

# USAID KENYA Accelerated Value Chain Development Program

## Potato Value Chain

FY 2019 YEAR 1 QUARTER 2 REPORT

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# ACRONYMS

AVCD	Accelerated Value Chain Development
CHV	Community health volunteer
CIP	International Potato Center
GAP	Good agricultural practices
J2SR	Journey to Self-Reliance
KEPHIS	Kenya Plant Health Inspectorate Service
ToT	Training of trainers
TTU	Taita Taveta University
WAO	Ward agricultural officer

# EXECUTIVE SUMMARY

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# I. KEY ACHIEVEMENTS (QUALITATIVE IMPACT)

## I.1 PROGRESS BY OBJECTIVES

In phase 2 of the Year 1 Quarter 2 (Y1Q2) potato value chain component of the Accelerated Value Chain Development (AVCD) program, a second agronomist was recruited for Bungoma County to provide technical backstopping to ward agricultural officers (WAOs). This will help the WAOs organize large-scale trainings in productivity-enhancing technologies, seed production, and cooperative development, along with nutrition-related activities.

**Objective 1.** *Build capacity for smallholder farmers to increase potato productivity by 50% and improve consumption of nutritious foods*

**Outcome 1.1:** *A total of 8,000 farmers in Bungoma and Taita Taveta counties applying improved technologies to improve productivity*

**Output 1.1.2:** *Eighty-two potato good agricultural practices (GAP) and variety-learning farms established and led by county extension*

Phase 2 of the potato value chain component is replicating the phase 1 interventions in the two new counties of Bungoma and Taita Taveta. These are minor potato-producing counties in Kenya, hence general knowledge of GAP for potato and accessing commercial seed is weak (such GAP are necessary to support downstream marketing interventions). The theory of change partly relies on recruiting more people to farm potatoes so that the benefits of this product and its contribution to national production can be realized, increasing the importance of potato in these counties. The interventions in Q2 focused on addressing low productivity through an extensive farmer-training program, accompanied by seed distribution to raise awareness of the benefits of certified seed. Activities to support improvements in nutrition were also launched. The county governments led planning and implementation of activities as part of the Journey to Self-Reliance (J2SR).

Although the potato value chain is working in 10 traditional potato-producing wards, the project is promoting potato production and marketing in 17 nontraditional wards (Table 1).

**TABLE 1. TRADITIONAL AND NONTRADITIONAL POTATO WARDS UNDER AVCD POTATO VALUE CHAIN IN YEAR 1**

County	Sub-county	Ward	Traditional or Nontraditional Potato Ward
Taita Taveta	Mwatate	Chawia	Traditional
		Wusi/Kishamba	Nontraditional
		Bura	Nontraditional
	Voi	Ngolia/ Wogonyi	Nontraditional
		Sagalla	Nontraditional
	Taita	Mwanda/Mgange	Nontraditional
		Werugha	Traditional
		Wumigu/Kishushe	Traditional
		Wundanyi/Mbale	Traditional
Bungoma	Kabuchai	Mukuyuni	Nontraditional
		Chwele/Kabuchai	Nontraditional
	Mt. Elgon	Cheptais	Traditional

County	Sub-county	Ward	Traditional or Nontraditional Potato Ward
		Chepyuk	Traditional
		Chesikaki	Traditional
		Elgon	Traditional
		Kapkateny	Traditional
		Kaptama	Traditional
	Sirisia	Namwela	Nontraditional
	Tongaren	Tongaren	Nontraditional
		Milima	Nontraditional
		Naitiri/Kabuyefwe	Nontraditional
		Ndalu	Nontraditional
		Soysambu/Mitua	Nontraditional
	Webuye East	Mihuu	Nontraditional
		Ndivisi	Nontraditional
	Webuye West	Misikhu	Nontraditional
		Bokoli	Nontraditional

The GAP package developed in phase I of AVCD is the basis for WAOs to develop the capacity of farmer groups in productivity-enhancing technologies over a four-module training course covering land preparation to harvesting. The trainings take place at 82 learning farms (54 in Bungoma County, 28 in Taita Taveta County) managed by a farmer or farmer group identified by the county and supervised by a WAO. WAOs, with support from the county government and backstopping from International Potato Center (CIP), pre-identified the farmers and organized them into groups of 25 before the trainings started. This exercise identified and registered 307 farmer groups (253 in Bungoma, 54 in Taita Taveta) across 27 wards (18 in Bungoma, 9 in Taita Taveta). A total of 7,625 beneficiaries were reached with technology-enhancing technologies and nutrition messaging in season I, during the long rains of 2019—the major growing season for potato.

