

AFRICA



ADAPTATION NEWSLETTER

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HARNESSING ICT TO ENHANCE AN EBA-DRIVEN AGRO-VALUE ADDITION IN AFRICA

ICT is increasingly being used to cost-effectively bridge EBA-driven agriculture information gaps, especially market information. The Ecosystem Based Adaptation for Food Security Assembly policy action framework (EBAFOSA) is leveraging on EBA driven agriculture Enterprise Resource Planning (ERP) systems to establish EBA based agro-industrial zones powered by clean energy. Example, Edensys an end-to-end EBA driven agri-business management ERP is providing a one stop cloud of intervening services covering market information, certified clean energy vendors & input supplier information, real time technical advisory etc. "ICTisizing" EBA-driven agriculture from on farm production to expanding the entire value chain through harnessing renewable energy for processing packaging, transformation and linkages to market is a sure way to unleash socio-economic opportunities and build climate resilience for millions.

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Leveraging on ICT to Upscale an EBA Driven Agriculture Value Chains

The agricultural sector is the the largest economic sector in Africa, it provides livelihoods to 60 percent of the population while contributing 20-30 percent to Africa's GDP. It offers the best opportunity for economic growth and poverty alleviation on the continent. Food security is paramount for the survival of individuals, families, and ultimately nations, yet Africa's agriculture sector has been in decline over the past 40 years. African agriculture is predominantly rain-fed, has low-yielding production, and lacks access to critical information, market facilitation, and financial intermediation services.

The share of agriculture in GDP in many African countries is much smaller, often 30% or less indicating low productivity levels in the sector (AfDB, OECD, UNDP and UNECA, 2012). Despite the role played by agriculture in development in Africa, agricultural production and yields have lagged far behind those in developed countries over the past few decades. The poor sector performance, to a greater extent, has been attributed to the underutilization of improved agricultural technologies, which has remained relatively low in developing countries since the 1970s. It should also be noted that a critical force in transforming agriculture in countries such as China and Korea was the investment in transport and communications infrastructure especially

information and communication technologies (ICTs)

The role that ICT can play in addressing these challenges is increasing as personal ICT devices such as mobile phones or tablet are becoming more widely available. ICT, when embedded in broader stakeholder systems, can bring economic development and growth as it can help bridge critical knowledge gaps. Mobile technology, on the other hand, is increasingly being adopted as the technology of choice for delivery of ICT services and solutions. The wider adoption of ICT in agriculture is of strategic importance to five main stakeholder groups: businesses; farmers; researchers; government; and citizens. In identifying the ways in which ICT can help agriculture, it is useful to view the farming life cycle as a three-stage process: pre-cultivation; crop cultivation and harvesting; and crop cultivation and harvesting.

While farmers and their machinery are still key for the agricultural industry, technology is starting to play a more significant role in uplifting communities. This goes beyond basic computer training to using ICT to improve sustainability, efficiency and profitability of small scale farming. ICT can facilitate relationship building with trusted suppliers of seeds and pesticides; purchasing aggregation where multiple buyers can result in lower pricing; access to cultivation information and

best practices; and an overall reduction in labour costs and wastage.

Countries that embrace and invest in and adopt technologies that are suitable for their circumstances will be able to sustain growth and be competitive. The strategic application of ICTs to the agricultural sector, which is the largest economic sector in most African countries, offers the best opportunity for economic growth and poverty alleviation on the continent. To tackle these barriers effectively, more investment has to be allocated towards infrastructure and capacity building in the developing countries concerned. The development of the ICT sector through investments in the mobile sectors has to play a vital role.

Reaping the rewards as agriculture makes up a large proportion of Africa's GDP, boosting agricultural growth and sustainability is a priority – and ICTs have the potential to support agricultural development in poor countries by functioning as innovative solutions to agricultural challenges. Agriculture might be a relatively new area for the ICT sector to think about, but it is an important one. In fact, ICT is no longer a luxury, but rather tantamount to every farmer's profitability and existence.



THE IMPORTANT ROLE OF TECHNOLOGY IN RURAL FARMING

TECHNOLOGY IN AGRICULTURAL SECTOR IN RURAL AFRICA

Access to technology plays a vital role within the agricultural sector in Africa, and the use of information and communication technologies (ICT) on rural farms is no longer an exception. Within the last decade, the number of mobile subscribers in sub-Saharan Africa has steadily increased, transforming the way farmers are cultivating their fields and selling their products.

