



Regional Workshop on Advancing WOAH AMR Standards in Veterinary Practice

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Are Veterinary Faculties Ready to Respond to AMR/AMS Educational Need?

YES

Sokoine University of Agriculture (SUA) & Livestock Training Agencies (LITA) in Tanzania are ready to respond to AMR/AMS educational need



Introduction

- AMR is a global threat to health, food security, livestock production, and economic development.
- Veterinary education (Certificate, Diploma & Degree) have great role on addressing AMR/AMS
- Curricula are regularly reviewed to accommodate new issues like One Health concept, AMR/AMS, etc
- Graduates with good understanding on AMR/AMS are catalyst to changes

Sokoine University of Agriculture (SUA)

Core activities is training & research

- Has 111 Programmes
 - ❖ Undergraduate degree 36
 - ❖ Postgraduate degree 68
 - ❖ Non degree 7
- Number of students 17,829
 - Undergraduates 16,818
 - Postgraduates 1011



College of Veterinary Medicine and Biomedical Sciences

- Offers Bachelor of Veterinary Medicine (BVM), a 5-year program
 - 1 year for internship
- Enrolment rate per year: 150 – 200 students
- 15 laboratories & Teaching Referral Animal Hospital (STAH)
- Graduates acquire day one competencies as per WOAHA requirements



Livestock Training Agencies (LITA)

- Government training agency
- Provide training in Animal Health and Production at Certificate (NTA level 4 & 5) and Diploma (NTA Level 6)
- Has 8 Campuses
- Number of students: around 5000
- There are other 13 private training institutions
- Number of students: around 1500





A. Veterinary Education in Tanzania

- Basic Technician Certificate (NTA Level 4 & 5) in Animal Health and Production
- Diploma (NTA Level 6) in Animal Health and Production
- Bachelor of Veterinary Medicine (UQF Level 8)
- Postgraduate training (Master, PhD)
- Continuous Professional Development (CPDs)
- In-service training



1. Basic Technician Certificate in Animal Health and Production



Has > 10 courses relevant to AMU, AMR & AMS

- Principles and practices of livestock production technology
- Veterinary Pharmacology and Therapeutics
- Veterinary Microbiology
- Veterinary Parasitology
- Vector control and biosecurity measures
- Ruminant Disease Management
- Avian and Porcine Disease Management
- Veterinary Regulation and Practice Facilities Operation
- Animal Nutrition Management
- Animal Origin Food Safety Management

2. Diploma in Animal Health and Production

Has > 8 courses relevant to AMU, AMR & AMS

- Companion Animal Disease Management
- Fish and Wildlife Disease Management
- Veterinary Ethnomedicine and Toxicity Management
- Animal Reproductive Health Management
- Veterinary Surgery
- Veterinary Public Health
- Principles of Epidemiology
- Laboratory diagnostic methods



3. Bachelor of Veterinary Medicine

Has > 20 courses relevant to AMU, AMR & AMS

- Livestock production & Management
- Microbiology
- Parasitology
- Virology
- Immunology
- Animal nutrition and feeding
- Pharmacology and Toxicology
- Production Animal Medicine
- Avian Medicine
- Companion Animal Medicine
- Epidemiology
- Surgery
- Vet. Public Health
- Theriogenology
- Clinical Pathology
- Aquaculture and fish health
- Veterinary Economics
- Clinical practices
- Wildlife Health and Fish Medicine

