



hello tractor

**Break Ground,
Drive Change**





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Introduction

Farmers throughout developing economies remain trapped in poverty despite \$6BN in aid spent each year over the past five decades to improve agricultural production and raise standards of living. This is due, in large part, to the disorganized and often antiquated agricultural value chains that persist across emerging markets. As a result, the individual farmer is often left without access to the information and inputs that are critical to improving their livelihoods. Without the right knowledge, labor, and equipment, farmers struggle to properly cultivate their land and plant on time, leading to underproduction and lost income.

Hello Tractor is an ag-tech company that connects tractor owners and smallholder farmers in Sub-Saharan Africa through a farm equipment sharing application.

The Hello Tractor platform enables farmers to request affordable tractor services, while providing enhanced security to tractor owners through remote asset tracking and virtual monitoring.

Founded: 2014

Full time staff: 20

Headquarters: Abuja, Nigeria

Active in: Kenya, Mozambique, Senegal, Tanzania



Growth in agriculture has been shown to generate up to four times greater poverty reduction than growth in other sectors.

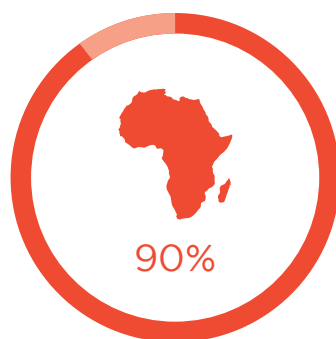
Why Agriculture?

Though agriculture is the most important sector of the Sub-Saharan African economy – accounting for 65% of the continent's employment and 75% of its domestic trade – its potential remains untapped.

As the world's population continues to increase, with African growth rates consistently the highest, it is projected that crop yields will need to double to achieve food security. Sub-Saharan Africa holds the largest inventory of uncultivated farmland in the world, representing 60% of the global total.

In addition to food security, increased agriculture productivity remains critical to alleviating entrenched poverty and improving livelihoods for the 220 million farmers across Sub-Saharan Africa that survive on less than \$2/day. Growth in agriculture boosts farmer income and leads to increased employment opportunities on and off the farm, with industries such as food processing, trade, manufacturing, and other services.”

Smallholder
(<10 ha) market
accounts for
**~90% of total
farms in Sub-
Saharan Africa**



Average
farm size
1.8 ha



Majority of farms
below 5 ha
**lack access
to mechanized
services**

Source: Mechanization Learning Workshop, African Agriculture Fund, Technical Assistance Facility, and TechnoServe, June 2018

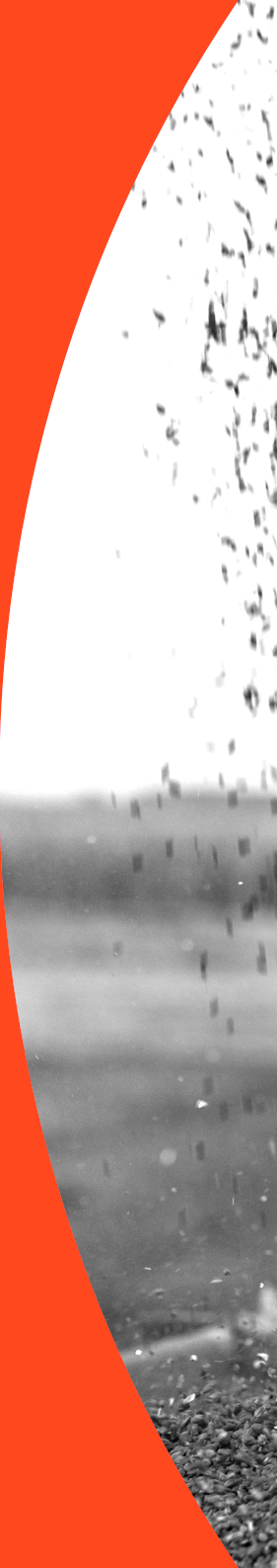
Acumen, Agriculture Portfolio, <https://acumen.org/companies/sectors/agriculture/> | Agribusiness, economic diversification can put Africa on a road to prosperity, Kandeh Yumkella, Director General of UNIDO (<https://www.ghanabusinessnews.com/2012/08/11/agribusiness-economic-diversification-can-put-africa-on-road-to-prosperity-unido/>) | The Farmer Ownership Model, National Union of Coffee Agribusinesses and Farmer Enterprises and the International Labour Organization (2016) | Agricultural Development Strategy Overview, Bill and Melinda Gates Foundation, July 2018

