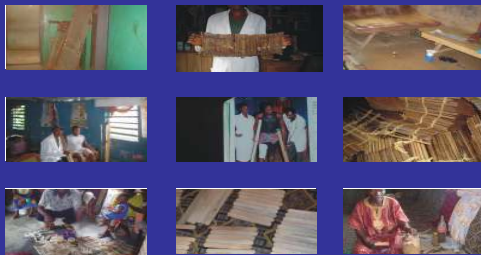


We have brought to fore the Nation's Indigenous non-medication sciences and Technologies such as Bone-Setting, Massage therapy, manual technologies and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.

### Bone setting, massage therapy and the ingenuity of TM



### Locally fabricated Tools



### Areas that requires assistance for upgrading



### Animals Used in Bone Setting medicines



## THE AGENCY

The Nigeria Natural medicine Development Agency (NNMDA) was established to actualize the critical and strategic mandate of the Federal Ministry of Science and Technology (FMST) to research, develop document, preserve, and promote the nation's Natural Medicines defined as "Traditional (indigenous) healthcare systems, medications and non medication healing arts, sciences and technologies".

We facilitate the integration of these into the nation's healthcare delivery system as well as contribute to the wealth and job creation effort.

In pursuant of the above, we have developed programs & projects aimed at maximizing the potentials of the Nation's Natural Medicines for improved healthcare delivery, job and wealth creation, improvement of the quality of life, national economic growth and development.

Some of the results of these projects included:

## **Inventory of Nigeria's Medicinal, Aromatic and Pesticidal Plant (MAPs),**

Identification, documentation and development of a comprehensive National Inventory of Nigeria's Medicinal, Aromatic and Pesticidal Plants (MAPs),

### **SURVEY AND PHOTO DOCUMENTATION OF NIGERIAN MAPs**

We have commenced the identification and documentation of Medicinal, Aromatic and Pesticidal (MAPs) Plants in the six geopolitical Zones.



Botanical Name: *Mitracarpus scaber* Zucc.  
RUBIACEAE

FWTA, ed.2,II:222

Local Names

Hausa: Googamasu

Kanuri: Yewarworimi

Babur: Chandi k'ad'isha

Description/Habitat

An annual weed about 30m tall is much smaller with white flowers which are crowded at the nodes. Leaves are elliptic to obovate with whitish veins.

Part used: Whole plant

Chemical constituents:

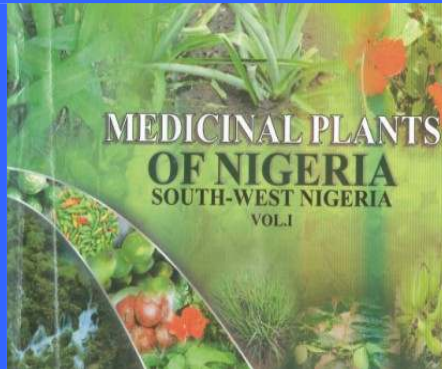
- Glycoside
- Coumarin

Uses:

Taken as remedy for asthma cough, sexually transmitted diseases and skin infections.

used to prepare blood tonic.

## Volume 1 of the books on Medicinal Plants of Nigeria South west and North Central zones



### A brief review of the South west volume 1:

- o 117 plant species belonging to 58 families
- o 72 species for the treatment of Malaria and other forms of fever
- o 52 for skin diseases
- o 50 for child birth and other female reproductive issues
- o 30 for worm expelling
- o 25 for Rheumatism

### A Brief Review of the North Central Volume 1:

- o 100 plant species belonging to 45 families
- o 12 species for the treatment of Malaria and other forms of fever
- o 24 for skin diseases
- o 29 for child birth and other reproductive health issues
- o 22 species for diarrhoea & dysentery
- o 15 species for ulcer cases
- o 20 for worm expelling
- o 15 for Rheumatism
- o 11 species for eye problems

## INVENTORY OF NIGERIA'S ANIMAL AND ANIMAL PARTS

Identification, documentation and development of a comprehensive National Inventory of Nigeria's animal and animal parts, minerals and other natural products, used for human and veterinary /livestock healthcare management maintenance care and support.



This inventories are:

- o An aid to teaching, learning and research
- o A key resource material for Traditional Medicine Practitioners for use in their formulations and entrepreneurs who may wish to go into herbal products, development and commercialization.
- o A key useful resource material for conservation and cultivation.
- o Promoting entrepreneurs development, wealth and job creation.
- o Promoting documentation and preservation of indigenous Intellectual Property Rights.

