

# East Africa Digital Farmers Conference & Exhibition

*25th - 27th April 2018*

*Concept note*



East Africa Digital  
Farmers Conference  
& Exhibition

The media for the agriculture industry

smart**Farmer**  
Africa



## Concept note

### Enabling agribusiness and food security through ICT

The world is faced with a challenge of developing concrete solutions to feed a projected nine billion people by the year 2050. This according to FAO, will require a 70% increase in food production. The World Bank has additionally noted that besides increasing productivity, such efforts require to be augmented by ensuring minimal food losses and efficient supply chain management efforts in order to contribute to the glimmering population predictions. ICT in agriculture is expected to play a major role in agricultural development in the developing world as many ICT solutions have proven affordable to small holder and resource poor farmers that make up about 80% of the farming community in the region.

Borrowing from the World banks definition of ICT that incorporates any device, tool or application that permits the exchange or collection of data through interaction or transmission, their increased affordability and accessibility have subsequently played a key role in boosting the role of the small holder farmer in agricultural productivity. On the other hand, e-agriculture focuses on the enhancement of agricultural and rural development through improved ICT processes. It involves conceptualization, design, development, evaluation and application of innovative ways to use information and communication technologies (ICT) in the rural domain, with a primary focus on agriculture.

This includes tools and devices, networks, mobiles, services and applications that range from innovative internet era technologies and sensors to fixed telephones, televisions, radios and satellites. E -agriculture is one of the action lines identified in the Declaration and Plan of Action of the World Summit on the Information Society (WSIS), as a key driver in ensuring systematic use of ICT in agriculture in order to provide access to a comprehensive, up to date and detailed information, particularly in rural areas (<http://www.itu.int/net/wsis/index.html>, 2017). In as much as e-agriculture has gained momentum over the years globally, its role in progressing agriculture in the African continent has become elaborate in the last two decades. The small holder farming systems are still disadvantaged by inadequate infrastructure, low capacity to innovate, adverse effects of climate change, plant pests and diseases, poor seed, informal marketing structures and poor market access, weak multisector linkages, weak policy, failing extension services, and lack of timely dissemination avenues for agricultural information, among others.

ICT's role is therefore necessary in addressing many of these concerns by enabling, enhancing and facilitating solutions, thereby leapfrogging agricultural outcomes that would have otherwise taken a much longer period to achieve. Several examples in the region continue to demonstrate its benefits in boosting agricultural production, enhancing information dissemination, providing marketing channels, optimizing resource and input, and in timely decision making to avoid losses.





## The conference aims at achieving the following objectives:

- Highlight gains in the ICT sector that are fostering growth in agribusiness and food security in the East Africa Region
- Identify opportunities for sustaining gains and furthering geographical and technological scope in ICT for agricultural development
- Bring together stakeholders in e-agriculture to augment efforts and avoid duplication for better utilization of resources.
- Recommend actionable points for follow up with various stakeholders and identify their roles for better cohesion in the sector
- Develop a sustained approach that will guide future similar events.

The regional conference seeks to bring together end users, service providers, disseminators, regulators, policy formulators, and technology developers of ICT solutions in the agricultural sector for the region. To optimize gains from the three day conference