Challenges

Despite being resource rich, average crop yields across the continent fall well below global averages. In fact, Africa is the only region in the world where agricultural productivity is largely stagnant. Low levels of mechanization have been cited as the primary reason for stagnant agricultural productivity in Sub-Saharan Africa since the 1960s. Across farming communities, the transition from manual cultivation to mechanized processes has been painfully slow – 90% of arable land continues to be cultivated by hand or animal draft, drastically decreasing productivity rates.

Not surprisingly, this results in smaller plots under cultivation and lower yields. Farmers struggle to produce enough food to feed their families and earn sustainable livelihoods, leaving entire communities reliant on costly food imports and assistance and vulnerable to external shocks droughts, extreme weather, etc. Women farmers are disproportionately and negatively affected by these systemic challenges. Lack of access to financing, markets, and improved techniques coupled with high urban migration rates for men compound the problem, as women are increasingly left to tend plots alone. Their access to key inputs – such as farm help and machinery available for hire – becomes further restricted, decreasing their yields by 20-30%.

The lack of access to mechanization contributes to a cycle of entrenched poverty and food insecurity, as well as a gender productivity gap, that jeopardizes community, country, and continent stability.



How Africa compares with other developing regions

Region	Cereal Yield Kg/Ha	Fertilizer Use Kg/Ha	Irrigation % of arable land	Tractors Per 1000ha
Africa	1040	13	5	28
Average of 9 selected countries	3348	208	38	241

1. Africa less Egypt and Mauritius.
2. Bangladesh, Brazil, China, India, Pakistan, Philippines, Republic of Korea, Thailand, Vietnam.

Source: World Bank, World Development Indicators, Table 32, Jan, 2007.

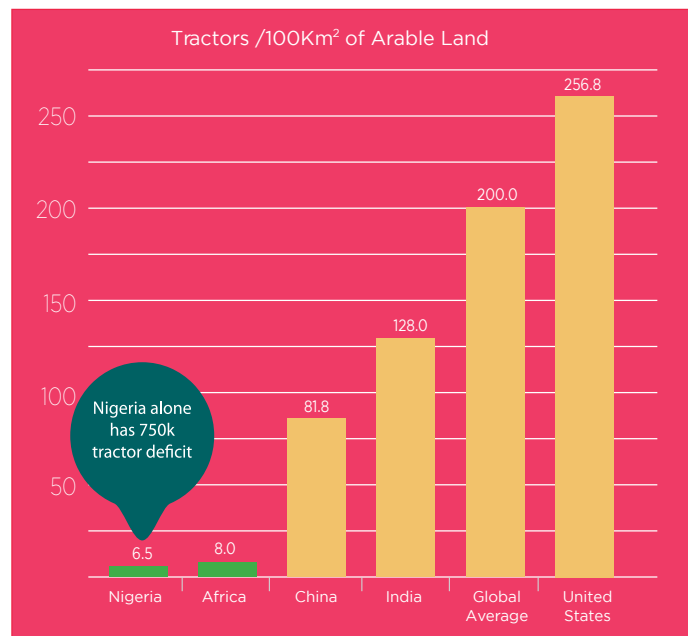
Proven Intervention: Mechanization

The use of machinery in modern farming is widely recognized as essential to increasing the productivity of all other inputs used in production (e.g., seeds, fertilizer, water, labor, time). While the rates of tractor availability in most emerging markets has increased over the last 40 years, the number of tractors per hectare of arable land in Sub-Saharan Africa has declined. When tractors are not available, farmers cannot make full use of their land; either they will not fully cultivate their plots or parts of their crop yields will rot before they are able to be harvested. Tractor use also allows for field preparation, planting, and harvesting in a less time and labor-intensive way, enabling family members to pursue off-farm opportunities (e.g., education, employment, etc.).



