

# ***Partnership Approach Towards Sustained Climate-Smart Value-Chain Mechanization Services for Kenya and Africa.***

By

**Pascal Kaumbutho PhD CEng MIAgrE  
Managing Director**

[pascalgk@agrimechafrica.co.ke](mailto:pascalgk@agrimechafrica.co.ke)

+254-722 308331, +254-733 635744



***Agrimech Africa Ltd  
Total Solutions for Farmers***

## *The African Farmer...*



- Kenya Needs 70% More Food in 10-15 Years
- The Provider is the SHF (80%) with *only a Hoe in Hand*
- Back-Breaking work to grow Little - for the Broker
- Information Flow is by Rumours: new Seed, Fertilizer, Market etc.
- 2.5 kW/ha in Asia vs 0.2 kW/ha in Africa; with 60% or Worlds' productive **idle** land.
- Kenya has 11m ha to do with average 2 tractors/1000ha

From 30 Years of Extension Service Frontline Work, Our “Biased” Conclusion is: *Mechanization is the answer...*

- Mechanization reduces drudgery for farmers, relieves women of burdens, attracts youth to farming.
- It makes farming workable, increases land and labour productivity, increases time and resource efficiency, reduces losses, boosts yields, hence returns.
- *What 10 women will do all day (8 hours) threshing sorghum or rice, at Ksh 3500 is done by a PTO Thresher in 7 Minutes (1.5% of the time) for Ksh 35 (1% of the price).*
- *County governments continue to purchase machinery for birds to sit on! (Government THS will never work)*
- *Competitor is the nomadic MSP with 75hp tractor with plough.*

# Greatest Realizations

- We all need one another, to effectively and sustainably close value-chain gaps (*from Soil-Testing to Market*).
- Mechanization is Capital-Needy, Margins are low and innovative ownership is needed.
- We need to scale-down ambition, focus, and prove an easily proven, observable and replicable Value-Chain (Crossing) Business Model.
- We need Central and County Governments to provide central and donor partnerships, if not land and Credit Guarantees to propel PPPs
- County Governments do not know what they want. They need observable models and reason to come running in pursuit of our PPPs.

## Greatest Realizations Contd...

- Smallholder Mechanization is Tricky and needs a level of subsidy/partnerships (AGRA, TNS, SNV, GiZ etc.) and innovation (HT, Troto) to be workable (Savings in travel time, machine-uptime).
- Anchor clients are needed to buffer the inefficiencies of servicing smallholders. These can be say Product Companies, Large-scale farmers etc.
- Best CAPEX support is that of Asset Leasing Companies and innovative partnership finance with Machinery Vendors (re: sourcing, service and repair, renewal, etc.)
- ADB, National, County Governments and others can best support Mechanization Efforts by providing Asset-Leasing Companies with *Credit Guarantee*.
- Communities of Practice are needed & they need incentives to adopt Climate-Smart Agriculture (*see Village Climate Smart Committees Below*)

# Agrimech Agricultural Mechanization Service Hub (AMSH) Business Model

- Whole chain mechanization services, available for hire by farmers, in close proximity to them (3As: **A**vailable, **A**ccessible, **A**ffordable).
- Hub placement at an Agribusiness Centre of Excellence & *Climate Smart Village* with Model Farm
- Fleet Manager Software Platform MSP Training, Work Allocation, Payment and Other Coordination (as part of AAL Team).
- Equipment Banks for Hire by MSPs, movable as per Seasonal and other needs
- Establishment of a Community of Practice with a Climate Smart Village Management Committee (CSVC)

