

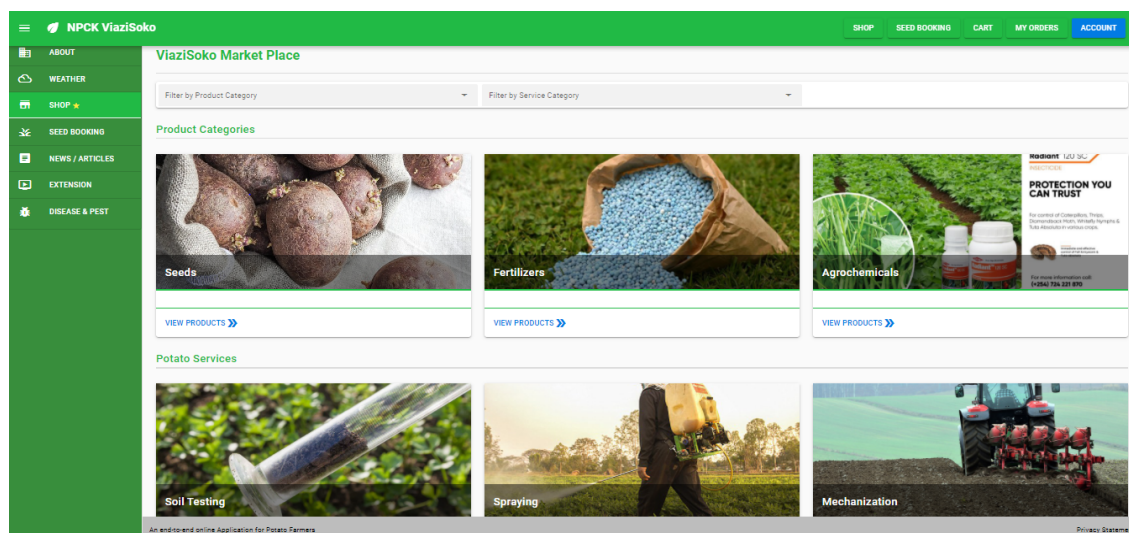


# NATIONAL POTATO COUNCIL OF KENYA

KALRO Kabete Campus, Off Waiyaki Way,  
P.O BOX 29982-00100 Nairobi, Kenya  
T: +254 712 338 633/ +254 799739578  
E : [npck@npck.org](mailto:npck@npck.org)  
W: [www.npck.org](http://www.npck.org)

## VIAZI SOKO UPGRADING AND INTEGRATION REPORT

Enhancing Digital Platform for Improved Potato Productivity and Agribusinesses



[www.npckviazisoko.com](http://www.npckviazisoko.com)

**Submitted by: National Potato Council of Kenya (NPCK)**

**Submitted to: CIP on 15<sup>th</sup> January 2021**

## INTRODUCTION

Potato farmers face challenges in accessing quality farm inputs, linkage to markets, extension and advisory services and other exogenous challenges such as unpredictable weather conditions due to climate change. With financial support from International Potato Center (CIP) through the Accelerated Value Chain Development (AVCD) program, a five-year (2015-2020), FtF USAID Funded Program, the National Potato Council of Kenya (NPCK) carried out upgrading and integration of Viazi Soko Digital Platform to address these challenges. The upgraded/intergraded platform has features and plug-in to enable farmers access extension and advisory services, timely seed and ware potato information, weather forecast, and other important inputs and services that will help farmers improve productivity and profitability. The upgraded digital platform is now functional except for minor adjustments and ongoing pretesting. The upgraded platform is operating using three protocols; USSD short code service, Web-based portal and Android App.

In addition to the upgrading and integration of the Viazi Soko Digital Platform, NPCK conducted several stakeholder's meeting to create awareness and promote the use of the upgraded/integrated ICT platform. Also, AVCD program supported pretesting of the enhanced platform with farmer representatives and the feedback was incorporated further improving the functionality and user friendliness of the Viazi soko platform.

## UPGRADED AND INTERGRADED VIAZI SOKO PLATFORM

The following modifications were undertaken by the Web-Developer, Mr Kenneth Nyange engaged by NPCK during the period, July – December 2020.

