Regional Pastoral Livelihoods Resilience Project (RPLRP)

Regional Experience Sharing Workshop on Animal Breed Management and Improvement to Support Production in the ASALs

7th to 9th June 2018 Bishoftu, Ethiopia

Workshop Report

ICPALD

Background

The Intergovernmental Authority on Development (IGAD) region is home to over 532 million heads of livestock out of which 360 million are ruminants, which alleviates poverty, provide food security and trade. The sector is however challenged by inadequate breeding technologies which if well harnessed can improve production and productivity to improve income among livestock keepers. The extensive genetic diversity found in various species and breeds make the region a reservoir of important genetic variations (genes) which are critically required for improvement and to address future challenges (e.g. climate change, new emerging transboundary animal diseases) and exploit opportunities (e.g. biotechnology and change in market preference). Modern breeding technologies such as artificial insemination and embryo transfer among others focus mostly on dairy cattle, sheep and goats because of demand leaving out beef production that dominate the arid and semi-arid lands which deserve regional support.

A two days workshop and one day field visit to Kalit National Animal Genetic Improvement Institute (NAGII) were contacted from 7-9th June, 2018 to share regional experiences from each country, animal genetic resource centers and breeding and multiplication centers from each country. Participants from Ethiopia, Kenya, Uganda and Uganda included directors in charge of national animal breeding division and managers of each breeding and multiplication center and animal genetic resource centers.

Dr. Ameha Sebsibe who opened the workshop highlighted that member states' main focus has been on animal health, feed and trade enhancement with little attention towards livestock breeding and improvement. This is the first workshop by the region focusing on breeding to share experiences, adapt and upscale good practices since member states are at different levels.

Objectives of the training

- Get an overview of livestock production and marketing in the ASALs of IGAD region
- An overview of the IGAD Regional Model Policy/Legal Framework for Conservation, Sustainable Utilization and Access and Benefit Sharing of Farm Animal Genetic Resources
- Current national status of livestock breeding management and improvement with a focus on ASALs: key achievements, challenges experienced, lessons learnt and recommendations- national governments
- Capacities and Services of Livestock breeding and multiplication centers with focus on ASALs: Status , challenges, opportunities and recommendations- breeding centers, research institutions etc
- Visit to Kaliti Animal Genetics improvement institute

Proceeding: Presentations

- An overview of livestock production and marketing in the ASALs of IGAD region
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Plenary discussion key points

AnGR model policy/ legal framework

- Except Ethiopia that has domesticating the global plan of action on AnGR and Kenya is launching the same on 7th June, 2018, other member states have not taken action towards domestication not because of lack of funds but it is not a priority
- Improved livestock breeding has been dominated by dairy cattle and on a lesser extend goats because it has a commercial aspect and contributes to food security for the nations. However, beef production farmers have started increasing uptake of semen for boran, Sahiwal and semental, a sign of increasing demand to improve the beef sector.
- Cross breeding of indigenous animals with exotic breeds should not be vilified but instead be viewed positively since it improves productivity in terms of meat and milk, contributes to improved trade and hence national food security. Countries should utilize animal genetic resource centers for gene conservation as they use
- There is a risk of extinction of some livestock breeds like SHEKO breed in Ethiopia which is on the verge of extinction unless gene conservation efforts are taken up. AU-IBAR has a continental project which supports conservation of such breeds which is not by choice looking at the harsh climatic conditions and variations especially in the ASALs
- Inbreeding has been avoided in big farms and ranches or groups of farmers because of ensuring that males do not mate outside the farms where they are kept. The farms are also kept far apart to avoid accidental mating that can contribute to inbreeding
- Community based breeding programme in Uganda contributed greatly to improved breeding whereby Mubende goats weighed 78 kg in addition to increased milk yield. Sustainability of this intervention at the end of the project will be by integrating it into MAAIF programmes
- The export of boran cattle and embryos from Kenya to S. Africa is purely on commercial purpose, hence no restriction to ownership right. However, Kenya Boran Breeders association works closely with S. Africa breeders association even though there is no extra financial benefit
- It is good to quantify the success rates from artificial insemination in terms of conception rates, increased milk yield, weight gain among others to serve as a tool for advocating for more funds allocation from national governments. KAGRC recorded 60-65% conception rates when AI was government subsidized. Data collection now to measure the success rates is a challenge because of cost. However, the increasing demand for semen across Kenya is an indicator of success since keeping bulls is an expensive venture
- Promote public private partnership in the operation of the national animal genetic resource and breeding centers for efficient management and quick uptake of technology the way it is done in Kenya and Uganda by their genetic resource centers. NAGRC generated fund is

surrendered to the national treasury. The government subsequently makes allocation based on budget request that may take years whereas KAGRC utilizes all collected funds at source. The Kenya government only allocates some cash for development like establishing a new breeding center but not for daily operations

Day 2

Plenary discussion

- There are plans to upscale CBBPs from 40 to other regions with the support of Ethiopia government, World Bank and other development partners
- Little has been done when it comes to publicity, advocacy and sensitization of the farmers and policy makers as regards benefits of CBBPs except in areas of intervention. However, training of technical staff at degree, masters, PhD and capacity development of farmers has been an integral part of project implementation.
- Prevention of sexually transmitted diseases in communally used breeding male stocks have been through screening of breeding stock against reproductive diseases. Moreover, the bucks and rams are only allowed to serve the selected communal flock but not outside the designated farms
- Kenya once had CBBPs in form of dairy farmers associations such as Meru dairy goat association of Kenya with support of farm Africa. There are popular shows for publicity of improved breeding in Kenya. The ones initiated in ASALs have not taken off well.

