

GIZ: Nutrition Sensitive Potato Partnership Programme  
(NuSePPP)

**Potato Mechanization Investor Days' Workshop**  
and  
**Field Day**

# **Report**

**By**

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October 10-12, 2018

**Nyandarua County**



**NuSePPP**  
Nutrition-Sensitive Potato Partnership Project

### List of Abbreviations:

AHA:	Andrea Hermes Akademie
AMS:	Agricultural Machinery Service (Centre)
FBO:	Farm Based Organization
FFBS:	Farmer Field and Business School
GDP:	Gross Domestic Product
GPS:	Global Position System
MSP	Mechanization Service Provider
NPCK:	National Potato Council of Kenya
NuSePP:	Nutrition Sensitive Potato Partnership Project
PPP:	Public Private Partnership
SME:	Small and Medium Enterprise
SMS:	Subject Matter Specialist
TVET:	Technical Vocational Education and Training
VAELL:	Vehicle and Equipment Leasing Ltd

### **Background:**

The Potato (*Solanum Tuberosum*, also called the Irish Potato in Kenya), is one of the crops identified for advancement as a Food Security crop within the National Big-4 development agenda. As an alternative to maize crop, as the middle class and young population dominate the economy and as urbanization levels in the country rise drastically, the potato has become an increasingly important crop. The potato is being eyed as the crop to reduce the cost of food with production targeted to increasing potato volumes to 2.5MT per annum (Technoserve et al. 2018)

Pre-occupying the livelihoods of some 800,000 farm households, GIZ has a project labelled Nutrition Sensitive Potato Partnership Programme (NuSePPP) which focuses on the nutrition value of the potato but taking a value-chain approach. The project looks at the sequence of related business activities from the provision of specific inputs for production, harvest and post-harvest transformation and marketing. The project is smallholder farmer-centred while valuing all public and private partners, brought together to help establish a more sustainable development and food security undertaking.

Potato can be labelled the smallholder farmer's crop in Kenya. Its production contributes KSh 30-40B per annum at retail level, but production has not grown since 2010 for various material and value-chain challenges. In Kenya, the potato can raise national GDP by 0.3% if 40 percent of farmers farming the crop would only double their yields. By doing so, the smallholder farmers would increase their profit by KSh 70,000 to 140,000 per year.

It has been reported (Technoserve et al. 2018) that the highest priority interventions for enhanced potato value-chain delivery should focus on seed and farmer groups, while encouraging business opportunities in processing, irrigation and mechanization. While several of these development aspects have clarity, have been advanced and have shown results, the one high-impact and missing intervention that requires urgent attention is mechanization.

The most urgent form of mechanization for potato in Kenya is for production. The value of this opportunity is estimated to be a Ksh 1B per year for farmers and Ksh 1B for Mechanization Service Providers (MSPs) if only 10% of the sector is mechanized. In terms of smallholder farmer profitability mechanization will reduce waste by 5-10% and increase yields by about 30%. The challenge of mechanizing smallholders is the fragmented nature of their small pieces of lands, some being located on unfriendly terrain. Under these circumstances, specialized business models are needed, not just for smallholder potato farmers but for all mechanization of agriculture in Kenya, like the rest of sub-Saharan Africa.

### **Workshop Introduction:**

Using the Farmer Field and Business Schools (FFBS) farmer empowerment training model, NuSePPP has trained some 12,000 farmers in Nyandarua and Bungoma Counties to improve their potato production and marketing. The successful programme under which solid Public Private Partnerships (PPP's) have been formed, has found great weakness in the levels of access to mechanization.

In partnership with Nyandarua County Government and their Agricultural Mechanization Service Centre, NuSePPP organized a two-day Participatory Stakeholders workshop, followed by a Demand-Creation Field-Day, where mechanization for potato was demonstrated. The event was designed to bring together value-chain stakeholders, to help MSPs discuss and find credible solutions for mechanizing potato production in Kenya.