Even though the overall mobile penetration in the region is still low at 38%, compared to those in other regions in the world such as Latin America (52.6%) and Europe (79.3%), there is no other region that has seen such a tremendous increase in new subscribers over the past few years. When taking a closer look at country level, one can identify markets with exceptional mobile penetration rates that equal with those of developed countries.

A recently published [report](#) by the Pew Research Center shows that there are almost as many mobile phones in Ghana or Kenya as there are in the United States of America. Accordingly, Sub-Saharan Africa is emerging as one of the fastest growing markets for mobile applications in the world. The PEW Research Center predicts that by 2020 the mobile penetration in sub-Saharan Africa shall reach 50%, putting over 500 million people online. As a result, more farmers will have access to a vast amount of helpful mobile applications connecting subscribers in a virtual space and share information such as market prices, food production, and best practices, simply and effectively.

ICTs are essential for farmers and their food production

As agriculture remains the backbone of the vast majority of economies in the region and the livelihood of the rural population (accounting for up to two thirds of Sub-Saharan Africa's total population). Therefore, sufficient and continuous investment is needed to empower rural farmers and provide them with reliable infrastructure such as proper network coverage, in order to get them connected.

What can be done?

Innovators, NGOs, technology providers, governments, donors and the private sector all have a role to play in creating and maintaining a supportive and integrated ecosystem around sensor applications for agriculture.

Technology providers and agricultural organizations can:

- Commit to breaking down silos between different actors and types of organizations through collaboration and shared learning
- Adhere to the Principles for Digital Development, ensuring that technologies are designed with the user in mind, privacy and security issues are respected, and data is open, accessible and shareable
- Keep in mind the diversity of needs and variety of stakeholders when applying sensor-enabled solutions in developing countries

Academics can:

- Conduct and support applied research on agricultural applications of sensors to build up a shared evidence base
- Ensure that learnings are shared with both technology providers and agricultural organizations

Funders/Donors can:

- Invest in developing and strengthening a network of actors through in-person and virtual means
- Promote collaboration through partnership-focused procurements, convening events, exchanges, etc.
- Share (and provide opportunities for others to share) information about innovations, funding and resources — for example, through the Global Innovation Exchange and AgTechXChange

Summary

ICTs help extension workers and researchers to adopt improved agricultural practices and disseminate them to farmers. They provide agricultural information that is relevant to farmers such as agricultural techniques, commodity prices, and weather forecasts to farmers. The utilization of ICTs, especially mobile technologies, helps agricultural producers, who are often unaware of commodity prices in adjacent markets and rely on information from traders in determining when, where, or for how much to sell their produce, to have relevant and timely information to this regard.

THE ROLE OF ICTS IN AGRICULTURE DEVELOPMENT IN AFRICA



It is clear that ICTs have brought to the fore, new ways of doing things. There is realization that ICTs should be integrated to be effectively used in agriculture development as facilitating tools to boost its impact to the lives of farmers. Information and Communication Technologies (ICTs) have shown evidence for easier access to markets and information resources. The role of ICTs to stimulate agriculture, enhance food security and support rural livelihoods is increasingly recognized and was officially endorsed at the World Summit on the Information Society (WSIS) 2003-2005.

Evidence of the contribution of ICT to agricultural development and poverty alleviation is becoming increasingly available. In the past two decades, a number of international agencies and its partners have been involved in projects and policy support programmes and consistently monitor the progress and impact of the use of ICTs in agriculture. Due to opportunities and unique services community telecentres and local multimedia centres do provide to the rural communities in Africa, the role of these local entities should be embraced in order to achieve much talked about universal access and stimulate regional economic development. Telecentres provide facilitating roles to agriculture development such as market information access, issues of climate change, and centres for knowledge and information exchange. They also provide a huge potential for knowledge centres and e- governance services as well as avenues for ICT awareness and literacy for the local communities.[Read More](#)

ICT : Changing the Face of Farming in Africa



Since the coming of the era of information & technology, ICT has played a great role in our society. The information Communication technology revolution has brought huge implication in both social and economic development in our world

The mere mention of agriculture conjures, for many, outmoded images of a backbreaking industry. It's an image that holds true in some places where few farmers utilize contemporary farming technologies and techniques.

