



# AGRICULTURE INNOVATIONS, ELEVATING AFRICA

Boosting the uptake of  
rural agriculture innovative  
solutions in Africa



# Elevating Africa, The Future Is Here

In this fast and metamorphosing world, everyone has no option but to adapt.

Meet African farmers who have taken the challenge by doing their farming in a new smart way and are feeding the continent and improving their own incomes while at it.





of them are either unemployed or vulnerably employed.

## The Past, The Problem

Farming is a traditional practice in Africa, passed on from generations to generations. The problem, however, is that same farming styles have been passed down. This has posed boundless challenges especially due to phenomenal changes in climate and markets. Productivity has also reduced, a situation that has lowered morale in farming. At the moment, seventy-two percent (72%) of youth in Africa are either unemployed or vulnerably employed.

# Raising The Standards Of Farming

We aim to engage various stakeholders across the agricultural value chains in a way to identify key areas of collaboration and to improve the uptake of innovative solutions that will transform the lives of smallholder farmers in Africa. There are tens of other innovative Agriculture solutions that are working well all over Africa. Let's discover them!



## Out With The Old, In With The New

There is an emergence of farmers who are breaking the boundaries of traditional farming and are coming up with innovative agriculture solutions. These solutions are increasing productivity and profitability for the farmers. The solutions are adaptable and can be practiced across the continent.

The International Fund for Agricultural Development (IFAD) and The Alliance for a Green Revolution in Africa (AGRA) are at the forefront of promoting these solutions to farmers.

Here are inspiring cases from Nigeria, Rwanda, Tanzania and Mozambique.





*Agriculture Goes Digital*

## YOUR FARMING SOLUTION IS JUST ONE TAP AWAY

With your smartphone or any other mobile solution, you can get access to agriculture information, farm inputs and machines. Welcome to the modern farm where the answer to your farming challenge is just one tap away.



# A Taxi App... For TRACTORS?

Aliyu Ayuba, a Nigerian Farmer, used to plow his farm with a hoe. This would take days, delaying the planting which would affect his productivity. Then he discovered Hello Tractor. "I am happy that I paid \$100 to Hello Tractor and they have completed the first job in a day. If the work was done by hand, it would take several days to complete," Ayuba says.

Hello Tractor is a tractor hiring app that works like the common cab hire apps. Through this app, tractor owners are connected with small scale farmers who do not have funds to buy their own tractor. That way, for a very small fee, they are able to hire a tractor for work and return it when done.

The technology, being promoted by AGRA and IFAD, is increasing farm yields to small scale farmers and making profit for tractor owners.





Post-Harvest Handling

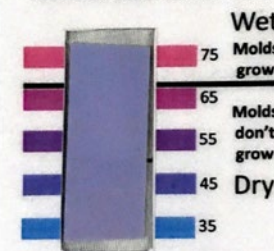
## OUT WITH THE ROT IN FARM PRODUCE

Improper management of moisture content and humidity in agricultural produce is a big nightmare to smallholder farmers who struggle to keep dangerous toxins at bay. With the invention of the DryCard, farmers have renewed their fight against aflatoxins and post-harvest losses.

AGRIFOOD BUSINESS CONSULTING Ltd

### DryCard™

Seal this card in a jar or bag with your dry product. Check the card after 30-60 min.



Is your product dry enough to store safely?





## No More Using Teeth ...The Card Tells It All.

For James Nsengiyumva, a businessman who buys and sells cereals in Rwanda, the least favorable moment as a businessman was testing for aflatoxins.

“Before buying grain, there was no testing of aflatoxins. Since we used to test with our teeth, we can now try this technology,” Nsengiyumva says in reference to DryCard which is being promoted by IFAD and AGRA

Aflatoxins are a particular problem in Africa, where commodities are stored under hot, humid conditions. Farmers and producers find themselves earning less because of grain rejection.

