

# **SOKOINE UNIVERSITY OF AGRICULTURE**

## **FACULTY OF VETERINARY MEDICINE**

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### **PANNEL DISCUSSION**

#### **VICE CHANCELLOR: PROF. GERALD MONELA**

### **University Profile**

The history of Sokoine University of Agriculture dates back to 1965 when it started as an Agricultural College offering diploma training in the discipline of agriculture. With the dissolution of the University of East Africa and the consequent establishment of the University of Dar es Salaam (UDSM) in July 1970, the College was transformed into a Faculty of Agriculture of UDSM and thereby started offering Bachelor of Science in Agriculture. In 1974, the Division of Forestry was established and hence the faculty was named Faculty of Agriculture and Forestry. The introduction of Bachelor of Veterinary Science in 1976 and the establishment of the Division of Veterinary Science, the Faculty was re-named “Faculty of Agriculture, Forestry and Veterinary Sciences”. The Faculty was on the 1st of July 1984 transformed, into a full-fledged University and became known as Sokoine University of Agriculture (SUA) with the Faculty of Agriculture, Faculty of Forestry and Faculty of Veterinary Medicine.

Currently SUA has four faculties namely; the Faculty of Agriculture (FoA), Faculty of Forestry and Nature Conservation (FoF & NC), Faculty of Veterinary Medicine (FVM) and the Faculty of Science (FoS), the latter which was established in 2001. Other academic units include the Directorate of Research and Postgraduate Studies (DRPGS), Institute of Continuing Education (ICE), Development Studies Institute (DSI), Computer Centre (CC), Pest Management Centre (PMC), SUA Centre for Sustainable Rural Development (SCSRD) and the Sokoine National Agriculture Library (SNAL). SUA also hosts the African Seed Health Centre and Virtual Centre known as “Southern African Centre for Infectious Disease Surveillance”.

The university which is located in Morogoro Municipality has 3,350 ha of land for training, research and production in Morogoro municipality; 840 ha of forest land in Arusha; 320 ha of virgin forest for research in Usambara Mountains in Tanga and 500 ha of miombo woodlands in Kitulughalo in Morogoro region. The university has for campuses namely, the Main Campus within Morogoro municipality; Solomon Mashlangu Campus (SMC) in Morogoro municipality; SUA Training Forest (SUATF) Olmotonyi in Arusha region and Mazumbai Forestry Reserve in Tanga region. The University also has one Constituent College, the Moshi University College of Cooperatives and Business Studies (MUCCoBS) which is located at the foot of Mount Kilimanjaro in Moshi Municipality.

SUA's academic business is guided by the university's vision and missions as well as the Corporate Strategic plan (2005-2010), the latter that spells out plans in keeping with university's core missions and functions as well as the need to remain competitive. The Vision of the university is "To become a center of excellence and a valued member of the global academic community in agriculture and other related fields with emphasis on implementing practical skills, entrepreneurship, research and integration of basic and applied knowledge in an environmentally friendly manner". The vision is guided through the mission, which is "To promote development through training, research, extension, provision of services to the public and private sector in an environmentally friendly manner".

SUA is currently offering 24 undergraduate and 39 postgraduate programmes in agriculture, forestry and veterinary medicine, environmental sciences and allied disciplines. To date, SUA is the only university, amongst 34 universities and university colleges in Tanzania that offers degree programmes in the broad field of agriculture. In addition, SUA offers degree programmes in Information Technology (i.e. B.Sc. Informatics) and Education.

On the other hand, the Moshi University College of Cooperative and Business Studies (MUCCoBS) offers non-degree, Bachelor and postgraduate programmes in the disciplines of cooperative and business studies.

SUA's main research objective is to provide leadership in basic and applied research in order to generate science evidence knowledge and innovations that respond to contemporary and emerging needs. SUA thus emphasizes that research becomes linked to development and societal issues. Research, outreach and consultancy services are driven by trained agricultural and natural resource manpower base that comprises more than 460 academic staff, out whom 50% have PhD qualifications. Research capacity at SUA is further enhanced through collaborative research projects, which are supported by more than 50 memoranda of understanding. Currently, there are about 146 ongoing research projects.