Hello Power Gap:

Tractors can fill the power gap but in Africa, they don't exist

Source: Nigerian Federal Ministry of Agriculture and Rural Development, World Bank



Sánchez, P. A. (2010, May 01). Tripling crop yields in tropical Africa. Nature Geoscience. Retrieved from <https://www.nature.com/articles/ngeo853> | Zhou, Y. (2016, December 28). Agricultural Mechanization in West Africa. Syngenta Foundation for Sustainable Agriculture, pp. 1-11. Retrieved from file:///C:/Users/Rafia%20Farooqui/Downloads/agricultural_mechanization_in_west_africa_-_yuan_zhou.pdf | Nkonde, C. (2017). Agricultural development in the context of farm structure change in Zambia (Order No. 10274492). Available from ProQuest Dissertations & Theses Global. (1897079414). Retrieved from <https://search.proquest.com/docview/1897079414?accountid=10267> | <https://ypard.net/news/closing-gender-gap-agriculture-which-way-africa> | European Agricultural Machinery. (2014, July). Advancing Agricultural Mechanization (AM) to promote farming & rural development in Africa. Retrieved from http://cema-agri.org/sites/default/files/publications/2014_Advancing%20Farm%20Mechanization%20in%20Africa%20-%20CEMA.pdf

	TRACTOR 	MANUAL(40 PEOPLE) 
SPEED	40x faster	Slow
COST	2.5x cheaper	Cost Intensive
Benefits of tractor service for farmers: <ul style="list-style-type: none"> • Plant on time • 63% average savings • Upwards of 3x increase in yield 		
Source: International Rice Research Institute		

Maize yield:

Ripped Farm	Non-ripped Farm
Uniform growth and height	Disperse growth
5 MT/Ha	1.7-1.75MT/Ha

Source: US AID Advance Mechanization on Farms in Collaboration with John Deere / AFGRI and John Deere
<https://www.youtube.com/watch?v=oxj1fZ0jGdE&feature=youtu.be>

What's Preventing Mechanization?

Despite the benefits of tractor mechanization, cost and access have been key impediments to its widespread adoption.

Cost – With average farm sizes under one-hectare, rural African farmers face smaller profit margins and often cannot access financing to invest in machinery. Even if they could, it would not be economical for them to do so, due to high costs and low on-farm machine utilization rates. While African smallholders face barriers to ownership, tractor services for hire – at 1/3 the cost of manual labor – are within reach.

Access – Tractor owners (retailers, equipment manufacturers, and service providers) hoping to service the smallholder market have traditionally been faced with disjointed demand and farmer plots that span geographies and are not connected by formal road systems. Individually, these last mile farmers comprise a market that has traditionally lacked economies of scale, proving too inefficient and costly for tractor owners to service.

Taken together, these factors make collaborative consumption vital to serving rural smallholder farmers. Connecting fragmented farm plots to a sharing economy drives more equitable access to mechanization for farmers and makes serving the area profitable for tractor owners.

Number of Years to Recoup Equipment Investment											
Farm Size (Ha)											Tractor Type
Investment (USD)		2	5	10	12	15	18	20	25	30	
	7,000	34.8	10.9	5.1	4.2	3.3	2.7	2.5	2.0	1.6	Rototillers (Not suitable beyond 5 ha)
	10,000	51.6	15.6	7.2	5.9	4.7	3.9	3.5	2.7	2.3	
	12,000	70.5	20.4	9.3	7.7	6.0	5.0	4.5	3.5	2.9	
	15,000	92.0	25.3	11.5	9.4	7.4	6.1	5.5	4.3	3.6	Mini tractors (ideal for less than 20 ha)
	18,000	116.5	30.5	13.7	11.2	8.8	7.3	6.5	5.2	4.3	
	21,000	144.8	35.9	15.9	13.0	10.2	8.4	7.5	6.0	4.9	35 HP
	28,000	239.3	50.3	21.7	17.7	13.8	11.4	10/2	8.0	6.6	
	34,000	393.2	66.1	27.7	22.5	17.5	14.4	12.8	10.1	8.3	
	41,000	688.3	83.8	34.0	27.5	21.3	17.4	15.5	12.2	10.1	80 HP
		Economically unviable			Possibly viable			Economically viable			