### **1 Modified the platform to run on USSD for ease of registration and querying of seed**

Among the areas considered for modification in the platform, is inclusion of USSD for ease of operation. Initially the platform was only operating as SMS and Web-based, limiting the number of services accessed by farmers through the platform. With the current modification to USSD Short Code, farmers can register on the platform and access more services which include seed querying, seed booking, weather forecast and farmer services such as soil testing, spray services and mechanization and other relevant services as detailed in the Table. 1.

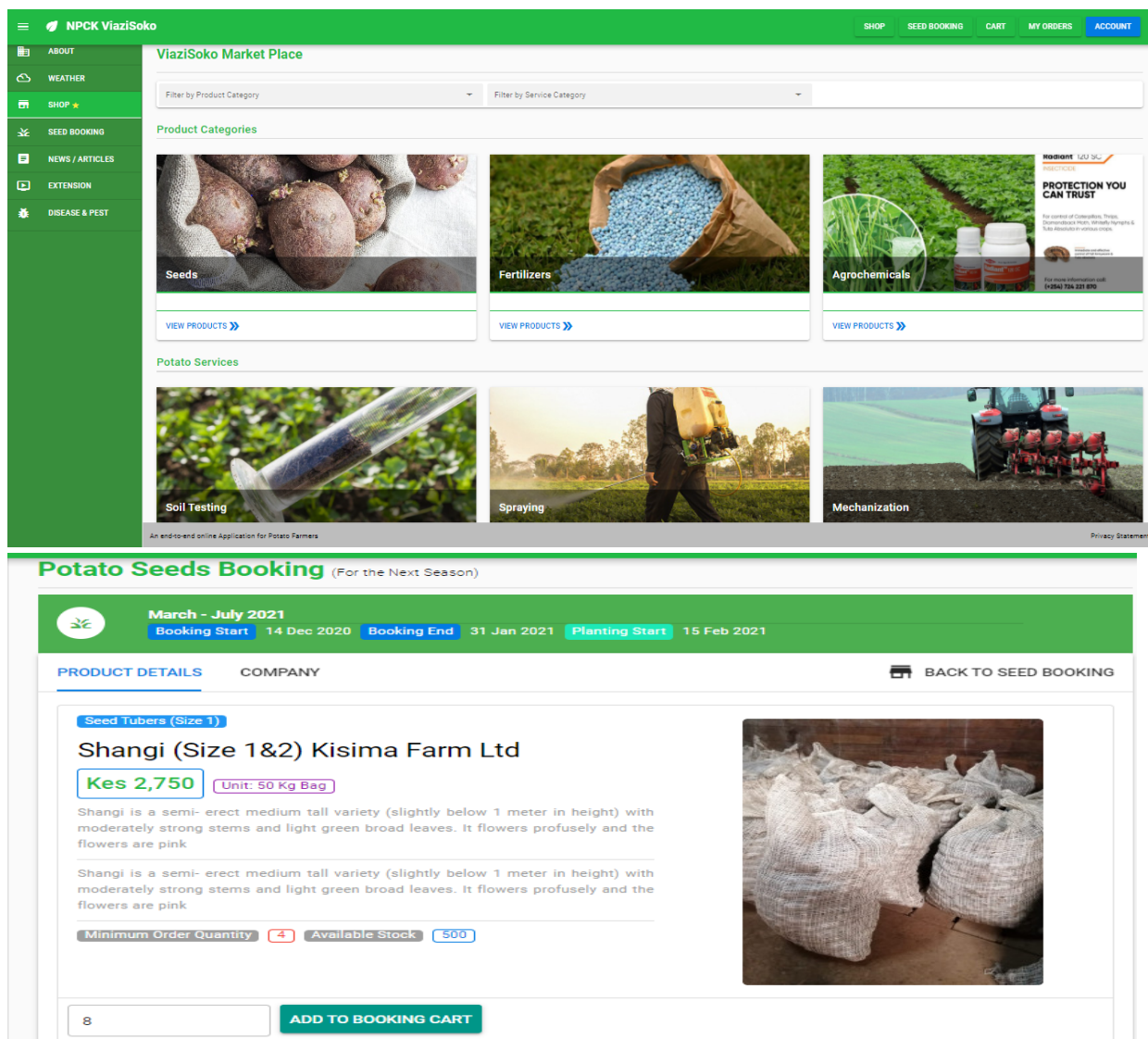
**Table 1. Available Services in the Upgraded Viazi Soko Platform using the USSD Short Code**