In practice, just 6,138 smallholder farmers participated in the GAP training course with technology-enhancing technologies, as some wards were unable to identify the target number of farmers. This was due to the tight timeline from phase 2 inception to the beginning of the growing season. The time to bring the counties on board, then identify and register the targeted numbers of farmers in counties with low numbers of potato farmers, was also limited. Given the positive response from counties and farmers who observed the learning farms, interest in diversifying into potato farming is expected to grow. This will help ensure that the potato value chain reaches the target number of smallholder farmers (Fig. 1).



**Figure 1. Posts from the AVCD Potato WhatsApp group. Left, a Mwakisuri women's group at the Chawia, Taita Taveta, learning farm do their second hilling. Right, members of the 4 Ways Self-Help Group in Weruga ward, Taita Taveta, in their potato farm during module 3 training.**

**Output 1.1.3:** *Some 4,000 farmers saving quality seed on-farm*

To further support farmers to apply productivity-enhancing technologies, each of the 307 farmer groups, representing 6,138 smallholder farmers, was issued 38 kg of certified seed so they could observe the productivity-enhancing effects of using certified seed. A total of 11.7 tons (t) of certified seed were distributed, 9.6 t in Bungoma and 2.1 t in Taita Taveta. The farmers are further multiplying the certified seed using the seed plot technique they were taught on the learning farms. They are expected to produce an estimated 120 t of seed, sufficient to plant 60 ha.

**Outcome 1.2** *4,000 potato farmers consume a diet of minimum diversity*

**Output 1.2.1:** *8,000 potato farmers reached with dietary diversity messages at community level*

The AVCD nutritionist and CIP led a 2-day training of trainers (ToT) session for 28 county nutrition staff (Table 2). The idea was to train the county extension and health staff to, in turn, train community health volunteers (CHVs) in nutrition messaging for the project beneficiaries, focusing especially on children aged under 24 months. The ToTs subsequently trained 90 of the targeted 132 CHVs (63 of the targeted 105 in Bungoma and the targeted 27 in Taita Taveta) in a 1-day agri-nutrition training. Each CHV is attached to a learning farm and over seven sessions will deliver the nutrition-messaging package to beneficiary farmers using the nutrition dialogue cards, which have been refined from phase I of AVCD.

**TABLE 2. COUNTY NUTRITION STAFF TRAINED AS TOTS TO FURTHER TRAIN CHVS ON NUTRITION MESSAGING**

County Department	Bungoma	Taita Taveta	Total
Sub-county nutritionist	6	3	9
Sub-county home economist	6	3	9
Sub-county community strategy person	6	3	9
AVCD county focal point coordinator	0	1	1
<b>Total</b>	<b>18</b>	<b>10</b>	<b>28</b>

**Objective 2.** *Support access to seed system development to produce at least 400 t of seed annually*

**Outcome 2.1:** *Increase access to improved good quality seed, especially by women and youth*

**Output 2.1.1:** *Two seed companies engaged in seed potato production*

The use of apical cuttings for seed production, coupled with training farmers to save seed on-farm using the small seed plot technique, is the most feasible way to produce seed in Taita Taveta, given the small landholdings that prevail throughout the county. Seed produced from apical cuttings is profitable after two seasons of multiplication, starting with 1,000 cuttings on 110 m<sup>2</sup>. This requires about 0.25 ha for the second round of multiplication and will produce 4–6 t of seed potato. Farmers will produce 40–60 t of seed after a further season of saving seed on-farm, enough for 20–30 ha.

Taita Taveta University (TTU), Ngerenyi Campus, in Wundanyi ward is assessing the feasibility of producing seed potato from cuttings. The university was supplied with a trial 1,000 cuttings with technical backstopping from the AVCD agronomist to assess progress. The project is also identifying other seed producers to produce seed tubers from cuttings; the challenge is to cover certification costs when seed is produced on small landholdings. TTU is registered as a seed merchant with Kenya Plant Health Inspectorate Service (KEPHIS). Thus, AVCD will discuss with TTU on extending their license to other seed producers. They will also negotiate with KEPHIS and the county to support initial seed certification costs under the Kenya Climate Smart Agriculture Project.

Regardless of who produces seed tubers from cuttings, for this to be sustainable cuttings would have to be locally produced in screenhouses. CIP is identifying progressive farmers/nursery operators to produce cuttings following the model in Meru, where small-scale nurseries are managed by progressive seed multipliers from phase I of AVCD. If certified seed production poses a challenge to develop within the timeline of AVCD, farmers will be trained to produce seed on-farm from cuttings produced by local nurseries if the nurseries can be established in a reasonable timeframe.

A similar strategy will be used in Bungoma County to produce seed from cuttings; however, more emphasis will be on linking farmers to Bubayi Farm in neighboring Kitale, which CIP is supporting to produce certified seed potato on a large scale under a different project.