## PUBLICATION OF BOOK OF ABSTRACTS OF PUBLISHED RESEARCH FINDINGS ON NIGERIAN MEDICINAL PLANTS & TRADITIONAL MEDICINE PRACTICES



- o Researches conducted by Nigerian Scientists are scattered in different Journals and publications in universities and research institutes.
  - o These constitute a vital component of our cultural heritage and national intellectual property.
  - o It is a resource for entrepreneurship development, wealth and job Creation.
- The 1st Vol. contains 1050 abstracts on all aspects of TM from 1970 – 2004.
- o The collation for the 2nd Vol. is currently on-going.
  - o It is aimed at facilitating centralization of all research findings
  - o Ease of referencing
  - o Reducing research duplication
  - o Identification of research gap for further research
  - o Commercialization
  - o Facilitate demands driven research by Natural Products scientists

### **OBSERVATIONAL STUDIES**

THE AGENCY IS CURRENTLY FACILITATING AN OBSERVATIONAL STUDY ON A HERBAL HIV/AIDS REMEDY IN COLLABORATION WITH A RESEARCH TEAM IN THE OBAFEMI AWOLowo UNIVERSITY TEACHING HOSPITAL, ILE-IFE.

## LOW COST PRODUCTION PROCESS DEVELOPMENT

Design and development of appropriate low cost production processes and packaging technologies for small and medium scale industrial production and commercialization of Natural Medicines, products and processing technologies for the creation of employment opportunities, wealth creation and poverty reduction.

### SOME OF THE LOWCOST PROCESS TECHNOLOGY

#### 1. Mosquito Repellant

Based on positive scientific reports on some medicinal plants used in Nigeria to repel insects, we have developed Herbal mosquito repellant products (candle, cream, ointment) aimed at reducing the mosquito-man contact thereby interrupting the transmission of the malaria parasite. These plants have been widely reported by research to be environmentally friendly and with no adverse effects on humans.

#### 2. Herbal Cough Syrup

Developed herbal cough syrup that combines the soothing and anti-bacteria properties of fine Nigerian medicinal plants and pure honey.

#### 3. Herbal Soap and Cream

Developed the process technology and products for an improved version of herbal medicated soap and cream.

These products are undergoing further development and standardization for NAFDAC listing and commercialization through Public-Private Partnership arrangement.

The pictures are shown below :



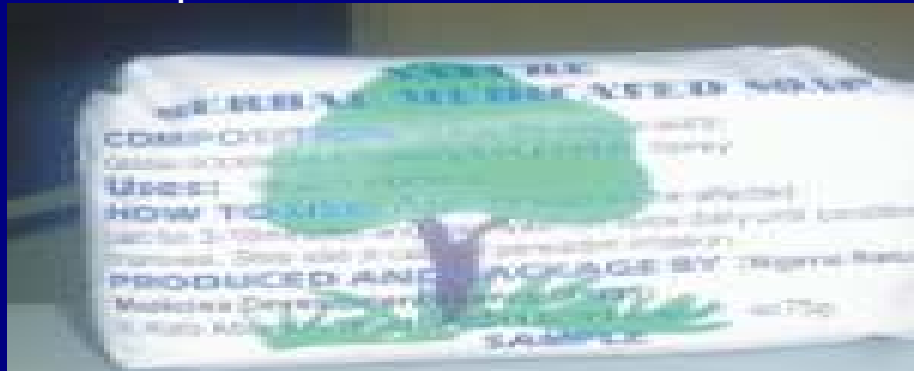
Mosquito Repellant.



Herbal Cough Syrup.



Herbal Soap and Cream.



# LABORATORY FOR RESEARCH AND SERVICE DELIVERY.

We provide basic laboratory services including:

1. Toxicological screening of herbs/herbal medicines.
2. Assessment of medicinal activity of herbal preparations.
3. Development of testing protocols for small scale manufacturers.



## Digital/Virtual Library

A Digital reference Library for traditional medicine and a focal reference center for all traditional medicine related research documentation is being developed .

The Library facilitates research, development and education. It also assists in the preservation and protection of our indigenous medical knowledge, science and technology in addition to conservation and cultivation of medicinal plants.