Supported by USAID, DryCard is an inexpensive device developed by University of California, Davis. It determines if grain and dried food is dry enough to prevent mold growth during storage. One simply puts the seeds in a jar, puts the card in, waits for 30 seconds and reads the results.





*Financial Innovative Solutions*

## GOODBYE POVERTY... HELLO PROSPERITY

Farming is an investment; it needs money. Many African countries are, however, not allocating enough resources to agriculture to help smallholder farmers to realize their full potential. Preference is given to other sectors of the economy while agriculture is neglected in budget allocations. Left to their devices, smallholder farmers, who solely depend on farming, have had to be innovative, and it's bearing fruit. Here is a case of such success.





## Where Harvest Is Used To Secure Loans.

Furaha Sanga was a frustrated farmer. She, and all farmers in the region, harvest crops at the same time. This means the market gets flooded with so much produce. Ms. Sanga has no option but to sell her produce at throw away prices so she can get the funds for the next planting cycle. Countless times she has been left with no profit.

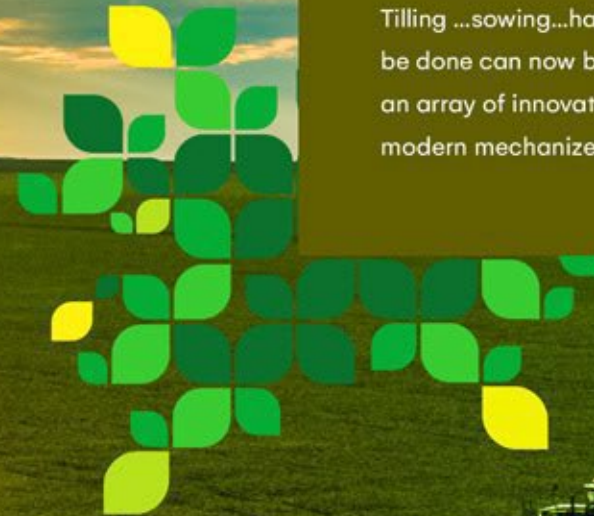
Today, she smiles because of Wakulima Digital. Wakulima Digital is a loan-disbursement solution for smallholder farmers. Upon harvesting their crops, Ms. Sanga and many other farmers are able to deposit their produce in a warehouse. This deposited farm produce is counted as money deposited in a bank account. A farmer can take up a loan against the produce he or she has deposited. In the meantime, the stored produce is kept well for sale when prices are favourable. “With my last harvest, I borrowed a loan of 40% of the value of the harvest I deposited in the warehouse. Now my farming continues as I wait for the market price to improve, then I sell my harvest,” Ms. Sanga says.



*Mechanization Solutions*

## LET THE MACHINES DO THE MAGIC!

Tilling ...sowing...harvesting. What took weeks to be done can now be completed in hours. Explore an array of innovative agriculture solutions on the modern mechanized farm!



# A boy's dream, a fortune for Tanzania.

Growing up, Alfred Chengula spent hours on the farm, helping his family to thresh maize. It was a grueling task, and many other children who were born into farming families in his village in Tanzania missed school to thresh maize.

“I was born into a farming family. I was able to see the challenges that we faced as a family. One of the challenges was threshing of the crop. We used a lot of energy and sometimes missed school in order to do it. Many times I dreamt of making a wonder machine that could do that work,” says Chengula.

When Alfred grew up, he never forgot his dream and went ahead to invent the Multi-Crop Thresher (MCT), a machine that is designed specifically for use in smallholder farming communities.

MCT threshes 90 times faster than traditional methods and without any of the hard work. The machine is a product of ImaraTech, where Alfred serves as the Managing Director. 26 million people live on smallholder farms in Tanzania and 10 million of those live below the poverty line and are unable to access agricultural equipment due to high costs. ImaraTech manufactures productive agricultural equipment that improves the livelihoods of smallholders.