The Objective of the Workshop (Day 1 and 2) was to increase awareness of the business available in mechanization of the potato value-chain by bringing together mechanization dealers, MSPs, policy, financial institution, farmers and farmer-group leaders to deliberate on issues, challenges and solutions towards seamless provision of potato mechanization services.

The Objective of the Field-Day was to demonstrate and expose farmers and their supporters to mechanization service-provision options, as they network and seal deals with service providers and their affiliates in the potato agronomy (seed and chemicals) and aggregation for retail market and for processing.

The Workshop programme was designed to bring out issues and concerns of farmers, the challenges and solutions from the point of view of MSPs and the business-case of the capital-high potato mechanization, hence the definition of a common way forward under a financed and a PPP approach. The Workshop programme was built around panel and group discussions, lean on power-point presentations and real on practical solutions to the huge task of mechanizing a crop value-chain, in a country where both are weakly supported by policy guidelines. The Workshop deliberations cut across mechanization of all forms, from production to processing. The Workshop foresaw the Field-Day, where farmers would experience

mechanization undertakings as they were practically clarified, and sources of machinery made real. The Field-Day provided opportunity and free-space for first hand interaction between 35,000 hectare – rich smallholder potato farming community of Nyandarua County with other stakeholders. The event gave special attention to the potato MSPs who freely interacted with their potato machinery suppliers to the satisfaction of their knowledge and other demands, like they had never experienced before.

## **Field-Day:**

### **Mechanization investor field day on 12<sup>th</sup> October 2018**

*The mechanization investor day was held on 12<sup>th</sup> October 2018 in Nyandarua county attracting brands like Pottinger, Massey Ferguson, New Holland and Case International. The companies present strived to not only “show-room-exhibit” their tractors and equipment, but also demonstrate them for farmers and their supporters, as they had been instructed. Nyandarua AMS machinery was well set to demonstrate potato mechnization. An attendance of some 565 farmers was recorded out of a total of about 700 participants including school youngsters in uniform. Apart form machinery some 25 Private Sector companies engaged the participants in many ways, from potato seed to agronomic inputs, to herbal tea and to mechanization for cereals. Dignitary talks, continuous back-up information by the MC made even those out in wonder to learn plenty about mechnizing potato.*

*County Government and GIZ officials profusely thanked all that made the 2-Day workshop and the Field-Day a resounding success.*

*A pictorial story of the Workshop and the Field-Day is captured below:*



***Workshop Participants***





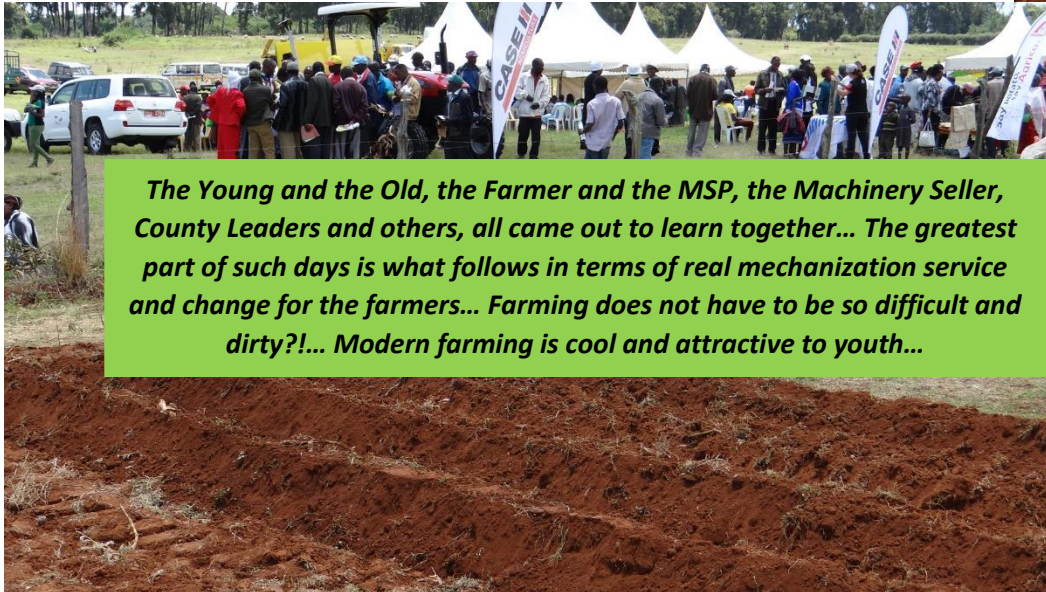
Need for Transformation	
<b>Current:</b>	<b>Desired:</b>
1. Low yields (< 10 ton/ha)	1. High yields (> 25 tons/ha)
2. Inadequate seed (<4 %)	2. At least 10% certified seed
3. Low agribusiness (<10%)	3. High agribusiness (>80%)
4. Medium employment (3.3 million)	4. High employment (6.6 million)
5. Moderate income (>50 billion)	5. High income (150 billion)
6. High losses and wastes (> 20%- Kshs 13 billion)	6. Losses reduce losses to less than 5%
7. Unclear policy /strategy & low budgetary support	7. Clear policy in place and implemented and budgetary support increased



