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Genetic resources data bank is ready

I read through an article on page 6 of the *New Vision* of December 29, 2017 under the headline Museveni rejects GMO Bill, wants local plants, animals protected. The President quoted some clauses of the bio-safety law sections 3, 15, 16, 25, 26, 35 and 36 that needs revision.

I am focusing my views on indigenous animals especially the long-horned Ankole cattle, Enkoromoijo cattle, Nganda cattle, Kigezi cattle, Madi cattle also popularly known as the East African short horn Zebu, goats such as the black Mubende, the white and black spotted Mubende goats, the Kigezi goats, the small East African goats chicken, the Ugandan chicken (Langi, Nganda, Teso, Nyoro, Kigezi, Madi etc).

These *Bos indicus* (indigenous cattle); the East African local goats etc. have numerous advantageous traits such as drought resistance, disease and vector tolerance, good survival rates despite poor conditions of pastures and feeds and husbandry related practices.

As indicated by the President, the farmers have bred and reared these animals for millennia through selection of desirable traits and characteristics.

The National Animal Genetic Resources and Data Bank (NAGRC&DB) was established by an act of Parliament, 2001 to carry out and guide comprehensive animal breeding programmes in Uganda. It has 12-centre farms spread throughout the different ecological regions of Uganda; the agency also runs a large liquid nitrogen plant with a production capacity of 89 litres of liquid nitrogen per hour, a bull stud at its headquarters in Entebbe hosting superior pedigree bulls for semen production including *Bos indicus* breeds.

Recently, at the African Union Inter-government Bureau on Animal Resources (AU-IBAR) Animal Genetic Resources conference in Nairobi, Kenya, I defended why Uganda and especially NAGRC&DB should continue hosting the regional gene bank for animal genetic resources (AnGR) for the East Africa Community and Inter



countries. These are mainly due to wide spread centre farms with indigenous animal breeds, availability of a facility for regional genetic banks and capacity to undertake conservation of indigenous animal genetic resources.

The Government has been at the forefront of promoting indigenous genetic animal resources including the Ankole cattle which are being conserved at Nshaara ranch, Kiruhura district where we have allocated it 21 square miles of the ranch, Mubende goats are conserved at Sanga Field Station (2.5 Sq miles) the East African Short Horned cattle are conserved at Kasolwe Stock farm (3sq. miles) and Aswa Ranches (133 sq. miles) respectively. The rest of the ranches and stock farms are for breeding and multiplication for *Bos Taurus* (exotic) dairy, beef and other dual purpose breeds of cattle and goats including Cambrough pigs, large white, land race and chickens especially the indigenous and Kuroiler breeds.

Conservation of animal genetic resources can be kept 'in situ' or 'ex situ'. In situ conservation means keeping animals in natural habits and encourages same line of breeding without introducing other genetic lines of breeds.

Meanwhile 'ex situ' conservation entails cryo-conservation of the semen, the eggs,

-1960C and the products are conserved for many years.

NAGRC & DB has recently undergone management change at its headquarters with some new staff coming on board. We have a new holistic strategic plan which prioritises conservation of animal genetic resources as key areas of focus. The best technical expertise consisting of animal breeders, geneticists, animal scientists, conservationists, indigenous knowledge experts plus centre farms and genetic banks are all found at NAGRC & DB.

For the protection of indigenous animal genetic resources in Uganda NAGRC & DB is most suited to undertake these structural and functional roles based on 'in situ' and 'ex situ' conservation strategies.

NAGRC & DB will employ some of the breeding techniques such as embryo transfer programmes, synchronisation, non-pregnancy diagnosis and other assisted reproductive techniques (ARTs) to multiply, raise and safeguard the precious assets in terms of indigenous animal genetic resources so that they are not lost due to demands for commercial purposes.

Additionally, NAGRC&DB will take on conservation of biodiversity, sustainable utilisation and development of indigenous animal genetic resources through; servicing as national animal genetic data bank; national central livestock registry; the national animal genetic resources evaluation centre and laboratory; a national gene depository and examination centre for genetic materials including quarantine and evaluation of imported genetic materials.

NAGRC&DB is also offering specialised training to technicians dealing in animal breeding; training of staff and farmers in aspects of animal, poultry and fish breeding; collaboration in animal breeding and production environments research; encouraging the formation of breeder and breed organisations to carry mantle for 'in situ' conservation.

The full opinion can be found on