## The event addresses the following:

- Enhancing crop and livestock production through optimizing inputs, plant pest and disease management, post-harvest loss management, value addition, improving nutrition and health outcomes resulting from agricultural interventions, and reduced time in decision making through rapid information access. The theme will focus on platforms and services, technologies and applications aimed at improving productivity, such as ICT technologies and services that boost climate smart agriculture, GPS, GIS, disease forecasting for plant disease management especially those with potential for causing epidemics; use of drones in crop management, precision agriculture, use of mobile apps for the giving information dissemination on agricultural input, and crop management solutions. ICT application in value addition processes and enhancing nutrition -bio fortification and fortification- will be addressed.
- Market linkage -a constant bottleneck to the realization of agriculture as a profitable commercial enterprise particularly for small holder farmers is the lack of market access and intelligence. Majority of the initiatives addressing concerns in the agricultural value chain have largely focused on increasing productivity with little focus on improving market access and building requisite entrepreneurial skills for the farmer. A large proportion of small holder farmers and cottage industries continue to miss opportunities from lucrative markets. For example, mango growers in Tana River county of Kenya are largely forced to trade through middlemen who provide low prices for the mangoes. Many maize farmers in the country's grain basket region are usually left stranded with no market options when the National Cereals and Produce Board (NCPB) cannot take in their maize. Through this theme, the conference shall highlight gaps and opportunities to strengthen market access and demonstrate the role of various players in boosting market linkages. The role of e-financing and application of ICT in facilitating financial transactions where they were initially not accessible will be demonstrated. Such services facilitate access to farming advice, marketing, and even financing and insurance options. The mobile telephone for example has worked as a financial operative tool and has helped both large and small scale enterprises to transact including in places where financial institutions such as banks had no reach.
- Improved awareness and information dissemination. The intricate nature of the farmer in the region requires effective ways to communicate and disseminate information. All countries in the region represent farmers who speak different languages, belong to a broad range of socio economic and cultural inclinations and engage in varying agricultural activities. Their geographical spread and literacy levels are vast, with majority inhabiting rural areas where infrastructure is not well developed or non-existent.

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- The theme, in addition to demonstrating gaps in effecting communication, will demonstrate how effective communication channels through correct use of media platforms have revolutionized agriculture and empowered custodians of agricultural enterprises.
  - Strengthened policy and regulation: a major impediment to agricultural development is weak policy and regulation and poor enforcement of existing laws and regulations. Plant protection organizations (PPOs) in the region have strengthened delivery through online platforms that ease application processes, inform on status of various crop diseases and provide updates on laws and regulations. Several other agricultural enterprises have resulted in similar approaches. Regional bodies and governments have also used on-line platforms to develop, update and disseminate policy. E-government platforms across various ministries have resulted in improved service delivery and monitoring and evaluation processes. The role of government in developing and implementing comprehensive and sustainable national e--strategies as well as the role of private sector in boosting such efforts will be discussed.
  - Research and development- Successful cases of ICT application in research include bioinformatics, application of programs for interpretation of gene sequencing data, use of GPS, GIS, disease forecasting, crop suitability assessment and modelling, data cubes, geospatial data, satellite imagery and remote sensing, agricultural science, technology and innovation (Agri-STI), exploratory analytics and database visualisation and agricultural weather modelling, and modelling. Open data access across research institutions has also made information sharing much easier. The success and challenges in adopting many of such technologies to boost agricultural research outcomes will be highlighted. The use of ICT to move agricultural innovations from the laboratories to end users will also be discussed.
  - Capacity development: A major challenge in adopting ICT technologies by end users is the low level of ICT literacy. In addition, infrastructural support to necessitate adequate training as well as use of ICT innovation is limited. Stakeholders will discuss gaps in ICT literacy, including gender barriers, policy requirements to address such gaps, the role of e-learning to fast track capacity building initiatives, and the role of PPS in fostering ICT literacy and application.
  - The gains notwithstanding, there is potential for optimizing ICT applications in agriculture, e.g., through improving ICT infrastructure, lowering costs and spreading geographical coverage in rural areas, enhancing ICT policy and developing them where they do not exist, capacity development to support solutions, and optimizing resources through strengthened partnerships and prioritization through public-private partnerships, among others. Breakthroughs in ICT technologies for advancing the agricultural sector usually spill over to other sectors, a scenario that has been observed many times over in countries that have taken advantage of ICT solutions, especially in Asia. In Africa, Kenya has made gains in mobile telephony and support for start-ups through ICT, while Rwanda has made tremendous gains in ICT policy support and implementation. Many of such gains need to be replicated in other parts of the region in order to realize substantial gains in agricultural development.
  - Topics selected under various themes will direct various oral and poster sessions. In addition, the conference will be augmented by exhibitions on ICT technologies that have been developed, including promising ones that are in progress. These will include those developed indigenously in the region as well as those developed elsewhere but for the benefit of improving agricultural outputs region. The conference is hosted by Smart Farmer in partnership with KALRO.