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## **POSITION AND INVOLVEMENT OF SOKOINE UNIVERSITY OF AGRICULTURE (SUA) IN RISE AND OTHER REGIONAL NETWORKS**

In response to the call for proposals from RISE, the three East African Universities: Makerere University (Mak), University of Nairobi (UoN) and Sokoine University of Agriculture (SUA), developed a joint proposal for enhancement of research and training in natural products. <http://www.rise-afnnet.net>. Specifically it aimed at developing a joint harmonized regional MSc curriculum in natural products and training of University staff (if possible instructors of the developed programme) at MSc and PhD levels. The proposal received the blessings and endorsement of the Vice Chancellors of the three universities. In November 2008, this network (AFNNET) received generous financial support from Carnegie Corporation in New York (USA), Science Initiative Group (SIG) to support training of 10 PhD and 8 MSc students in the East African region and to establish a regional MSc programme in Natural Products Technology and Value Chain Management (MNPV).

Therefore, SUA is among members of the African Network for Research and Training in Natural Products (AFNNET) <http://www.rise-afnnet.net>. Other members are Makerere University and University of Nairobi. At SUA AFNNET is hosted in the Department of Veterinary Medicine and Public Health, Faculty of Veterinary Medicine. At Sokoine University of Agriculture, the node for AFNNET is coordinated by Prof. Robinson Mdegela and Prof. Madundo M.A. Mtambo. The academic director for RISE is Prof. John Kabasa of Makerere University. RISE-AFNNET seeks to develop Africa's rich biodiversity into a natural products industry of social and economic significance through coursework and research in engineering, biochemistry, environmental science, pharmacology, economic development, and nutrition.

### **BENEFITS OF THE PROGRAMME TO SUA**

- i. In January 2009, two (2) female academic members of staff were given full scholarships (on competitive basis) from Carnegie RISE to pursue PhD studies in Natural Products Technology and Value Addition. The students are Ms Faith Mabiki (Faculty of Science) and Ms Gaymary Bakari (Faculty of Veterinary Medicine).
- ii. In May 2010, three MSc students at SUA; Masunga Mabula (M), Sikitu Simon (F) and Ngabo Jongson (M) were given financial support from Carnegie RISE to support the research of their MSc programmes. One of them Mr. Ngabo Jongson is a laboratory technician at SUA.
- iii. Through financial support for Carnegie RISE, SUA was able to participate fully in the whole process of development of the Regional MSc in Natural Products Technology and Value Addition. Specifically,
  - a. The SUA Node coordinator participated in the 1<sup>st</sup> regional workshop for development of the curriculum in Kampala, Uganda.
  - b. SUA organized a stakeholder's workshop for development of the regional MSc curriculum. The workshop had 40 participants from different relevant institutions and AFNNET node coordinators from Makerere and Nairobi Universities.

- c. The SUA Node coordinator and the Chairman Faculty Postgraduate Studies Committee (FVM), on behalf of the Dean FVM attended stakeholder's workshop for curriculum development in Kenya, University of Nairobi.
- d. The SUA Node coordinator and the Associate Director for Postgraduate Studies attended stakeholder's workshop for curriculum development in Uganda, Makerere University.

The draft document for the proposed regional MSc. programme is available and is awaiting presentation and discussion by SENATE and University Council of the participating institutions.

- iv. Through support from CR-AFNNET, the FVM has been able to refurbish the Natural Products Research and Training laboratory and to install some basic facilities for research and training in Natural Products. These include the High Performance Liquid Chromatography (HPLC) that we received from another donor as after realising that SUA was actively involved in the training and research programme that need such expensive equipment. This laboratory has enhanced efficient training of the MSc and PhD students in Natural Products at SUA; as well as training grounds for undergraduate students during the field practicals.
- v. SUA was privileged to receive and host the program officers from the Carnegie Corporation. With thorough discussions with University management they were highly satisfied with University commitments in performing activities for achieving goals put forward to Carnegie RISE.