Available Services	Stepwise Instructions
<b>1. Registration using USSD</b>  <p>Welcome to NPCK ViaziSoko Please select option: 00. About ViaziSoko 10. Register 99. Exit</p>	<ul style="list-style-type: none"> <li>• Dial *483*331# on your mobile phone.</li> <li>• Select option 10 “Register”</li> <li>• Enter your details to complete registration (County, Sub county/ Constituency, Ward and Full names).</li> <li>• After completion of registration, you will receive a confirmation text.</li> </ul>
<b>2. Querying for seeds</b>  <p>Potato Seeds Query: Select Category 1. Seed Tubers (Size 1) 2. Seed Tubers (Size 2) 3. Mini Tubers 4. Cuttings 0. Go Back</p>	<ul style="list-style-type: none"> <li>• Dial *483*331# on your mobile phone.</li> <li>• Select option 1 “Seeds Query”.</li> <li>• Select category (I) Seed size 1 or size 2 (II) Apical rooted cuttings (III) Minitubers.</li> <li>• Type the potato seed variety you are looking for and confirm.</li> <li>• The query will return summary information of the 2 records closest to the user’s location via SMS</li> </ul>
<b>3. Seed booking</b>  <p>Potato Seeds Booking: * March - July 2021 * Select Category 1. Seed Tubers (Size 1) 2. Seed Tubers (Size 2) 3. Mini Tubers 4. Cuttings 0. Go Back</p>	<ul style="list-style-type: none"> <li>• Dial *483*331# on your mobile phone.</li> <li>• Select option 2 “Seeds Booking”</li> <li>• Select category (I) Seed size 1 or size 2 (II) Cuttings (III) Minitubers.</li> <li>• Type the seed potato variety you want to book.</li> <li>• You will receive a reply that will include the Seed potato companies, their location and phone contacts.</li> </ul> <p>Note: You need to complete the seed booking process through Viazi soko App or Web-based portal.</p>
<b>4. Weather query</b>  <p>Weather query Options: 1. Weather/Forecast for: Athwana 2. Weather/Forecast for Other regions. 0. Go Back</p>	<ul style="list-style-type: none"> <li>• Dial *483*331# on your mobile phone.</li> <li>• Select option 3 “Weather Details” to get 7 days’ accurate weather/forecast</li> <li>• Option 1 gives weather forecast for the ward you are registered in</li> <li>• Option 2 gives Weather forecast for other specified regions</li> </ul>
<b>5. Farm services</b>  <p>Potato Farm Services: Select Category 1. Soil Testing 2. Spraying 3. Mechanization 0. Go Back</p>	<p><b>Access to Soil testing, Spraying and mechanization services</b></p> <ul style="list-style-type: none"> <li>✓ Dial *483*331# on your mobile phone.</li> <li>✓ Select option 4 “Farm Services” <ul style="list-style-type: none"> <li>➢ Select option 1 “Soil Testing”</li> <li>➢ Select option 2 “Spraying”.</li> <li>➢ Select option 3 “Mechanization</li> </ul> </li> </ul> <p>You will receive an SMS with the details of the service providers within your region</p>

## 2 Included an option for placing orders for inputs such as seeds, fertilizers and agro chemicals

The potato sub-sector lacks an elaborate seed distribution system and often farmers have to travel long distances to source for certified seed potato from the few registered seed merchants/multipliers thereby incurring high transportation cost. Secondly, potato farmers are not aware of the suitable inputs and services for potato production. Thirdly, these farmers are not able to access the required inputs at competitive prices. The upgraded Viazi soko platform addressed these challenges through the option of advance booking and placing seed orders for next planting season. Farmers can also order other quality inputs like fertilizers and agrochemicals through the platform.

The USSD short code gives information on the available inputs for booking or ordering but the actual booking and ordering is done on Android App or Web-based interface- [www.npckviazisoko.com](http://www.npckviazisoko.com) as shown in the screenshots below (Figure 1).