Insurance Solutions

# PEACE OF MIND FOR SMALLHOLDER FARMER

Farming is often a risky venture. Smallholder farmers in Africa grapple with pests and diseases, drought, famine and market fluctuations, underscoring the need for insurance. However, it is estimated that globally less than 20% of smallholder farmers currently have agricultural insurance coverage, with sub-Saharan Africa's average being even worse, at less than 3%. Here we sample innovative solutions that can boost access to insurance among smallholder farmers.

# Taking the bull by the horns in farming, thanks to innovative insurance

For Festus Mutio, a farmer in Kenya's Kitui County, farming has been a never-ending cycle of poverty which is dependent on the availability of rains. It was a relief when he learned of Pula. "When drought came, I would lack food and wait for the rain, farm again, and wait to get food," Mr. Mutio says. Pula is an insurance and technology company that distributes insurance products and tailored agronomy advice to protect and grow the income of smallholder farmers. The solution targets people who have never bought insurance before, starting with smallholder farmers. Pula develops and distributes insurance products and tailored agronomy advice that protects these farmers from risk and grows their incomes.

Pula insurance has helped Festus become more food secure. He says, "I hope that Pula continues in the future and that we can continue to improve our future through its benefits."



# At the heart of the campaign

Over the years, IFAD and AGRA have placed the smallholder farmer at the heart of innovation, linkages and information access to sustainably boost production and gain access to rapidly growing agriculture markets. We understand the challenges that smallholder farmers in Africa face and work relentlessly to transform their lives from solitary struggles to businesses that thrive. IFAD and AGRA are promoting the uptake of more than 40 private sector-related innovative rural development solutions to rural places where smallholder farmers are still struggling to access markets, to adapt to climate change, to access agricultural financing and to fortify the important role of women and the youth in the agricultural value chain. Join this journey of Africa's elevation and you will become the next success story.

## TECHNOLOGY

Fighting Striga with Biotechnology, Market Access through technology, Village Based Advisors (VBA) approach, eHakiki, Soil Scanner, CropWatch, Platform for Agribusiness and Drone crop spraying technology.



## AGRO-INSURANCE

Agriculture Insurance.



## FINANCING

Wakulima Digital, Smart Nkunganire System (SNS) and Digital Access.



**40**  
SOLUTIONS  
**14**  
COUNTRIES

## MECHANIZATION

Rice Mechanization, Agricultural Mechanization Services Hub, Sustainable Farm Equipment and Liquid Nano Clay (LNC).



## AGRO-INFORMATION

Extension Services through Radio



## POSTHARVEST HANDLING

DryCard, Participatory Integrated Climate Services for Agriculture (PICSA), Access to Information via Cell-phone Technology and Animal Health Inputs Supply Capacity.







**Who can journey with us?**



Farmers

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## Become part of the success story!

The rural development solutions that we are promoting have been tested by other smallholder farmers and found to work. It is a time for you to become part of their success story by trying out solutions that expose you to in-depth farming knowledge, boosts your access to better farming techniques and enriches your market linkages to grow your venture from a solitary struggle to a business that thrives.

## Government

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# We can help!

IFAD and AGRA have been working with governments to provide innovative solutions and technical support as they strive to increase income and improve food security for smallholder farmers.

With the innovative agricultural solutions that we are promoting, we can do more to help! We understand the competing priorities faced by governments with limited resources and capacity. Our aim is to help governments marshal their agriculture sectors and the key players within them. We can do more with favorable government policies, openness and accountability, strengthening South-South Cooperation to support the identification of solutions that allow farmers to increase their production, incomes, provide employment and enhance food security. The shared experiences, expertise, transfer of knowledge and technology among the countries in the Global South will increase productivity and promote agricultural transformation.

## Media

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# A time to tell stories that transform lives!