#### **THE WAY RISE AFNNET IS LOOKED AT BY UNIVERSITY COMMUNITY**

This program that has been brought to SUA through AFNNET is timely and is in line with University Corporate Strategic Plan through:

- i. Enhancement of training at postgraduate level in demand driven programs for Africa.
- ii. Provision of scholarships for training MSc and PhD students.
- iii. Development of training curricula that equips the graduates to solve problems of our societies using local resources.
- iv. Establishment and strengthening capacity for E-learning, which is considered as key requirement for regional harmonised training programmes.

#### **CURRENT AND PLANNED INVOLVEMENT OF UNIVERSITIES IN AFNNET**

- i. The University has been, and will continue to be involved through provision of staff time, space (office, lecture theatres and laboratory), library and all other requirements needed for smooth implementation of network activities.
- ii. Since the network activities focus mainly on research and training, the University will be involved in the recruitment of postgraduate students at MSc and PhD levels, management of training and research grants and management of the MSc program in Natural Products Technology and Value Addition after its approval.
- iii. Provision of staff who will be involved in the training of postgraduate students in the regional (East African Region) MSc and PhD training programs.

- iv. The University through the Technology Transfer Office (TTO) will facilitate the patenting processes of products and technologies that will be generated from research in Natural Products at SUA. Where possible, the University will also facilitate the commercialization process based on the University Investment policy.

### **INVOLVEMENT OF SUA WITH OTHER NETWORKS**

Sokoine University of Agriculture is involved in activities of several networks among which are RUFORUM (Regional Universities Forum for Capacity Building in Agriculture), AICAD (The African Institute for Capacity Development), NUFU-ZOOTOX (NUFU North South-South Veterinary Network) , SACIDS (South African Centre for Infectious Disease Surveillance) , AFRIQUE ONE (African Research Consortium for Ecosystem and Population Health), AFRUSA-IHM (Africa-USA Integrated Health Management Consortium), IUCEA (Inter-University Council for East Africa (VicRes), FOSNA (Food Science Network for Africa), CGWESA (Cysticercosis Working Group in East and southern Africa), AFORNET (African Forest Research Network) etc

### **CHALLENGES**

- i. Financial limitations since the demand for training in Natural products at MSc and PhD levels is very high.
  - a. Training and research needs in natural products is broad and the number of students with interest in research in natural products is increasing. For instance, during 2006/2007 and 2007/2008 academic years, at the Faculty of Veterinary Medicine, out of 94 about 48% of the BVM and BLS students carried out special projects research in Natural Products.
  - b. In January 2008, when we advertised PhD scholarships in Natural products, 8 applicants qualified but we were able to provide 2 positions only.
  - c. At SUA for instance, by nature of the programmes offered, there are a lot of research opportunities in different areas including
    - i. Medicinal plants,
    - ii. Fungi as source of drugs, control of malaria by killing mosquitoes, as food (mushroom) etc.
    - iii. Plants used as pesticides particularly inorganic farming
    - iv. Natural fruits and vegetables
    - v. Organic fertilizers from natural plants
    - vi. Use of natural bacteria for degradation of plastics in the environment etc
- ii. Limitation of space (office and laboratory) and laboratory facilities  
For the time being, the Government of Tanzania is working very hard to ensure that all citizens have equal opportunities and access to primary and secondary education. This has caused a sudden increase in demand for University Education. As a result, there is shortage for office, lecture theatres, and the facilities. The shortage is more critical for facilities for training postgraduate students (MSc and PhD levels).

iii. Internet connections

Sokoine University of Agriculture has the Minimal Level of Internet connection, which though useful, it offers limited services. The fact AFNNET through RISE initiatives has developed a Regional MSc programme in Natural Products Technology (to be launched in near future) that demands reliable Internet connection especially for E-learning and Video Conferencing, it is worth noting this as a challenge whose solutions will only be reached following availability of Broad band Internet connection.

iv. Transport for researchers and students

In Tanzania, the transport network is still rudimentary in most of the rural areas where the natural products are found. In order to enable researchers to have access to the natural products in remote areas that are difficult to reach, researchers and students need to have reliable means of transport which for the time being, the Directorate of Research Postgraduate Studies cannot offer optimally.

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