# What do we have in our Bag-of Tricks??



## The Future of African (Tropical Farming)



**From This!**



**To This!**

# Join us as we Transform African Farming



# The Hub Model...



# ...The Platform



**Agrimech Africa Ltd**  
**Total Solutions for Farmers**

# Our value proposition

<b>Experienced and Resourceful Company</b>	<ul style="list-style-type: none"><li>• 75+ Cumulative Years of building business trust relations with farmers.</li><li>• Agricultural Engineers of great repute and partnerships attitude, with pioneering CA experience and full range of climate-smart mechanization.</li><li>• Workable Business Model for mechanization, applicable in Kenya and across Africa.</li><li>• Partnership with Asset Financing Experts with huge capital layout.</li></ul>
<b>Dependability</b>	<ul style="list-style-type: none"><li>• Present, Accessible and Accountable services in Close Proximity to the farmers.</li><li>• Proven own Agribusiness Training and Hands-on CSA Experience</li><li>• Wide set of supportive partners across the crop and livestock value-chains</li></ul>
<b>Affordability</b>	<ul style="list-style-type: none"><li>• Whole-Chain specialized services, Range of Machinery by Power sizes.</li><li>• Repair &amp; Maintenance services back-up</li></ul>
<b>Ancillary edge</b>	<ul style="list-style-type: none"><li>• Consolidated demand through farmer and market organization</li><li>• ICT Farmer Mapping/Scheduling and Software Operation Platform (“UBER”) for absorbing and Organizing the Competition</li><li>• Business Buffer of Support and/or inclusion of Medium and Largescale farmers</li><li>• Attraction to Youth and employment of qualified and own-certified MSPs.</li><li>• Business Model for County Governments to adopt and propel</li><li>• Personal Links to AU/FAO led Sustainable Agricultural Mechanization for Africa (SAMA), Movement of <i>Sending the Hoe to the Museum</i>.</li></ul>

**Vision:**



*Individual Farmers*



*Farmers' Co-Ops*



*Agro-produce Buyers*



**The Agrimech Hub**



*Research institutes*



*County Governments*

**Products & Services**

- Full range mechanization tools & services
- Training
- Soil Health & Farm input supplies
- First & Last mile distribution
- Aggregation, Storage & Marketing
- Agricultural data capture and sales
- Model farms & Eco-Tourism

# Current Status

- **Hub work in Meru:** partnering with and accessing the management of a Cereal Processor's Machinery (**Shalem**), training of Youth to use Small Machinery (under **IFDC** Support)
- **Technoserve Dairy Farmers:** in North Rift growing maize, wheat and hay (Cargill Innovative Maize Market).
- **County Gov of Nyandarua, GIZ NuSePPP and PUM, SNV Potato farmers, NPCK, CIP:** in Nyandarua, Nakuru, Mau, Meru, Bungoma, etc. (**Engineer Food Processors, Gaea Foods, Sereni Fries**, and others for market) including **Tractor Operator/Owner Training**
- **Sukari Industries - AKF and Simba Corp:** as MSP for land-preparation and seed transport (Sugar Processor)
- **Kenya Maltings (EABL), F2MA:** for Sorghum farming in Western, Nyanza and Meru County (Sorghum for Keg Beer)
- **Farmer Groups and Coops:** Kirimara Potato Growers, Mt Kenya Buuri Coop Society, Kilimo Hifadhi Co-Op, Meru Potato Processors, Rukaria Agro-processors, Kitui Ginneries/Wikithuki Farmers SHG and others.
- **Machinery Vendors** (AgCo/Massey Ferguson, John Deere, New Holland, SimbaCorp, Farmking, Brazagro etc.
- **Software Companies** (Hello Tractor and Troto Africa) etc.
- **New Contacts: uLima** - Value-Chain Gap-Closing Companies (Innovative Mobile-App access to Soil Health, Input Providers, Finance, Insurance, Market etc.)



**Focus** in Order to Demonstrate  
**Impact**... then *Expand!!!??*

**Potato:** The Next and Wanted  
Staple and Urban Food Crop of  
**The Big 4 Agenda**

# The Case of The Potato



# Potato Farming is Hard Work



# Quality Potato Machinery is Expensive







# Climate-Smart Potato Farming



## We learnt 2 Primary Things from the South-South CSA Conference (Nairobi - June 2019)

1. **Climate Smart Villages:** *to establish technology and knowledge exchange (development) nuclei – Equivalent to our Hub-Model*
2. **Mechanization Equipment Service Banks:** *for workable MSP partnerships, for organized and coordinated services to smallholders.*

## Several proposals are out & Several Ideas in the Works:

- SNV – Climate Resilience Agribusiness for Tomorrow (CRAFT) Project for East Africa.
- GiZ (kfW): GIZ Youth Empowerment Programme in Western Kenya and DeveloPPP: Ideas Competition: Matching Funds Support to Innovative Sustainable Business Initiatives.
- World Bank: Climate-Smart Agriculture Programme.
- Ideas floated with Cargill with potential to Change Seasonality and Soilcare (Through Rotational Crops in North Rift through Mechanization
- Ideas floated with TNS/Syngenta Foundation/KCB for Nyandarua Potato Farmers.
- Ideas Floated with John Deere/Mascor/RentCo/Stanbic Bank/HT/TNS for CSA value chain entries
- Ideas floated with Endless Africa and RentCo to advance rice farming in Mwea and Bura.
- Ideas floated with Cotton Ginneries of Kitui (NIB land irrigated Cotton)