***Various Workshop Presenters and Panelists make their presentations to an attentive audience***



## *The Nyandarua Mechanization Investors' Field-Day*







*Farmers learn the “Mechanization Way to Modern Farming” and the place for specialized fertilisers... Potato farming is all about the size of the ridge the farmer is able to form. The easiest and most impactful for high yields is the one made so easily by the tractor... Mechanization will NOT create unemployment for our Labourers... It will release them to do more honourable and less tiring jobs with their very able hands... What 20 labourers do in 4 days, can be done in one morning, planting potatoes with machinery... So, which is the better way? and why wait?*





*Farmers learnt of all manner of machinery and their specialized uses. Then they left wondering why they thought their Mechanization Service Provider (MSP) Kamau (in their village) was mechanized with only a plough and harrow for all crops...? The questions that kept coming up are, "How do I get these machines working on my farm!?" and "At what price?"... Development and progress is about getting good answers to these clever farmers' questions, among the many others that came in continuously!!*











*Field-days in Kenya are increasingly attracting rural entrepreneurs like the one the ladies are learning from the marketer of Lemon Grass Tea bushes (Right). He sold well, complete with great explanations of the “Medical Benefits” (like improved libido!). It is with this same passion and regularity mechanization needs to be promoted. Only then will it become adopted routinely and appreciated from a Benefits, other than an affordability perspective. There has never been a better time to sell new technology to farmers. They hear about it and see it on a daily basis via their mobile phones... Touching it and experiencing its impact is the real Game-Changer!*





*This picture is the Ultimate Demonstration of Modern, Mechanized Potato Farming. The Soil Ripper to the Right breaks all obstruction (Hard Pan) - to change soil into a Sponge Mattress, ready to receive and hold the upcoming rains. The resulting conditions are easily served with fertilizer by hand or from a Fertilizer Spreader (a Machine). The machine to the left, The Bedder, beats the soil on the Right to a soft texture, and forms ridges (or beds) in one pass. The resulting bed is ready for potato seed, to be placed by the next machine, with the same tractor. This potato is assured to thrive, come poor or harsh rains. This way, the Plough, Several Harrows, Ridger and Labour to plant are replaced, effectively and with results that are seen in terms of costs saved and yields that are doubled and even quadrupled, - simply from the way soil is prepared.*



*Farmers learn from a Potato Seed Company the power and benefits of planting quality seed (THE RIGHT WAY, TO DERIVE MAXIMUM BEBEFITS) ...That is AT THE TOP of the ridge. Not in the furrow, please (See picture to the Right)*