It stimulates value addition to the abundant raw material Resources arising from the vast biodiversity of Nigeria.

It stimulates the promotion of e-commerce and creates markets for Medicinal, Aromatic and Pesticidal Plants (MAPs) and other herbal drugs/products of Nigerian origin.

It is an aid to the preservation and protection of our culture and heritage.

It is an aid for declaring our prior art and sui generis for the protection of the Nation's Intellectual Property.



## **Developing Pilot/Experimental MAPs, Farm/Nurseries in each of the six geopolitical Zones.**

We are developing pilot medicinal plants in the six zones of the country in collaboration with universities and practitioners. The aim:

To cultivate plants in the areas that they grow best

To encourage and engender the culture of conservation in our communities through the association of value to bio-diversity Preserve local knowledge an plant's uses

Preserve plants that are about to become extinct

Facilitate the study and documentation of the abiotic factors (climatic, soil, altitude, water) and general agricultural conditions needed for medicinal plants to be grown,

Domesticated and cultivated.

To promote enhanced species identification, cultivation and Good Agricultural and Collection Practices (GACP).

To make available and accessible, plants for sustainable utilization and encourage the rational use of herbal raw

Materials for products development.



## **Development of Herbarium/Post-Harvest Technologies.**

Developed and maintain a herbarium for research and Post-Harvest technologies based on Good Agricultural and Collection Practices, (GACPs) Primary processing and Storage of MAPs materials to ensure good quality of stock and proper value addition to end products and formulations.

## **A LEGAL FRAMEWORKS FOR INTELLECTUAL PROPERTY RIGHTS (IPR) REGIME FOR TMKP IN VIEW.**

The Agency Facilitated a workshop in collaboration with the National Office for Technology Acquisition and Promotion (NOTAP) towards the development of policies for Intellectual Property Rights regimes for Traditional Medicine, for the protection of Traditional Medical Knowledge and Practices (TMKP)

The workshop promoted awareness about the rights of indigenous traditional medical knowledge holders and other IPR issues with regards to biodiversity and bio-researches;

This is key to the development and promotion of the Nation's vast biodiversity, biodiversity related researches and knowledge not only for health care delivery but also for wealth, job creation and Stem biopiracy.

## **PROMOTING PUBLIC PRIVATE PARTNERSHIPS.**

Through this project, the Agency assist practitioners with technical and scientific support, in addition to training, local and international exposures the improvement of their products and practices, we assist them meet the NAFDAC Stipulated standards.

Our aim is to establish local and international partnership that would improve the quality of products and services of our traditional medicine for their commercialization and strengthen our research and evidence bases for their usage.



## **TRADITIONAL MEDICINE MANPOWER**

In the past two years, we have:

Developed training modules in line with World Health Organisation's specification for continuing education program for TMPs.

conducted 25 training and interactive sessions involving over nine thousand (9000) TMPs in all the six zones of the country.

### **MANPOWER DEVELOPMENT THROUGH TRAINING AND PUBLIC SENSITIZATION.**

The education, training and interactive programs are designed to :

- 1.Enhance the skills of the TMPs,
- 2.Build their confidence,
- 3.Reduce secrecy, demystify and improve their practices and products development techniques.
4. Equip them to serve as agents of appropriate medical information dissemination, education, communication and positive health behavioural change.
- 5.Generate critical mass of knowledgeable TMPs, for enhanced R&D in all aspects of indigenous traditional health systems.
- 6.To generate a critical mass of knowledgeable TMPs across the country who would be vehicles of information dissemination and education to combat the spread and control of communicable diseases such as HIV/AIDS,malaria and other common ailments in the communities where they and practice, for improved wellness and health coverage.

This exercise also facilitates collaborations and partnership in the Agency's documentation initiatives.

## **OUR CONVICTION FOR DEVELOPING TM MANPOWER**

The role and services of the Nations Traditional Healers, if appropriately harnessed can strengthen the capacity of the nation's healthcare delivery systems to improve the health of Nigerians and

1. Create jobs
2. Wealth and
3. Generate socioeconomic growth and development.
4. The Agency , therefore, through her Education , training and value re-orientation programs attempts to
  - I. Identify opportunities for cooperation, collaboration and Partnership that will strengthen the knowledge base of TMPs and Strengthen entrepreneurs for the provision of good ,affordable and accessible healthcare and related information.