



in association with



MINISTRY OF
FOOD & AGRICULTURE
REPUBLIC OF GHANA



will hold the

**7th ALL AFRICA CONFERENCE
ON ANIMAL AGRICULTURE**
ACCRA INTERNATIONAL CONFERENCE CENTRE,
GHANA FROM OCTOBER 15TH TO 19TH, 2018.

Theme: **INNOVATIONS TO HARNESS THE POTENTIAL OF AFRICAN ANIMAL AGRICULTURE IN A GLOBALIZING WORLD.**

The Organizing Committee is glad to confirm the following sub-themes that will elicit high level discussions and stimulate debates on the future of Animal Agriculture in Africa.

Sub-theme 1: Opportunities and prospects for transforming ruminant livestock systems in Africa

The dairy sector currently offers employment and business opportunities for millions in developing countries, for small scale women and men producers as well as those operating at larger scale. The sector has great growth prospects in Africa, given the increasing demand for milk and dairy products thanks to the growing human population, income and urbanisation patterns. However, the sector faces several challenges. These include lack of coordination between value chain actors, insufficient access to timely and relevant technical information, inputs and services, weak institutions and limited private-public sector linkages/partnerships. Coupled with a lack of capacity and innovation, and a certain reluctance from the youths to engage in this value chain, these challenges threaten the sustainability of the local and national dairy sector, economically, socially as well as in terms of environmental sustainability. On the other hand, through innovative application of existing and emerging biological and information technologies as well as smart adaption of mechanization and sound adaption of

green energy and automated options, and buoyed by growing national and regional demands, significant investment opportunities already exists, to enable its transformation and transition to more competitive, equitable and greener systems.

This sub-theme aims to generate interests and ideas; focus discussions around opportunities, challenges and prospects for small and medium scale dairy systems in Africa with special focus on the following three broad areas: i) new technologies, ii) institutional arrangements for sustainable systems, at various scales of operation, and iii) innovative financing/capitalizing systems to initiate and grow these systems beyond subsistence. In discussing each of the three broad areas, related youth and gender issues and aspects would be fully integrated. The issues pertinent to the three broad areas would be delivered/discussed through: a) carefully chosen invited papers. b) contributed papers and c) facilitated panel discussions and debates.

Sub-theme 2: Opportunities and prospects for transforming poultry and pig systems in Africa

Smallholder poultry supply 70–90% of poultry products in Africa (Alabi et al., 2006; Branckaert and Guèye, 2000; Kitalyi, 1998; Mack et al., 2005). Notably, women and children are mainly responsible for the management of these birds and the marketing of the products, and mostly benefits accruing from this activity remain with the women. Poultry therefore offer one of the easiest and most rapid ways of improving the nutritional and financial state of the resource-poor farmers. Major constraints to improving small-scale poultry production include high early life mortality, undeveloped genetics, and policy constraints restricting the availability of inputs, supplies and markets.

The consumption of monogastric foods (pork and poultry meat and eggs) in Africa will increase at least four-fold depending on the sub-region (Herrero *et al.* 2014). Growth response of poultry production in Africa is limited and often not associated with improvements in productivity. Global trends indicate small-scale units are likely to become less competitive and a shift to larger-scale commercial production will likely result over time. Given millions of farmers in Africa make their living on poultry production, careful planning should be made ahead of time to minimize shock from drastic changes in production system and distribute benefits to wider farming population. There are still opportunities to increase the efficiency of the small-scale poultry production in Africa and transform it sustainably alongside the commercial sector. Some of these include increasing domestic and regional demand for poultry products; advantages of shorter generation cycle with poultry to test different genetic models and to speed up gains; availability of genomic and novel reproductive techniques to improve productivity and disease resistance.

Development of the small scale poultry are also in line with national strategies, such as the Ethiopian Livestock Master Plan (Shapiro *et al.*, 2015); regional priorities as in the decision-made by the African Union Inter African Bureau for Animal Resources (AU-IBAR), in particular within the scope of its *Strategic Priority 2: Strengthening the capacity of African countries in the conservation and use of African animal genetic resources*; the recommendations of the second Global Conference on Agricultural Research for Development requesting to reshape agricultural research to meet the needs of resource-poor smallholder farmers; CGIAR research program (2017-2022). Future poultry research and development initiatives in Africa include among others development of a long term and sustainable genetic gains program, using farmer preferred strains (chickens), establishment of multiplier chicken flocks as a sustainable

source of germplasm for small scale and commercial producers, models to deliver better inputs and services, and linking of small-scale producers including women to formal markets, such as through contract production to deliver quality products.

This sub-theme aims to stimulate discussion and generate research and development ideas on major challenges, opportunities and prospects for small scale and commercial poultry in Africa with emphasis on: i) novel technologies; ii) creating synergy between commercial and small scale poultry to meet growing demand for poultry products and improve livelihood of communities; and iii) providing conducive policy environment to nurture private sector contributing meaningfully to the growth of African economy. The issues pertinent to the three broad areas would be delivered/discussed through: a) carefully chosen invited papers. b) Contributed papers and c) facilitated panel discussions and debates.