Day 3

Participants visited Kaliti Animal Genetics improvement institute (NAGII) located on the outskirts of Addis Ababa that processes semen from Holstein Friesians, Jerseys and local breeds for insemination to improve the national herd. They practice village synchronization of herds then serve them at one time to accelerate acquisition of high grade animals. This also saves on insemination cost and maintenance of liquid nitrogen that is a major setback to storing quality semen

Calving rate is less than 50% from artificially inseminated livestock due to poor maintenance of liquid nitrogen and poor semen delivery to cows by inadequately trained AI technicians. Also some calvings are not recorded. However, AI service providers are paid based on calving rates to serve as a motivation to report back and carry out the work professionally.

Animal genetic resource centers should incorporate into their programmes training of technical staff to ensure transfer of new technologies to national staff by the companies supplying modern equipment. This can be imbedded into the procurement process which should take care of training local staff for three years to ensure technology transfer to a critical mass of personnel who will service the equipment instead of relying on seeking for western companies for maintenance of the equipment. Through the PPP programme for AI service delivery, ILRI included contracting of external experts to train 4-5 local staff to ensure technology transfer efficiently.

Follow up

The breeding and animal improvement participants should create a network by starting a gmail group through which issues can be articulated and ideas shared

Member states to consider strategies of mobilizing resources at national levels through advocacy for increased budget allocation and seek development partners to fund some activities. They should also liaise with international organizations like ILRI, ICARDA and IGAD for resource mobilization by developing salable concept notes that have factual data.

Recommendations

1. Sudan, Uganda, Djibouti, Somalia and South Sudan should consider domestication of global plan of action on AnGR as a national priority while Ethiopia and Kenya should endeavor to apply their national plan of actions to enhance conservation, sustainable utilization, access to the genetic resources and sharing of benefits- Sudan and Uganda to achieve by January, 2019;
2. Member states (MS) should adopt and promote the developed regional IGAD model policy and legal framework for Conservation, Sustainable Utilization and Access and Benefit Sharing of Farm Animal Genetic Resources;
3. MS (Ethiopia, Sudan, Djibouti that have not privatized breeding services and Uganda where it is semi-autonomous should consider public private partnership engagement to attract more investment to enhance technology uptake;
4. MS should strengthen education programmes (masters and PhDs) and enhance capacity building (competency/ skill based) by embedding them in development programmes to promote technology transfer;
5. MS should enhance extension services and capacity building at technical and community levels focusing on breeding;
6. MS should develop/update /implement/enforce relevant strategies, policies and legislations that promote sustainable breeding programmes;
7. MS should use national animal genetic resource centers for conservation of AnGR as they utilize;
8. Besides promoting animal breeding and genetic improvement, MS should offer complementary services such as disease prevention and control, feed security, animal welfare and market linkages for breeding animals;
9. MS should strengthen and support systems for certification of improved breeding stock by authorized bodies to ensure quality control;
10. MS should utilize emerging genomic technologies, GIS and ICT for disease surveillance and management against risks extreme weather conditions (e.g. Index Based Livestock Insurance developed by ILRI);
11. MS should be ready to utilize platforms/proof of concepts for ground-breaking reproductive, ICT, genomic technologies and catalyzing their innovative applications (e.g. for *conservation, gene editing, breed improvement, genomic selection for breed improvement for improved productivity and resilience etc;*) being developed by ILRI and other research institutions;

12. MS should mobilize resources at national levels through increased advocacy and at international levels together with ILRI, ICARDA and IGAD through development of data based concept notes;
13. IGAD/ ICPALD in collaboration with other relevant institutions like ILRI / ICARDA should support MS to implement breeding/conservation programs at regional levels given the fact that Access and Benefit Sharing (ABS) frameworks exist to guide sustained implementation & benefit-sharing;
14. IGAD/ ICPALD should continue supporting MS with special attention to communities to have experience sharing of successful breeding programmes from other regions of the world.

Appendix 1: List of participants

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11	Dr. Hemid jemal	Ethiopia	SNNP regions	
12	Dr. Esayas Tesema	Ethiopia	Head of the Kaliti center	
13	Mr. Mehertu Fufa	Ethiopia	Adamitulu research center	
14	Dr. Godana Haro	Ethiopia	Dida Tiyura center	
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32	Mequanent Wondie	Kenya	ICPALD	