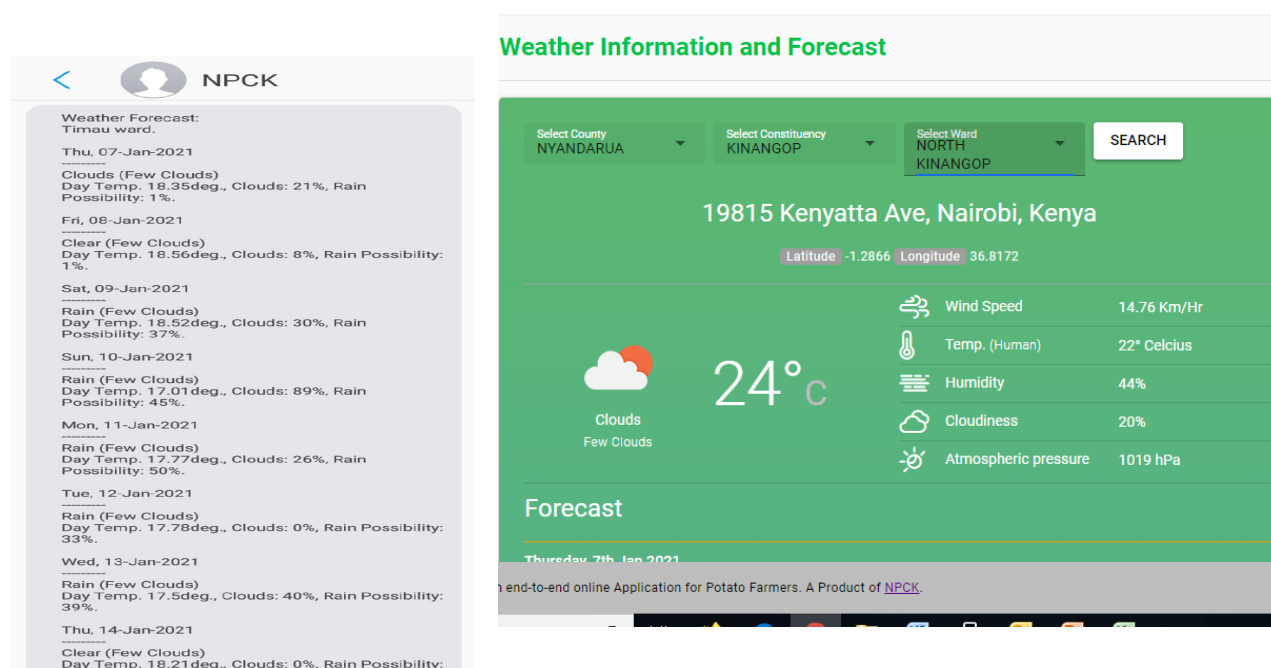
**Figure 1. Screenshots of the Viazi Soko Platform web portal showing available services. Top: The platform web-based interface display of Seeds, Fertilizer, Agrochemicals, Soil testing, Spraying and Mechanization services. Bottom: Seed potato booking for the next planting season, (e.g for March–July 2021)**

- 3 Included an option that captures real time details from the field including map coordinates and weather information**
  - a) Mapping and profiling inputs drop off points and ware potato collection/aggregation points**

A drop off point is where the seeds, fertilizer and agrochemicals ordered by the farmers through the Viazi soko platform will be dropped. When ordering for inputs, farmers are expected to pick a drop off point that is closer to them. The platform allows booking of seeds and delivery by the accredited logistic company to their locality. The GPS coordinates for the seed companies and the drop off points are important in triangulating the cost of transporting the seeds. The platform calculates the seed transportation charges and automatically add on top of the seed farm gate selling price. Farmers are required to pay 20% of the total value of the seed ordered and complete the rest of the payment two weeks before collection and delivery. NPCCK in collaboration with Farm Service Providers (FSPs) and other field agents are in the process of identifying and mapping drop off points for inputs as well as the collection/aggregation centers for ware potato.

### b) Weather advisory services

Farmers can access seven days' weather forecast information through an open access Weather App plugged into the Viazi soko platform. By accessing weather forecast, farmers can make informed decisions when planning their farm activities. Farmers can access this service either through USSD Short Code Service, Web-based platform or the Android App. Through the USSD Short Code, farmers are required to dial **\*483\*331#** and select **"Weather option"** then follow the instructions (see Table.1). This service provides seven days' accurate weather forecast in form of SMS for the region/ward selected by the farmer during registration or any other specified region during the enquiry. The Web-based and Viazi soko Android App provides a more detailed weather forecast as shown in the screenshot in Figure 2.