But ICTs play an increasingly important role in agricultural value chains. Though important, cellphones aren't the only ICT being used to improve agriculture. ICTs encompass radios, digital cameras, geographic information systems (GIS), cloud computing, tracking mechanisms, etc.

However, the rural people still lack basic communication infrastructure in accessing crucial information in order to make timely decisions. The application of ICT in agriculture generates possibilities to solve problems of rural people and also to promote the agricultural production by providing scientific information timely

and directly to farmers.

Five ways in which ICT can help tackle key challenges in agricultural value chain development are:

1. Pricing and weather information systems
2. Applications (apps) to help buyers manage transactions with the thousands of small-scale farmers who supply to them
3. Mobile banking and apps that facilitate quick payments
4. Initiatives to expand the reach of farm extension services through phone, radio, video and sometimes all three
5. SMS or text messaging campaigns for enabling environment advocacy.

The increasingly important role of ICTs in agriculture can help change the face of the sector (from outmoded to cutting edge). In fact, it should form part of the larger thrust to attract more young people to the sector. ICTs offer employment opportunities in the sector that are both attractive to young people and are in demand.....[Read more](#)

Mastercard built a mobile marketplace for farmers in East Africa

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MFarm empowers Kenya's farmers with price transparency and market access

For many low-volume Kenyan farmers, the only source of information about the market rate for crops comes from the very people who are trying to buy them. The lack of pricing transparency means that farmers don't always get the best deal. MFarm seeks to solve this by providing up-to-date market prices via an app or SMS, direct to farmers. It also connects farmers with buyers directly, cutting out the middlemen.

How it Works?

MFarm realised that the root problem was not price transparency but the fact that farmers are producing in low volume and that many buyers in big cities don't want the hassle of getting the volume they need from multiple different farmers. This led MFarm into offering a group selling tool, which gets farmers to team up to bring produce to certain drop off points. They then send an SMS to the system promoting what they have to sell. „All of these farmers who are too small to market to a big buyer become visible because they have more product,“ Abass says.

In addition to pricing information and group selling, MFarm has also developed a group buying tool, allowing farmers to pool resources to negotiate better prices for things like fertiliser.

Transactions are all handled by MFarm's integrated mobile money transfer system -- drawing on mobile payment technology MPesa -- but can also be plugged into people's bank accounts (if they have one). When an order is placed through MFarm, the farmer takes his or her produce to the designated collection point and sends a message to confirm the produce has been delivered. The buyer then collects the produce and verifies the quantity and quality by sending a message to MFarm.....[Read More](#)



PROJECT OVERVIEW

More than two billion people across the world continue to stay unbanked. One of the biggest reasons for that exclusion is accessibility. In developing countries in particular, low-income groups tend to get left out of the fold because they don't have access to basic banking services. But now, as simple services like mobile banking have proven to help people transition out of poverty in Africa, organizations are starting to focus on the financial inclusion of vulnerable communities. 2Kuze, a mobile payment solution from Mastercard Labs, is one such initiative that is built for farmers in Kenya.

2Kuze, which translates to „let's grow together“ in Swahili, is a digital platform that connects farmers with agents and buyers for cashless transactions. When a buyer enters an online inquiry, the system generates a text message that taps into the farmer community. A farmer can choose to respond with an offer to provide that produce entirely or pitch in with what's available at the time. An agent, who works with Mastercard Labs, then goes in to verify that offer and to negotiate the price with the farmer

Target

Traditionally, farmers have had to walk for miles to buy and sell or make and receive pay-

ments. But with 2Kuze, which is currently being used by about 2,000 Kenyan farmers, they're instantly connected with all the critical points of the marketplace..

Purpose of 2KUZE?

2Kuze is built for small-scale farmers who have less than one to two acres of farmland. It's a community that comprises 80 percent of the farmers in Africa.

Bringing low-income groups into the fold of digital financial services has gained significance in recent years. Improving their connectivity with the larger economic landscape helps them manage their finances in a powerful way that has only been made possible by a mobile revolution. Services like phone banking allow safer and less-tedious transactions. It enables people to track their transactions and also encourages savings, especially among women in developing countries. While there isn't a dearth of ideas, the lack of infrastructure often tends to get in the way of executing those solutions.