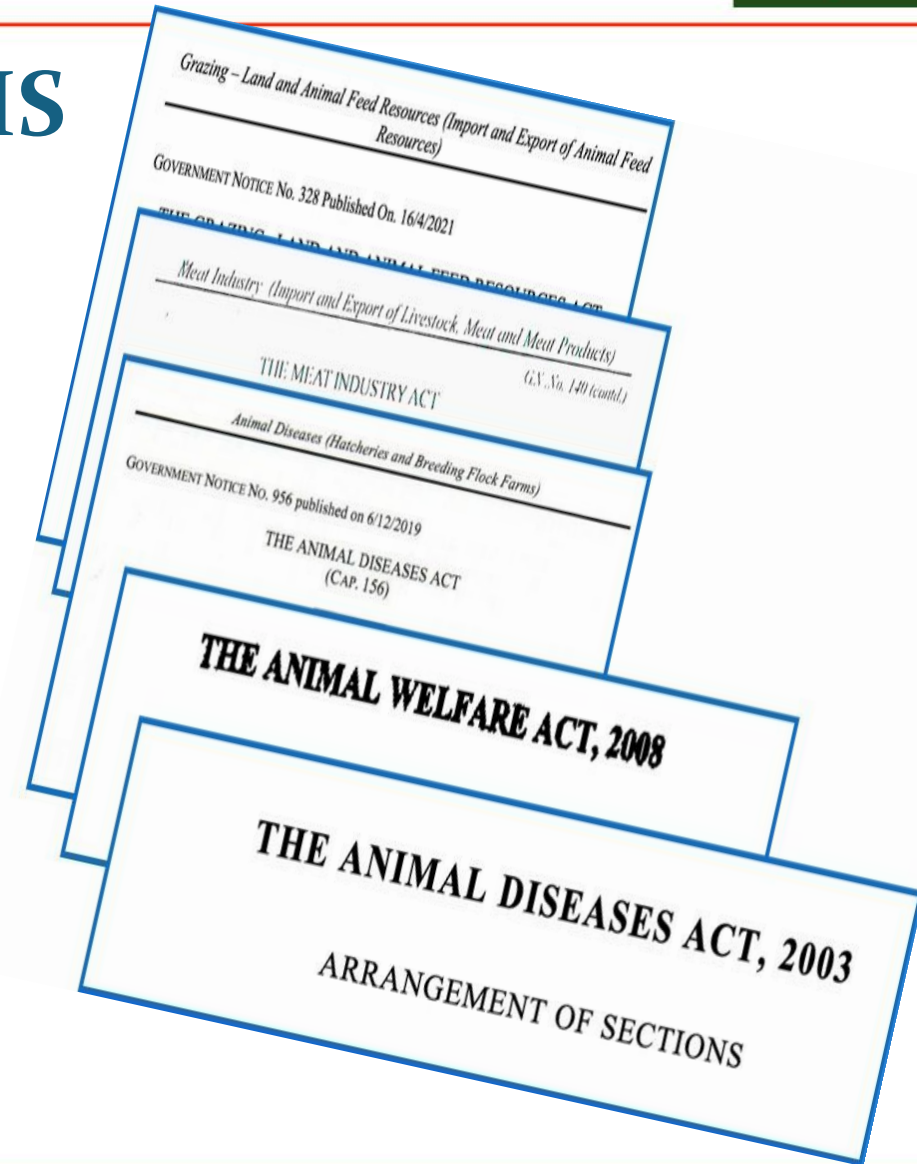


- Jurisprudence, Animal Welfare and Veterinary Practice
- Herd Health Management
- Extra-mural training in the form of field practical training and or attachments

B. Legislations relevant to AMR/AMS

1. Livestock and Fisheries Sectors

- Livestock Policy 2006
- The Veterinary Act Cap 319,
- The Animal Diseases Act Cap 156,
- The Meat Industry Act Cap 421,
- The Dairy Industry Act Cap 262,
- The Grazing-Land and Animal Feed Resources Act Cap 180,
- The Tanzania Livestock Research Institute Act No. 4 of 2012.
- Fisheries Act No. 22 of 2003



B. Policies, Legislations & Regulations relevant to AMR/AMS...

2. Human Health Sector

- National Health Policy 2017
- Food and Nutrition Policy 1992
- The Public Health Act Cap 99
- The Tanzania Food, Drugs and Cosmetics Act Cap 219,
- The Pharmacy Act Cap 311
- Tanzania Food and Nutrition Act Cap 109

B. Policies, Legislations & Regulations relevant to AMR/AMS...

3. Other relevant legislations

- National Water Policy, 2002
- National Environmental Policy 2021
- National Land Policy, 1995
- National Biotechnology Policy, 2010
- Standards Act Cap 130
- Environmental Management Act Cap. 191
- Water Resource Management Act 2009
- Water Supply and Sanitation Act 12 of 2009
- The Plant Health Act Cap 133

C. Relevant regulatory organs – AMR/AMS

- Tanzania Medicines and Medical Devices Authority
- Veterinary Council of Tanzania
- Tanzania Bureau of Standards
- Tanzania Meat Board
- Tanzania Dairy Board
- Tanzania Food and Nutrition Centre
- National Environment Management Council (NEMC)
- Pharmacy Council of Tanzania

D. Veterinary Services in Tanzania

- Clinical services
- Biosecurity and biosafety services
- Herd health management
- Vaccination
- Pests control
- Chemotherapy, chemoprophylaxis & Metaphylaxis
- Laboratory and diagnostic services
- Surveillance of animal diseases & veterinary drug residues
- Public & environmental health protection
- Animal welfare inspection

D. Veterinary Services in Tanzania

Constrained by:

- Unavailability of work force
- Limited diagnostic capacity,
- Empirical treatment practices,
- Non-prescription sales,
- Weak regulatory enforcement,
- Poor record-keeping,
- Poor quality and counterfeit medicines, vaccines and pesticides
- Unsafe drug disposal,
- Poor livestock husbandry practices
- Client and political pressure

E. Animal Health facilities/points

- Include: Veterinary facilities, Vet clinics, labs & hospitals, animal health companies
- Regulated by TMDA & VCT
 - Sales of animal inputs (veterinary medicines, vaccines, pesticides)
 - Majority are in urban areas
 - Provide empirical treatment without laboratory diagnosis
 - Reported misconduct & malpractices
 - Sales medicines with no prescriptions
 - Questionable quality control of medicines and vaccines
 - Limited records of expired or damaged medicines, vaccines and pesticides
 - Expensive questionable service quality & for profit making,
- Most livestock keepers opt to offer veterinary services by themselves

F. Farmers/livestock keepers

1. Ruminants

- > 90% are pastoralists & agropastoralists
- Traditional production system
- Suffers from poor husbandry practices
- Limited or no antimicrobial withdrawal periods

2. Poultry production

- Poultry feed quality and affordability
- Day old chicks quality & availability,
- Vet drugs & vaccines quality & availability,
- Poor extension services
- High burden of health problems
- Unappealing chicken husbandry and biosecurity measures,
- Limited or no antimicrobial withdrawal periods

F. Farmers/livestock keepers.....

3. Pig production

- Infancy stage, growing fast
- Similar problems as for poultry



4. Aquaculture / cage fish production

- Infancy stage, growing fast
- Challenges: feed, fingerings, experts & fish health



Conclusions

Much as VEE address AMR/AMS in their curricula, the following are recommended:

- Continuous review of curricula - AMR/AMS, One Health, climate change,
- Improved livestock husbandry practices
- Strengthen vaccination & Biosecurity measures
- Strengthen surveillance - diseases & antimicrobials
- Improved diagnostic services
- CPD to paraveterinarians and veterinarians
- Antimicrobial stewardship (AMS)
- Enforcement of legislations
- Improved public awareness on AMR
- Availability and accessibility of qualified personnel



**THANK YOU FOR
LISTENING**