“ Smallholders’ access to financing to purchase a tractor is virtually nonexistent. Buying a tractor with 10, 12, or 14 implements for 1 ha of land doesn’t even make sense – the numbers don’t add up. If we want to improve how smallholders are farming and producing, we need aggregated tractor services. Hello Tractor is providing that ”

– **Owuno Ogbeh**, Founder and Managing Director, Farmore

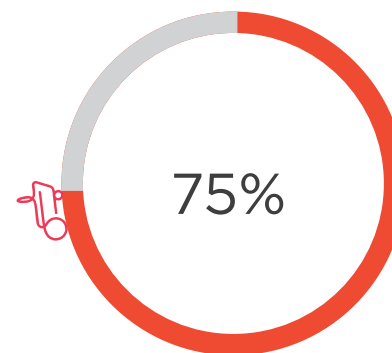
Hello Solution

Hello Tractor de-risks and improves service delivery to ensure tractor owner success and creates equitable access to mechanization for smallholder farmers.

Our solution begins with a low-cost hardware monitoring device that can be installed on any tractor, connecting it to the Hello Tractor cloud for remote data tracking and analytics.

This durable, adaptable device is designed for rugged use and extreme weather conditions. It is fitted with an international SIM card for higher connectivity but can store activity data locally if no connection exists.

Tractor owners purchase the monitoring device and a monthly subscription to Hello Tractor's software and suite of applications. Once fitted with our technology, the Tractor Owner App, available via web or mobile, ensures complete visibility into tractor location, activity, maintenance needs, and operator activities.



Hello Tractor has captured **75% of the commercial tractor market in Nigeria.**

Hello Tractor Customer Profile

Original Equipment Manufacturers looking to increase product positioning in low-margin, high growth markets.

Examples: John Deere, AGCO

Dealers facing fiercely competitive and highly price sensitive markets

Examples: TATA, Metal

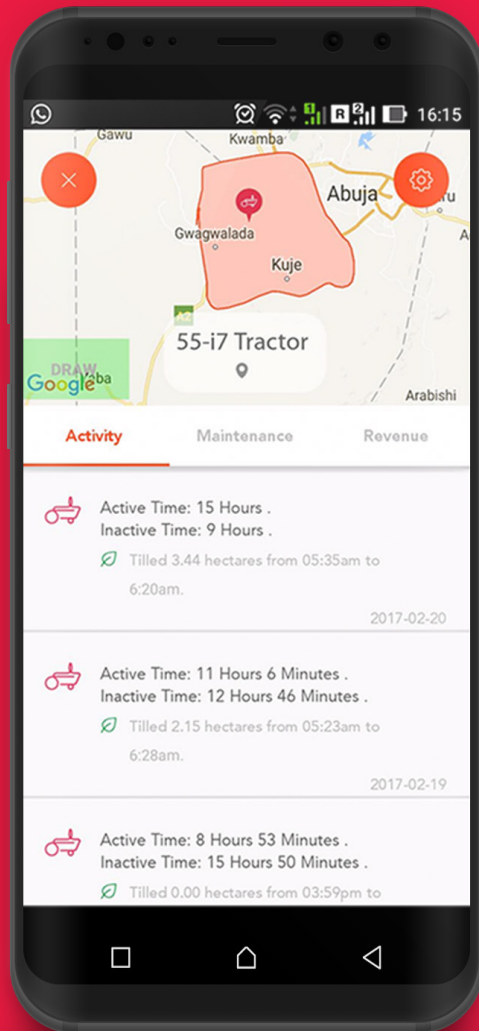
Fleet owners comprised of government agencies, NGOs, and other multilateral organizations, as well as private owners, seeking improved tractor management and increased utilization

Examples: World Bank, TOHFAN, Farmore



Where We Fit in the Agriculture Ecosystem:





Hello Tractor has also created a **Booking Agent App** that allows rural entrepreneurs to serve as a liaison between farmers in need of tractor services and tractor owners. Hello Tractor works closely with booking agents, providing training on how to identify and build demand, use the app effectively, and capture critical farm-level data (i.e., farmer's name, telephone number, type of service requested, preferred date of service, etc.).