# Way Forward and Entry Points:

Climate Smart Farming: *Centres of Excellence and Model Farms*

# Way Forward

- Establish 2 Mechanization Hubs, One in Bungoma (*what does TNS/HT have here?*), the other in Nyandarua (complete with Model Farm and base) – *Include Mumias Sugar in Bungoma and Engineer and Njogu Potato Farms in Nyandarua as anchor clients.*
- Assess and co-opt CoP in each of the 2 areas, identify farmer group takers, markets and train farmers in (season-long) GAP, and the MSPs CA and Mechanization under HT Fleet Management System.
- Support farming practice backed by finance and insurance, towards a healthy harvest and marketing programme.
- Conduct promotional field-days and call in County Govt and other stakeholders to observe and further contribute to success.
- Form Climate Smart Village Committees (CSVCs) to further structure the Model and call in central and other Stakeholders.
- Solidify a replicable model, add to mechanization and equipment bank capacity for a Season 2.
- Expand to other localities in the Counties and across County Borders into a 3<sup>rd</sup> Season.
- Continue expanding the replicable CA Mechanization Model into other localities.

Organization	Role	Undertaking
<b>uLima and Value Chain Partners Involvement</b>	<ul style="list-style-type: none"> <li>Value-chain data gathering and information capture</li> <li>Soil health, Finance, Insurance etc.</li> </ul>	<ul style="list-style-type: none"> <li>Register farmers, Service Clients, Infor Flow etc.</li> <li>Close value-chain gaps through Service Providers</li> </ul>
<b>Technoserve/GiZ</b>	<ul style="list-style-type: none"> <li>Capacity Building and promotional extension support to the Programme</li> </ul>	<ul style="list-style-type: none"> <li>Women, Youth and MSP training and other Support</li> </ul>
<b>Agrimech Africa Ltd</b>	<ul style="list-style-type: none"> <li>Establish Mechanization Hubs at Climate Smart Villages and operationalize the AMSH Model</li> </ul>	<ul style="list-style-type: none"> <li>Provide Mechanization Services</li> <li>Build COPs &amp; Model Farms</li> </ul>
<b>RentCo</b>	<ul style="list-style-type: none"> <li>Seamless provision of Tractors and Equipment</li> </ul>	<ul style="list-style-type: none"> <li>Mechanization Lease contract with Agrimech, backed by Vendor Balance Sheets</li> </ul>
<b>John Deere, Mascor, AGRA (and other Machinery Vendors)</b>	<ul style="list-style-type: none"> <li>Supply requisite &amp; Quality Mechanization Equipment</li> <li>Smoothen vendor processes</li> </ul>	<ul style="list-style-type: none"> <li>Provide Sample Machinery &amp; Maintenance services.</li> <li>Help Agrimech Secure Leasing Contract</li> </ul>
<b>Word Bank/County Governments</b>	<ul style="list-style-type: none"> <li>Finance &amp; secure CSA Mechanization Programme Support by County Governments</li> </ul>	<ul style="list-style-type: none"> <li>Farmer Service Facilitation</li> <li>Credit Guarantee Facility for RentCo and Other Providers</li> </ul>
<b>Value-Chain Players: Farmer, Market Reps</b>	<ul style="list-style-type: none"> <li>Expose farmers to Quality Produce</li> <li>Avail smooth and profitable business to farmers.</li> </ul>	<ul style="list-style-type: none"> <li>Be the Dependable Market</li> <li>Support CSVC functions.</li> </ul>

# Foreseen Outcomes: Institutions and Policy Base to Strengthen CSA

(Modified from India CSA Model Farm Example)



+24%

Ridges & furrow in Soybean



+21%

Sowing Across slope



+17%

Broad bed furrow in Soybean

**Operational VCSC** – *even to set insurance and mechanization service rates*

**Mechanization Hub with Software Management Platform** – *with model farm, VCSC earning from every unit of service provided.*