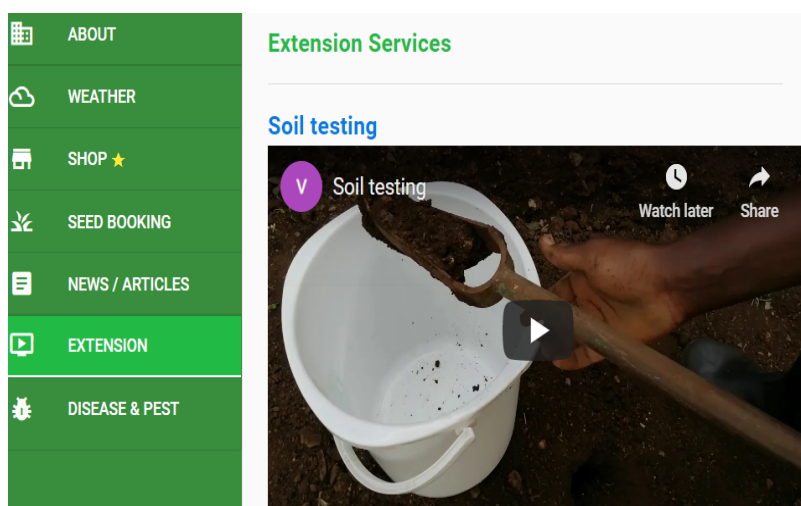


**Figure 2. Screenshots of the Viazi Soko Platform website showing information on weather forecast obtained using USSD Short Code Service (left) and using Web-based platform or the Android App (right).**



#### 4 Included the interactive voice overs and links for sharing videos and printable brochure

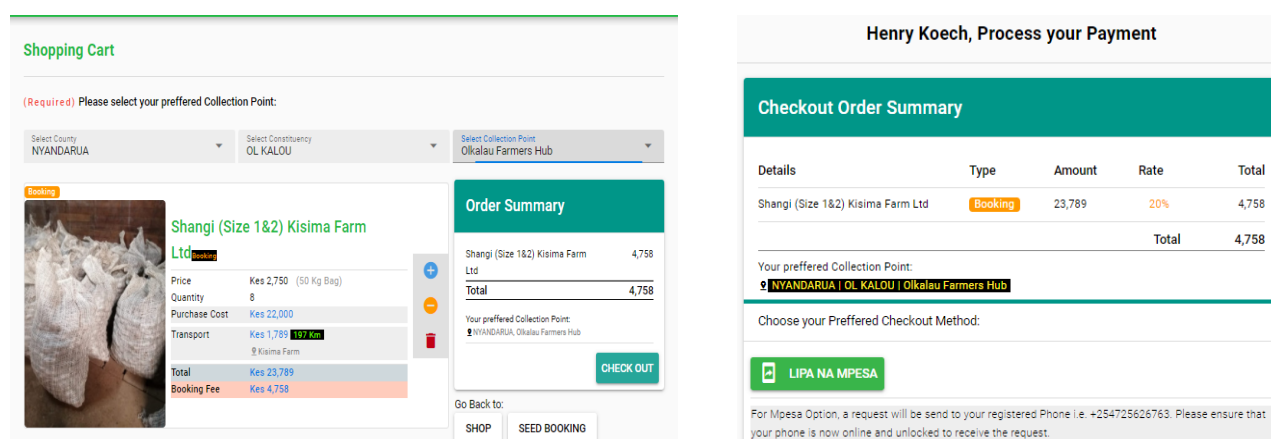
Farmers can access extension services in form of interactive voice overs and short video clips on Good Agricultural Practices (GAPs) through the platform linked to Viazi soko platform YouTube page. NPCK and partners are planning to produce and upload interactive voice overs and short video clips on GAPs covering the following topics for extension; (i) Variety selection and use of high quality seed; (ii) Site selection, land preparation and planting, (iii) Crop management and nutrition, and (iv) Postharvest handling and marketing.



**Figure 3. Screenshots of the Viazi Soko Platform website showing YouTube video on soil sampling. Also available are short video clips on GAPs.**

#### 5 Integrated M-Pesa transaction option for making payments

The platform allows payments for the inputs ordered through the platform via Mpesa. Farmers can pay at least 20% of the value for seed booking and full payment two weeks prior to delivery. The platform automatically calculates the cost of transportation based on distances between the drop off point and the seed supplier using the GPS coordinates. However, for the inputs that the farmer wants to procure on spot through the platform, they have to make full payment, see Figure 4. below. In future other payment option will be included.