Hello Tractor Booking Agent Profile

Background: Young people from rural communities, lead farmers, extension agents, input distributors

Total number of booking agents: 250

Benefits: Entrepreneurial and sustainable employment, income generation, flexible schedule, skill-building, exposure to industries across the agricultural value chain (tractor owners, service providers, input companies, etc.)



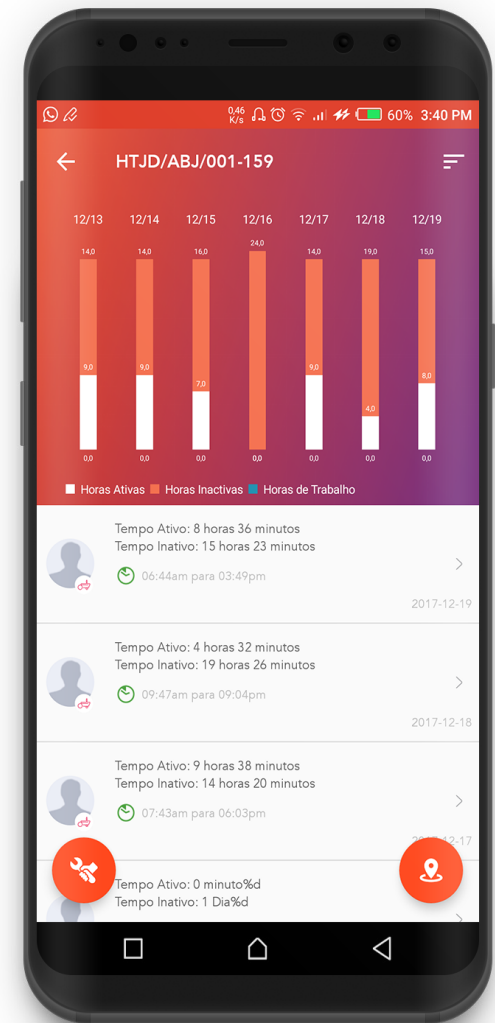
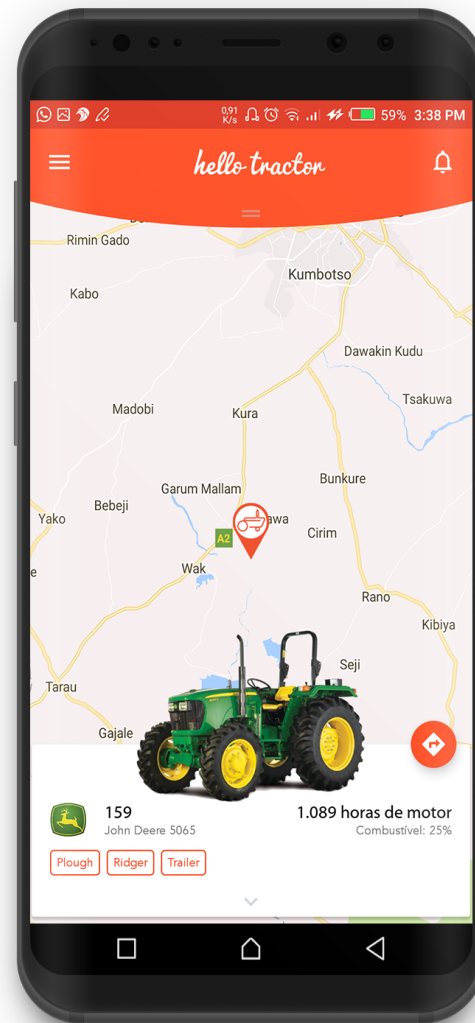
Hello Tractor
Booking
Agents can
earn up to
70,000 NGN
per week.



Hello Tractor Apps

Tractor Owner App: allows owner to manage tractor fleets, review operator performance, monitor maintenance needs, and access incoming service requests from booking agents.

Booking Agent App: allows agent to organize and schedule services between tractor owners and smallholder farmers, as well as measure and input farm sizes and location and store farmer credentials.



Hello Impact

By expanding tractors' serviceable geography, Hello Tractor enables owners to grow their business, providing employment opportunities for service providers and rural booking agents. By creating equitable access to tractor services, Hello Tractor enables smallholder farmers to earn more and grow more, improving livelihoods and food security for their families and communities.