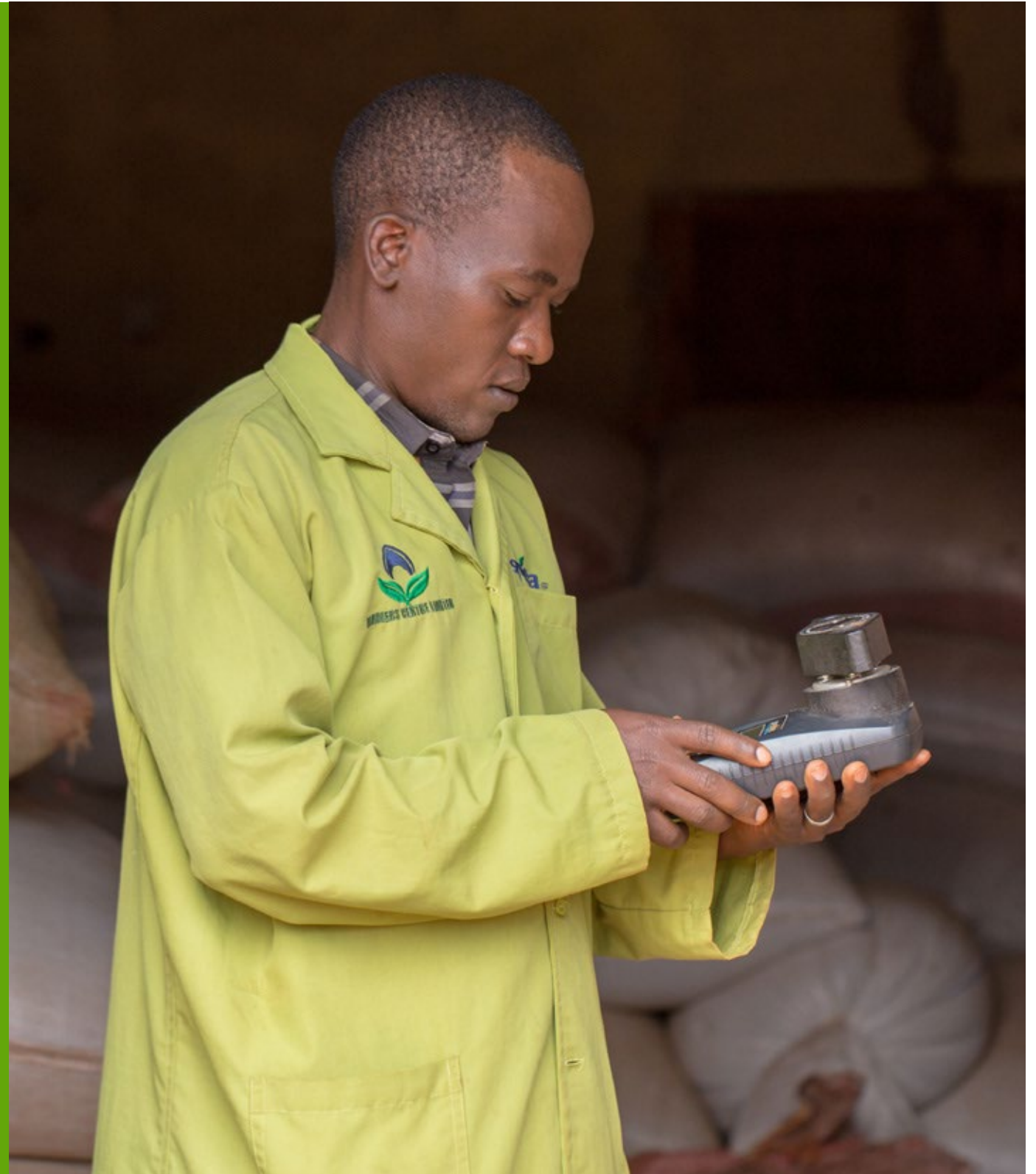
This is a journey of transformation for smallholder farmers. It is a time to address the struggles of farmers by promoting the uptake of solutions that are aimed at transforming their lives. Be part of the transformation by telling stories of success. Give a voice to the smallholder farmers who undergo numerous struggles. But also, provide avenues that amplify success stories from which other farmers will draw inspiration. At IFAD and AGRA, we believe that agricultural information can help inform decisions regarding agricultural production and through South-South and Triangular Cooperation, this information can be shared and made accessible to those that need it the most, through the media.