**Figure 4. Screenshots of the Viazi Soko Platform web portal showing steps for seed booking and ordering. The platform calculates the charges for transporting the seeds based on distance. Farmers can book seed by paying 20% of the total value.**

## **6. Provided capacity to associate each farmer in the platform with a farmer group/cooperative/producer organization**

The platform is able to associate the farmers to defined “Farmer Groups” within their region. NPCK has enlisted the farmer groups’ details into the platform for farmers to select the groups they belong to. New groups/cooperative can be created in the platform by providing the following: Name of the Group/Cooperative, County, Sub County and Ward and the chairperson contacts/group coordinator. The group coordinator can send invitations to individual group member informing them to join the group or confirm farmers joining the group to ensure farmers are recruited to the correct groups. The farmers have the option of identifying their farmer groups/coop and send a request to other members join the group. They can also opt out of a farmer group/Coop through “My Account” functionality.

## **7. Incorporated Geographical Information System (GIS) into the platform for ease of locating farms and categorization of potato farmers**

### **a) Ability to match farmers supply with market demand**

NPCK held separate meetings with various potato buyers to discuss and agree on how they can be supported through Viazi soko digital platform to access quality potato suitable for processing. The information on their potato demand specification were collected and documented for matching with potato supply through the platform. Among the buyers already engaged and are ready to use the platform are Sereni fries, Norda Industry, Tigoni grows, Red Gates Ltd, Kinangop Fries, One-stop Enterprises and Molly Flowers. The buyers can register into the platform and access quality potato available in the collection centers. NPCK is currently identifying and mapping the collection centers where potato availability status will be posted.

## b) Generation of reports and graphs for analysis

Dashboard of the Viazi soko Web-based platform is able to summarize various components for ease of analysis. The Potato Council is in the progress of identifying the kind of reports and information that can be generated from the platform based on the data gathered at various stages. This include; the counties that are actively using the platform, which seeds are frequently queried by farmers and other relevant analysis. See an example shown in Figure 5.

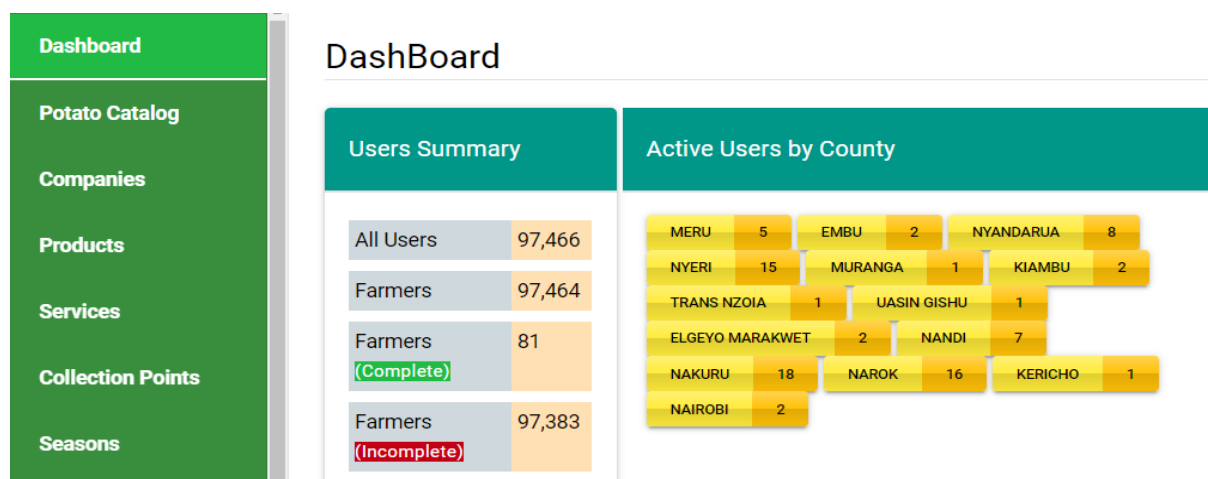


Figure 5. Screenshots of the Viazi Soko Platform Dashboard showing a summary of active users by county.