And by integrating ground intelligence with mechanization, Hello Tractor aims to transform the agricultural ecosystem, creating efficiencies that generate inclusive growth, reduce poverty, and help build stronger, more stable economies.



“

“The Tractors were available without delay. We were able to plant and harvest on time.”

Salisu Lawal
Kano State Farmer

Case Study

Customer

ATMAN Corporation is a construction and agricultural machinery company operating in Southwest Nigeria.

Problem

Recently, ATMAN was surprised to learn that their primary diesel provider would be forced to close his business as a result of falling sales. Atman could not understand how this was possible, given their level of purchasing.

Hello Tractor Solution

Using Hello Tractor's technology, Atman analyzed their historical tractor activity data and quickly discovered that several of their operators had been siphoning diesel from their tractors during jobs to sell secondhand – enough to potentially put their provider out of business. Atman's ability to use Hello Tractor data to tie production with consumption ultimately enabled them to identify and correct the problem.

Hello Tractor's technology continues to

provide Atman with comfort and peace of mind, regardless of how far away their tractors may be. With Hello Tractor, ATMAN's leadership team is able to manage their fleet right from their phones, as well as view real time updates on tractor locations, fuel levels, engine hours, and maintenance needs.

Impact

Hello Tractor enabled ATMAN to eliminate fuel theft and side dealings, saving the company thousands of dollars and creating greater transparency with their remaining operators.

Over time, this has allowed ATMAN expand their business to new geographies – all with the goal of servicing more farmers.



“We are saving money and now able to invest more into Agriculture while limiting our risk”

Seyi Oyenuga
Executive Director
ATMANCORP



“Women farmers trust me as their booking agent”

Agu Blessing Chidinma
Booking Agent

Case Study: Thinking Outside the Box

Customer

TATA, a dealer of tractors and other agricultural equipment in Nigeria

Problem

Economic challenges and operational inefficiencies in Nigeria have made it increasingly difficult for TATA to identify new customers and meet its sales goals.

Hello Tractor Solution

Through close collaboration with TATA leadership, Hello Tractor tested the leasing of unsold and unused tractor inventory to new tractor owner customers to immediately monetize assets. Hello Tractor's technology and network of booking agents ensured tractors were properly maintained

by operators and utilized throughout the planting season. Hello Tractor's booking agents engaged farmers to organize demand, coordinate service deployment, and ensure proper delivery on the ground. TATA was able to meet its sales goal, generating \$xx in income for booking agents and providing tractor service for xx smallholder farmers in the process.

Impact

TATA was successful in their first year of operation, generating sufficient service revenue to cover the full cost of the deployed tractors and selling the assets at the end of the planting season for a 100% profit.

Case Study:

Creating Innovative PAYG Models Through Public-Private Partnership

Customer

John Deere and Nigerian Federal Ministry of Agriculture and Rural Development

Problem

John Deere recently reached an agreement with the Nigerian government to deploy 10,000 tractors over a 5-year period. Their goal is to implement a pay-as-you-go (PAYG) model that allows tractors to be leased to new owners over a defined period of time before being re-sold to them at a discount. The ability to monitor tractor assets and their usage (for security purposes and to predict future valuations) presented a significant challenge.

Hello Tractor Solution

Hello Tractor was engaged as a critical implementation partner, providing key benefits to John Deere and the Nigerian government:

Asset assurance: ability to continuously monitor tractors, usage, and status. Ability to track handover based on asset location.

Asset maintenance: improved utilization rates, alerts on breakdown, and quick diagnosis of operational issues. Ability to track maintenance and organize warranty schedules and records.

Usage monitoring: ability to measure and bill for usage based on time or miles. Alerts to enforce compliance and safety limits, as well as the ability to remotely disable tractor.

Value prediction: data collection that enables accurate valuation analysis.

Impact

These tractors are estimated to bring 9 million hectares of land into production, creating 37 million metric tons of additional food and adding over 2 million direct and indirect jobs.



It's exciting to see the innovation that Hello Tractor is bringing to the contractor segment in Africa. John Deere's success comes through how we and our dealers make sure our products are as productive as possible and always up and running. The Hello Tractor solution fits right into that and I think we are really just seeing the beginning of what it is possible through data and telematics services for smallholder contractors.

Jason Brantley
Managing Director
John Deere