## Young Farmers

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# Reap big from your youthfulness and passion

You have ambitions that are always dwarfed by the lack of access to financing, limited opportunities across the value chain, among other challenges. Your youthfulness, curiosity, higher literacy levels and, your appreciation of value addition and passion for farming represent an enormous opportunity for Africa's agriculture transformation. Your ability to adapt to new methodologies and technologies gives you a vital role to play in modernizing and transforming the agricultural sector. You are well positioned to fix the broken supply chains and low adoption of technologies that cause low productivity. The innovative agriculture solutions we are promoting have been designed to turn around your fortunes.



## International Development Partners

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# Work with like-minded organizations

This platform is provided for like-minded organizations in agricultural developments to work together to improve the lives of smallholder farmers. Our aim is to help smallholder farmers to adapt to climate change, to boost their access to agricultural inputs, linkages, markets and finance, and eventually to contribute to food security in Africa. This is the time to come together to facilitate knowledge and technology transfer to farmers, and to pool resources together to accelerate adoption of agriculture innovations.

## Private sector

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# Understand the needs... and solutions

The private sector has the opportunity to engage with smallholder farmers and to get feedback from those who have benefitted from the rural development solutions. It's a time to use your technical skills to identify gaps and look out for areas to improve the lives of farmers through innovation and technology. The time is ripe for the private sector to develop more innovations!



## Women

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# A time to be counted

The time is now for African women to be appreciated for their invaluable role in agriculture and for contributing immensely to the continent's food security. In Africa, women are more likely to work in agriculture than in any other sector. However, much of this work is unrecorded, undervalued and unpaid. Women do not always get the support they need to boost their efforts in farming. We aim to fortify the role of women along the agricultural value chain by boosting their literacy levels and improving their access to agriculture innovative solutions.

## Youth

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# Farming made fashionable!

Farming is no longer a reserve of people who cannot make a livelihood elsewhere. It can be a platform for the youth to kick-start their careers. This platform will promote the uptake of agricultural solutions that make farming attractive to the youth, including the use of drones and other forms of mechanization that make farming fashionable. The solutions that AGRA and IFAD promote open up countless other opportunities across the agricultural value chain that young people can engage in.





# Join us, Take Action!

If they are doing it, you can do it too!



# Be Counted.

This is the beginning of multi-sector conversations with the aim of improving the lives of smallholder farmers in Africa. We aim to facilitate discussions on the rural agricultural development solutions that AGRA has identified and documented with funding from IFAD in order to boost the farming experience across the continent. From the vegetable farmer in the outskirts of Kampala to the IT graduate in Abuja.

We must all drive the conversation about Africa's smallholder farmers and share our successes to improve agriculture across the continent.

## The Time Is Now

These solutions reaffirm our belief in a future where smallholder farmers in Africa will sustainably feed the continent and grow their own ventures. We look forward to increased adoption of innovative agriculture solutions by farmers, a situation that will lead to higher productivity at the farm. With adoption of these technologies we are promoting, less time will be spent at the farm and there will be minimal wastage of the crop. Farming will also be attractive to the youth who are still experiencing high levels of unemployment.

This way, our Africa will realize food security and growth for all, especially the smallholder farmers who are still struggling with little access to support structures along the agricultural value chain.

**Agriculture innovations, elevating Africa!**





**AGRICULTURE  
INNOVATIONS,  
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AFRICA**

# Join The Conversation!

Email us on: [agsolutions@agra.org](mailto:agsolutions@agra.org)

For more comprehensive list of innovative agriculture solutions visit: [www.ruralsolutionsportal.org](http://www.ruralsolutionsportal.org)

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