## EXPANDING THE USE AND FUNCTIONALITY OF THE PLATFORM THROUGH PARTNERSHIP AND COLLABORATION

### 1. Meetings with input and service providers

The Potato Council held a series of meetings with 14 inputs and service providers and signed MoU with to discuss areas of collaboration and how they will benefit from the Viazi soko digital platform. The objectives of the meetings were to: create awareness among the service providers about the platform; demonstrate how the platform will help them improve their businesses; and request for information needed in the platform on their respective organization. The information collected included: Company profile, Logo, High definition photos for the products/services, Contacts for their field agents contacts, and other relevant information. The information was then processed and uploaded into the platform.

The companies already registered in the platform are;

- Seed companies:** ADC Molo, Agrico E.A, Kisima Farm Ltd, Jancota Ltd, Stokman Rozen Ltd and Kirinyaga Seeds Ltd, (Kevian Kenya Ltd).
- Fertilizer companies:** Toyota Tshusho Fertilizer Ltd, Yara E.A, and Fanisi fertilizer.
- Agrochemicals companies:** Corteva Agriscience, and Lanclan Kenya.



- iv. **Mechanization, soil testing and spray services companies** include: Tinga, Cropnuts and Agrochemical Association of Kenya (AAK).

## **2. Meeting with seed potato producers**

Based on the acute shortage and complexity of seed potato in terms of quality control, NPCK held a meeting on 18<sup>th</sup> November 2020 with all the seed potato producers to discuss and agree on how the platform will support seed production and marketing through seed ordering. Scheduled deliveries, campaign on use of certified seeds and quality control measures for the seed that will be sold through the platform.

The outcome of the meeting includes;

- a) Ensuring the quality of seeds ordered and delivered through the platform is maintained.
- b) NPCK to ensure seed quality assurance: checking the KEPHIS labels, well sprouted tubers and physical features ensuring absence of cut/bruised, diseased or rotten tubers.
- c) The contracted company to collect and deliver the seeds will check and sign confirming that the seed quality is up to standard.
- d) The Farmer Service Providers receiving the seeds on behalf of the farmers will also sign to confirm that the quality of the seeds delivered is up to standard.
- e) NPCK was tasked to share the *Guidelines for Monitoring the Quality of Seeds* with seed producer so that they can disseminate the guidelines to farmers by placing a copy in each of the seed potato bag. The guidelines indicate what farmers need to check when buying seeds and the complaint mechanisms to report suspicion or express dis-satisfaction.
- f) It was also noted that the quality of seed potato packaging bags are deteriorating and there is need to find an alternative source that can produce quality bags. This was also an opportunity for introducing branded bags for seed potato into the industry. NPCK was tasked to outsource samples of quality branded seed potato bags and present to seed companies for review and approval. NPCK has presented the first samples of branded bags to seed companies for review and are waiting for feedback.

## **3. Support youth on business opportunities in potato V.C through the platform**

NPCK held a meeting on 14<sup>th</sup> October 2020 with 27 trained Farm Service Providers (FSPs) to discuss how they can be supported through Viazi soko digital platform to explore business opportunities in the potato value chain. Among the business opportunities discussed during the meeting were; spray services, soil sampling, aggregation of input orders and scouting for ware potato for marketing. In collaboration with AAK and Cropnuts, NPCK is planning for capacity building trainings for more FSPs to undertake this business opportunities. The already trained FSPs have already been uploaded into the platform for farmers to query and access their services.

## **PILOTING OF THE UPGRADED VIAZI SOKO PLATFORM WITH FARMERS**

NPCK conducted awareness creation and piloting of the upgraded Viazi soko platform on 16th to 19th December 2020 with four farmer producer organizations namely: Kiambugo Kianjogu Farmer Cooperative Society (FCS), New Molo FCS, Mau farmers' initiative and Nandi Potato FCS in Nyeri, Nakuru, Narok and Nandi County respectively. A total of 59 farmers participated in the pretesting exercise and they provided valuable feedback regarding their interactions with the platform. The challenges experienced, observations and the feedback received from these farmers during pretesting exercise were compiled and incorporated to improve the functionality and user friendliness of the Viazi soko platform.

## **AWARENESS CREATION OF THE UPGRADED PLATFORM**

**Designing and printing of Viazi Soko fliers:** NPCK developed the Viazi Soko digital flier for creating awareness on the platform to a wider audience. The fliers are already being distributed to potato stakeholders.