Aims of 2KUZE?

So the 2Kuze platform builds on top of the existing mobile framework to make financial services more accessible to low-income farmers.[Read more](#)

PRACTICALIZING & MODELLING AFRICA LEDS WORK IN ZAMBIA



The unanimous adoption of the COP21 Paris Agreement and the Agenda 2030 set the high-level global low emissions, climate resilient policy positions. Which provide a strategic framework to facilitate investments, partnerships and related actions by countries for concrete realization of LEDS development. Simultaneously combating climate change and unlocking socio-economic opportunities. Within this framework, Article 3 of the Paris Agreement provides for the Nationally Determined Contributions (NDCs). NDCs are developed within the wider LEDS development in countries. And delegate to countries, the responsibility of specifying the climate actions they will prioritize within the context of their socio-economic development priorities.

The Africa LEDS project

This project seeks to support countries establish strong analytical frameworks to facilitate long-term LEDS policy decision making consistent with their respective climate objectives and socio-economic development priorities as stipulated in their NDCs, development visions and LEDS plans. In response to Zambia's priorities, this project will establish the modelling & analytical framework to guide policy decision making & implementation in Zambia's priority areas. Simultaneously ensuring climate objectives are achieved alongside socio-economic priorities. Zambia's NDCs are packaged within the context of the country's Revised Sixth National Development Plan and Vision 2030... [Read More](#)

RESHAPING AFRICA'S FOOD SECURITY : GHANA EBAFOSA NATIONAL BRANCH LAUNCH



The 6th Special Session of the Africa Ministerial Conference on the Environment (AMCEN) supported the establishment of the Africa Ecosystem Based Adaptation for Food Security Assembly (EBAFOSA), its' Constitution and the outcomes of the process leading to the establishment of the Assembly, as the inclusive pan-African policy framework and implementation platform that brings together key stakeholders and actors along the entire ecosystem-based adaptation-driven agriculture value-chain

With this highest policy recognition by AMCEN countries have a big opportunity to build on the call for these partnerships to implement their National Determined Contributions (NDCs) and pave a climate resilient development pathway in order to realize 2030 Agenda for the SDGs and Africa Union Agenda 2063

Article 7 of the EBAFOSA constitution establishes the structure of EBAFOSA and Country branches are the critical component where impactful activities are undertaken in a country led process. Country branches register local, continental and global actors within the country and facilitate their interactions and mutual partnership to bridge gaps in policy processes, techniques, technology, markets, commercialization, and finance all this done to achieve inclusive and optimal implementation.

It is against this backdrop that the Ghana National Branch hosted by the Environmental Protection Agency (EPA), was launched on 3rd March 2017, under the theme "Re-shaping Ghana's food security and climate resilience through EBAFOSA". The launch event under the leadership of the EBAFOSA Ghana officials, attracted over 200 stakeholders representing multiple sectors from government, academia, NGOs, CSOs, individual professionals & citizens, farmers, resident UN agencies with media coverage to enhance awareness across the country.

Ghana stakeholders shared one profound message on EBAFOSA. That is EBAFOSA provides Ghana stakeholders an opportunity to complement their respective strengths & implement known solutions & innovations towards actualizing Ghana's food security & agro-industrialization potential. While simultaneously combating climate change and delivering the SDGs.

Given the urgent need to create jobs for the youth in Ghana, the Minister of Food & Agriculture, noting the central role agriculture has to play to create these jobs, said that thanks to EBAFOSA, he envisions Ghana's youth fully engaging their skills, talents and energies towards building Ghana's agro-industries of the future and creating income opportunities and combating poverty and climate change....[Read more](#)