**Equipment Banks** – *Accessible by MSPs working under Hub Coordination*

**Seed Banks** – *quality, timeliness, including storage*

**Fodder banks** – *holistic approach and extra income for the CSVs*

**Commodity Based Organizations (CBOs/CoP)** – *Experience used to Systematically Generate Policy Briefs*

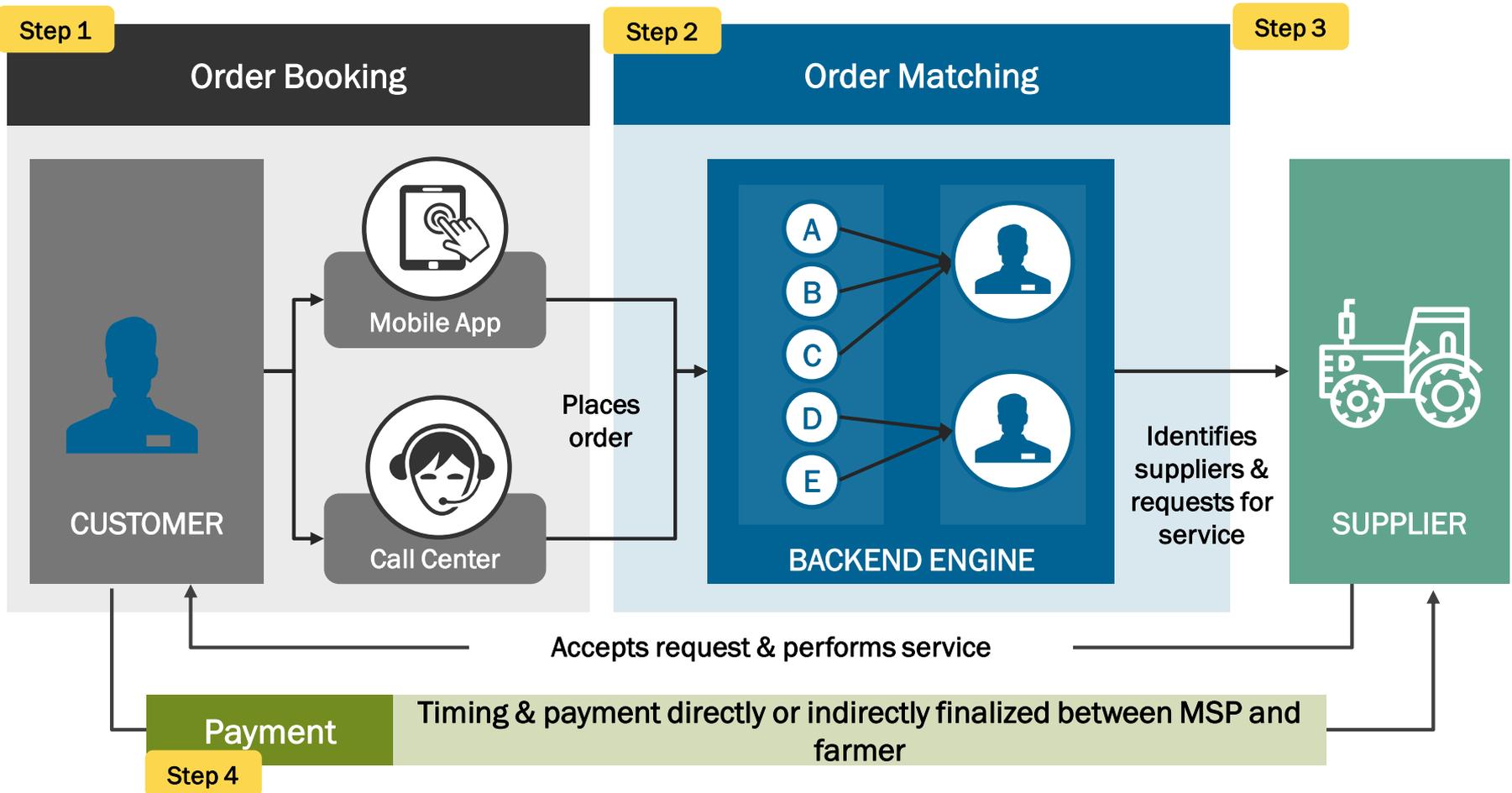
**Value-Chain Service Support Kiosks & Showcases** – *Seeing is believing.*

# Mechanization Equipment Service Banks

(Example from India)



# Simple booking process via app or call center



***We have Trotro Tractor and Hello Tractor...***

# Target Outcomes towards Sustenance

## Short Term:

### ***Proof of Concept of Climate Smart Villages:***

- ❖ Finance and Crop Insurance Support
- ❖ Access to Equipment via Partnership with Leasing Company
- ❖ Risk absorption via a Credit Guarantee Scheme in partnership with a Leasing Company
- ❖ New enthusiasm due to financial empowerment of village institutions

## Medium to Long-Term & Sustainability:

### ***Rollout to County Governments:***

- ❖ County Government Credit Guarantee to aid Equipment Leasing & Other Providers
- ❖ County Government Contribution of CSA Model-Farm Land in Strategic Localities by Value-Chain.
- ❖ Regular meetings to resolve community related issues while implementing CSV interventions (engaging leadership intensely and in an organized manner)



Ahsanteni...