Sub-theme 3: Working animals – the animal welfare and human livelihood dimensions.

Smallholders in Africa depend on a wide variety of livestock functions to ensure a range of sustainable livelihoods outcomes. Most obviously these relate to resource-based aspects of livelihoods such as food security and nutrition through the production and marketing of animal source foods. Equally important are the other livelihood strategies and uses of livestock which tend to go unrecognised in assessments of the importance of the role of livestock in rural and therefore national economies. These include the use of animals in facilitating functions such as draught power used in traction and transport of goods and people for production and marketing. For instance, draught power increases agricultural productivity in processes such as ploughing, sowing and tillage. Animals such as oxen, donkeys, mules, horses and camels are commonly used to transport farm workers, agricultural produce to and from markets, fodder for other livestock, water, food and fuel for the homestead. In addition, these animals provide an essential supplement to household livelihoods as a saleable service to others through hiring out, transport services and the like. Working livestock is thus a key livelihood asset supporting natural, physical, human, financial and social capital through food production, income generation, access to food and markets for the men and women farmers who produce the bulk of the food consumed on the African continent. Without these unrecognised livestock functions, smallholder food production would in many cases be impossible and many smallholder value chains would be severely affected.

Due to the strong link between livestock keeping and food security and nutrition in the smallholder sector, animal health and welfare are important considerations in ensuring the resilience of smallholder livelihoods strategies. Multi-stakeholder action is needed to improve smallholder access to animal health and extension services, to improve husbandry skills and work to improve access to markets.

This session will provide an opportunity to explore the multiple social and economic contributions of working livestock in the smallholder sector and to understand ways of utilising existing policy instruments for the benefit of farmers and their indispensable livestock assets. With these considerations in mind, solutions will be sought to protect smallholder livestock keepers in the face of the global challenges of the day (climate change, trans-boundary disease, access to veterinary medicines, AMR), as well as emerging crises endangering livelihoods in Africa (the donkey hide trade).

Sub-theme 4: Delivery of animal inputs and advisory services in Africa – the last mile challenge

Livestock is a key part of farming in developing countries and is crucial to the livelihoods of millions of people in Africa. Well over 70% of the rural poor in Africa depend on livestock for their livelihoods. Access to quality livestock inputs and services for these communities is challenging: the public sector's role has increasingly moved from service delivery to policy and regulatory functions while the conditions for private sector investment in delivery of livestock inputs and services to rural small holder farmers is generally sub-optimal – typically, the low economies of scale do not provide sufficient incentives for mainstream private sector to play a major role in delivery of livestock inputs and services to rural areas.

There are many challenges in last mile delivery of livestock inputs and services to rural small holder farmers. These include physical logistics – remote areas often have poor roads and infrastructure, unreliable transport, poor water supply and security issues. Where electricity is available, there are frequent power crises characterised by outages, irregular supply, and surging costs which presents cold chain issues for products that require refrigeration. Rural small holder farmers often have limited access to financial resources to purchase quality livestock inputs. In addition, there is a chronic shortage of suitably qualified people to deliver livestock inputs and provide advisory services at the last mile. Poor regulation, and a host of other factors, result in lack of sustainable supply of quality inputs to rural small holder farmers. There are promising examples of institutional and technical innovations to address these challenges. These include innovative institutional arrangements e.g. partnerships between the private sector and NGOs working in remote areas, use of ICT and mobile telephony to provide information and advisory services to rural small holder farmers, and application of technical advances to address cold chain challenges. Innovative last mile delivery models adapted to suit rural contexts are currently being piloted, rolled out and scaled up by private companies and social enterprises.

Using practical examples, this subtheme will explore how technical and institutional innovations are being applied to address last mile challenges in delivery of livestock inputs and services to rural small holder farmers. The session will seek to sharing learnings on how tried and tested innovations could be replicable and increase understanding of what needs to happen in order to take advantage of available and prospective innovative mechanisms. This will be achieved through invited speakers, contributed papers and facilitated panel discussions and debates.

Sub-theme 5: Climate change and animal agriculture – adaptation and mitigation opportunities and prospects in animal agriculture

The IPCC Fifth Assessment Report presents strong evidence that warming over land across Africa has increased over the last 50–100 years. Surface temperatures have already increased by 0.5–2°C over the past hundred years. Data from 1950 onwards suggests that climate change has changed the magnitude and frequency of some extreme weather events in the continent.

Africa is a rapidly developing region; the continent's population of roughly 1.1 billion is expected to double by 2050, with per capita consumption of food, as measured in kilocalories,

more than doubling. No part of the planet is urbanizing faster than sub-Saharan Africa. The share of Africans living in urban areas is projected to grow from 36 percent in 2010 to 50 percent by 2030. At present, six of the ten fastest growing economies in the world are in Africa. The ongoing and anticipated development of the African continent will go hand in hand with transformative changes in its agriculture. The agricultural sector will transform not only to meet a spectacular increase in the demand for food, but also to satisfy the changing food preferences of an increasingly affluent and urbanized population.