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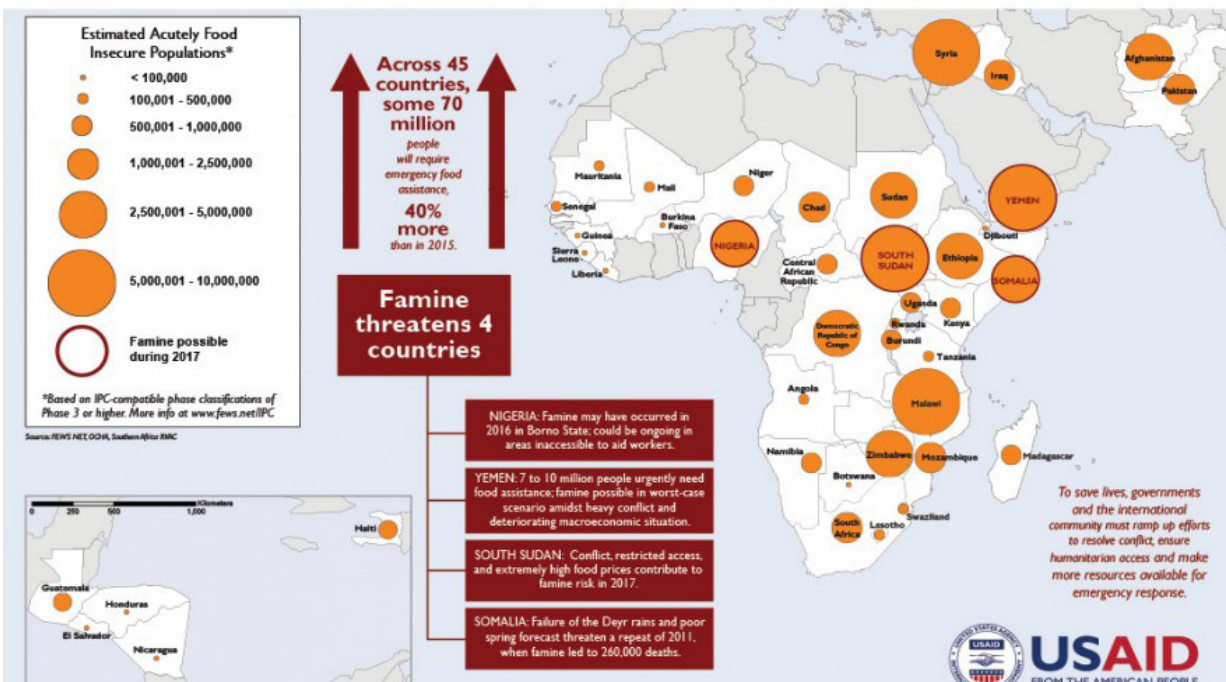
EVENTS

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APRIL	03 NEW YORK, US	09 BANGKOK, THAILAND	09 KIGALI, RWANDA	10 HILTON, MAURITIUS	
	Launch of Progress towards Sustainable Energy	Sustainable Management of Refrigeration Tech	Kigali Ammendment to Montreal Protocol	Inception Meeting for For WIOSAP Project	
	MAY	01 BONN, GERMANY	08 BONN, GERMANY	08 BONN, GERMANY	11 BONN, GERMANY
		94 th Meeting of the CDM Executive Committee	Climate change Conference	Paris Agreement Round Table Discussions	Paris Committee on Capacity Building
JUNE	05 BONN, GERMANY	05 ALL OVER, GLOBAL	14 INCHEON, SOUTH KOREA		
	78 th Meeting of the Accreditation Panel	World Environment day	New Cities Summit		

CLIMATE WARNINGS

Food Assistance Needs in 2017 are Unprecedented



PUBLICATIONS

- Empowerment of Farmers through ICT
- Information and Communication Technology for Sustainable Agriculture
- The Role of ICTs in Agricultural Production in Africa
- Moving Towards a Green Productive Agriculture for Africa
- ICT To Enhance Farm Extension Services in Africa
- Climate change adaptation and Mitigation in the Tourism Sector
- Africa's Climate Opportunity: Adapting and Thriving
- Testing the Use of Mobile Technology To Improve Smallholder Sesame Cultivation
- The Importance of ICT in the Provision of Information for Improving Agricultural Productivity in the Rural Africa

RECENT RESEARCH

- Ethiopia: ICT development Towards Trade
- How to make ICT work for Agriculture in Africa_
- Climate finance in Africa
- Does Investments in ICT impact Trade in Africa? Trend Analysis of Trade Flows in Africa
- Investment and ICT Resource
- Trends in Private Sector Climate Finance
- Nigeria: How ICT Driven Concept can Boost Africa's Trade Ranking
- ICT Competitiveness in Africa
- ICT for Regional Integration Trade & Integration in Africa
- Harnessing ICT, Science & Technology for Development in Africa



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