarket, and our general mushroom consumers.



Jobs are created for young ladies who retail our packed fresh mushrooms in the local market as business.

Caterers use our mushroom flour for the preparation of mushroom bread, mushroom biscuit, mushroom cake, mushroom chips, mushroom shito, mushroom spice, and mushroom organic health drink.

### Our Value-Added Products



## Social Impact

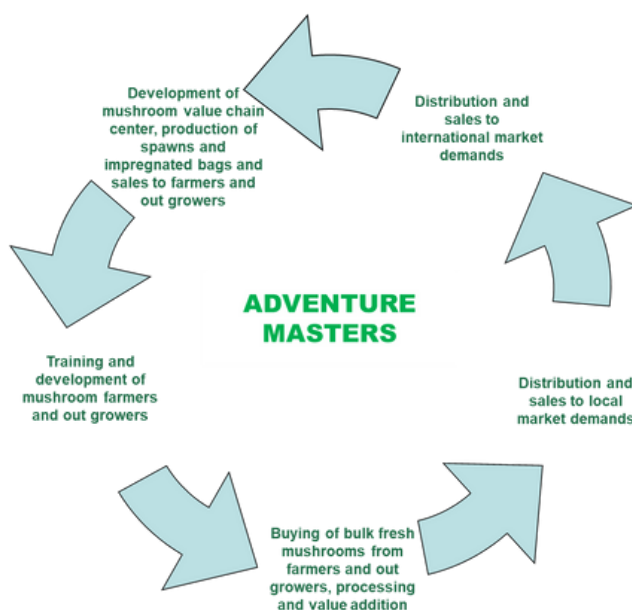
- Decent jobs and sustainable income created for the youth and low-income farmers through mushroom production
- Economic empowerment of women, enhanced women jobs and sustainable income through mushroom value chain.
- Women economic self reliance and enhanced Gender Equalities
- Poverty reduction through mushroom value chain
- Improved nutrition, good health and food security through more mushroom consumption
- Enhancing cottage industry through the development of mushroom value chain centers
- Enhancing environment sanitation and reduced pollution

## Our Services

- Skill training and consultancy services in the mushroom value chain to:
  - a. Institutions.
  - b. Cooperate bodies.
  - c. Farmer based organizations (FBOs).
  - d. Non-governmental organizations (NGOs).
  - e. Youth and women groups.
  - f. The job seeking groups of people in Africa.

- Technical support in the development of mushroom production facilities (including infrastructure and equipment).
- Promotion and advertisement on the values and benefits of mushroom production and consumption in Africa

## Our Business Idea



## Adventure Masters

Producers of

*Nature Fresh Mushrooms*

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Google: Adventure masters mushrooms

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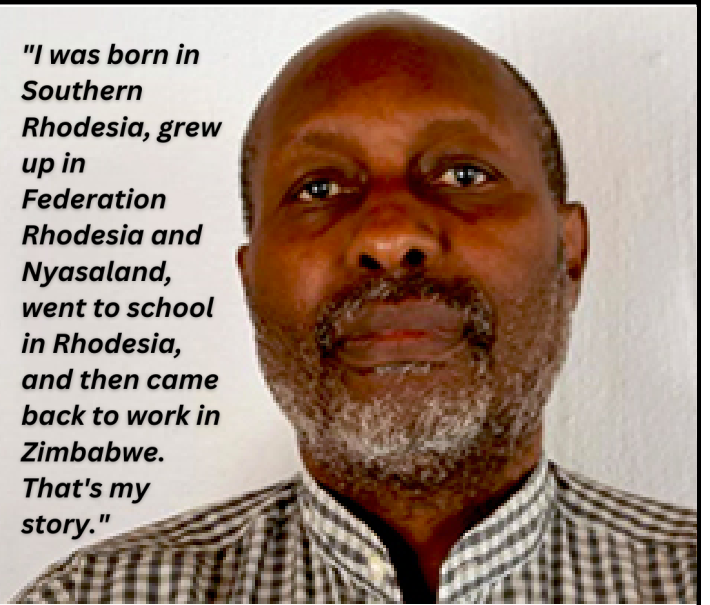
# Meet the Legends

## Prof Norman Nyazema

Professor Norman Nyazema is a pharmacology professor, University of Limpopo, DDT College of Medicine, Botswana Medical School, National University of Science and Technology (Zimbabwe).

Prof Nyazema is a good example of how human beings can defy odds and make it in life. He describes how he got his education in the then-colonized Rhodesia and then applied his knowledge as he worked in the new independent Zimbabwe. The complicated political situation did not derail Prof Nyazema from soldiering toward his success.

*"I was born in Southern Rhodesia, grew up in Federation Rhodesia and Nyasaland, went to school in Rhodesia, and then came back to work in Zimbabwe. That's my story."*



Laugh your lungs out as Prof Nyazema narrates his journey to being the legend that he is today. Get the interviews here:

[Part 1](#)

[Part 2](#)



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