It is critical to recognize that Africa's growth is fragile. Real economic transformation has yet to take root. Part of Africa's vulnerability lies in the fact that recent development gains have been in climate-sensitive sectors such as agriculture (crop and livestock). Economically, many Africans depend on primary sectors such as the livestock sector which are highly exposed to climate change. It is estimated that about 50% of the households in Africa are partly or fully dependent on livestock production for their livelihoods. The demographic and economic trends in Africa mean that climate impacts will be acute. For example, growing populations will increase the demand for resources (land, water, etc.) but climate change will put additional pressure on already scarce resources. With population expected to more than double between 2015 and 2050, consumption of livestock production will increase by 129% and livestock population by 162%. The combination of climatic and non-climatic drivers and stressors will likely exacerbate the vulnerability of Africa's livestock systems to climate change but also accentuate the sector's contribution to climate change.

Much of livestock sector's vulnerability to climate change lies in the fact that the sector remain largely rain-fed, with few technological inputs, as the majority of livestock keepers work on a small-scale or subsistence level and have few financial resources, limited access to infrastructure, and information. Persistent poverty and socioeconomic inequality, limited economic capacity as governance challenges as well as social norms that are unfavorable to women and youth have further contributed to the limited capacity to adapt to climate change. New risks from climate change are expected to have major negative impacts on the sector and feedback into development, thereby undermining any progress that has been made to deal with food insecurity and poverty.

The objectives of raising millions out of poverty while adapting to the unavoidable impacts of climate change, mitigating greenhouse gas emissions and using resources in such a way as to provide for a much larger future population— are challenging indeed.

This sub-theme will provide a platform for researchers, practitioners and other stakeholders to present and discuss sector trends and concerns, the most recent knowledge and innovations in climate change research as well as practical solutions in addressing the climate change challenges faced by the livestock sector including women and youth actors. Of particular interest are original investigations of **climate science, mitigation, and adaptation in the region, as well as integration of science, policy, and action for broad-based, sustainable development of the livestock sector.**

Sub-theme 6: Capacity development and partnerships for innovations in animal agriculture

The capacity gaps across the entire value chain of animal agriculture in sub-Saharan Africa continue to represent major barriers to a true and sustained agricultural transformation. Over

the years, significant efforts and resources have been dedicated to closing these capacity gaps. Successful capacity building and partnerships initiatives have been limited; and in the best-case scenarios, rather modest impacts have been reported on individuals (researchers, entrepreneurs, farmers, and other targeted beneficiaries) and a handful of institutions and sectors.

For the past decade, innovative partnerships underpinned by embedded capacity building programs in strong research and development initiatives involving farmers organizations and other private sector entities in business development and commercialization have demonstrated some gains, especially in crop agriculture. Recent innovative approaches to capacity building incorporating non-traditional institutional arrangements and partnerships involving national governments (i.e. Ethiopia, Malawi, Tanzania, Ghana), regional bodies (ASARECA, CORAF, CCARDESA, RUFORUM) and continental programs/initiatives (BecA, AWARD, ACBF, AATF, FARA, AGRA, AfDB, and others) have demonstrated promising pathways to impact.

To underpin its central theme on “***Innovations to secure the future of animal agriculture in Africa in a globalizing world***”, the capacity building and partnerships sub-theme of this conference will focus on the following key objectives:

- *Redefine the key elements of a broader and customized (to sectors, commodities, countries and regions) capacity building and partnerships development structures poised to support the required transformation in animal agriculture*
- *Report on case-studies and experiences highlighting key learnings and opportunities for scale up/out for regional/continental impact*
- *Identify priority areas supported/justified by strong value propositions to attract investments and /or funding*

Sub-theme 7: Data platforms for decision-making in animal agriculture.

Recent developments and initiatives in animal performance recording and availability and use of different technologies in both animal monitoring and field studies provide opportunities to develop data platforms that are vital for implementation of organised, novel livestock development programs, covering the whole scope of livestock production - including animal health, animal nutrition, animal breeding, livestock trade and traceability of animals and products - to serve different livestock value chains. Advances in statistical methodologies and approaches give new meaning and open many possibilities to automation in data capture procedures, feed-back systems, evidence-based decision support, and on-farm data utilisation in both large scale and smallholder production systems.

This sub-theme aims to raise and discuss opportunities and challenges in collating, analysing and curating existing data, and designing infrastructure for new data systems and platforms. Apart from the technical and developmental aspects of data platforms, the sub-theme will also welcome papers from original research on the feasibility and acceptability of different data pipelines for better understanding of the social and technical interventions in different animal production systems. Research and review papers on the possibilities brought about by including large data platforms to facilitate new approaches such as Farmer Research and Innovation Networks are also welcome.