**Objective 3.** Empower potato farmer producer organizations to engage in marketing and value addition, and provide other necessary services

**Outcome 3.1:** Ware potato farmers record increased value of sales by 25%

**Output 3.1.1:** Eight farmer producer organizations develop business plans

Several activities geared to the formation of a cooperative organization commenced. Sensitization meetings were held on forming a coop in Bungoma County. More than 3,000 farmers from the potato-growing zones received the message about forming a coop within the county. WAOs led sensitization meetings in the learning farms, where the target audience was farmers from various project beneficiary groups. Sensitization meetings received a boost from the county government (office of the governor) as members of the county assembly participated in sensitizing farmers from various learning farms on the benefits of a cooperative organization.

To begin forming a potato cooperative group in Bungoma County, 76 representatives from 54 learning farms and 22 from farmer business schools (as part of a separate GIZ project) met at Mabanga Agricultural Training Center and elected an interim committee of 12 officials who will spearhead registering the cooperative organization (Table 3). The ministry of cooperative development presided over the election. County cooperative development officials will further train the interim committee on formulation of the cooperative's name and the by-laws.

**TABLE 3. POTATO COOPERATIVE OFFICIALS ELECTED PER SUB-COUNTY IN BUNGOMA COUNTY**

Sub-county	No. of Learning Farms	No. of Groups	No. of Representatives
Sirisia	3	13	1
Mt Elgon	24	125	6
Kabuchai	3	13	1
Tongaren	15	63	2
Webuye East & West	9	26	1
Kimilili*	N/A	N/A	1
<b>Total</b>	<b>54</b>	<b>240</b>	<b>12</b>

\*Sub-county under GIZ-supported project

## 1.2 LESSONS LEARNED

To comply with the J2SR rules, the county governments at all levels are involved in activities from planning to implementation, including monitoring activities. Quarterly meetings with county governments are necessary to assess the J2SR. These meetings will be critical to gather information on the counties' investments to complement AVCD's work. AVCD is also to provide the counties with regular monitoring updates to help them realize the benefits that supporting potato value chain



can bring to the counties in terms of reaching their development goals, and to identify areas where the county governments can continue to develop their roles and new areas of interventions.

The approach in AVCD phase I to develop a seed system in the intervening counties relied on identifying a suitable farm/seed company to undertake large-scale seed production. This effort succeeded, with six seed businesses developed, three of them producing certified seed within the phase I project period, and three additional ones producing seed on a medium scale and being supported by other interventions to produce certified seed. With small landholdings dominating production in Bungoma and Taita Taveta, and lack of a farm/seed company to undertake large-scale seed production in each county in an area suitable for seed production, alternative approaches to developing a seed system will be used in AVCD phase 2, as described under objective 2.

## **2. ACTIVITY PROGRESS (QUANTITATIVE IMPACT)**

In consultation with county governments, the number of farmers identified to support in Q2 increased from the original target, as more farmers are active in the current growing season because of long rains. Hence, the achievement surpassed the target for Q2 (Table 4). During the quarter, beneficiary data collected from group registration for seed distribution were uploaded to the MEASURE platform for reporting:

- A total 6,138 beneficiaries have been reached, of which 5,588 have been uploaded to the MEASURE platform.
- About 67% of the farmers reached were female and 33% were male. Surprisingly, the number of female farmers reached seems to be higher than the number of males, and it has surpassed the set target of 40%.
- The data uploaded indicate that young farmers have been reached, with approximately 8% of the farmers reached being youth compared with the set target of 15%.
- Activities to support nutrition-related indicators have begun, yet the target of reaching children by Q2 was wrongly assigned. In Q2 the capacity of the county to deliver nutrition messaging was developed, and the messaging activities will begin in Q3. CHVs were taken through the data collection templates with the expectation that they will collect good quality data. They will be assisted by the WAO supervising each learning farm to identify beneficiaries and organize messaging sessions.

**TABLE 4. SUMMARY OF TARGETS VS. ACHIEVEMENTS FOR AVCD INDICATORS THE POTATO VALUE CHAIN IS REPORTING AGAINST**

<b>Indicator</b>	<b>2019 Target</b>	<b>Achieved/ Target Q2</b>	<b>Achieved/ Target Q2: Bungoma</b>	<b>Achieved/ Target Q2: Taita Taveta</b>
EG.3-2: Number of individuals participating in USG food security programs [IM-level]	8,000	5,588/4,000	4,832/3,200	757/800
EG.3.2-24 Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance [IM-level]	8,000	5,588/4,000	4,832/3,200	757/800
EG.3.2-26 Value of annual sales of farms and firms receiving USG assistance [IM-level]	1,000,000	N/A*	N/A	N/A
EG.3-10,-11,-12 Yield of targeted agricultural commodities among program participants with USG assistance [IM-level]	18	N/A	N/A	N/A
EG.3.2-25 Number of hectares under improved management practices or technologies with USG assistance [IM-level]	1,200	N/A	N/A	N/A
EG.3.3-10 Percentage of female participants of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity [IM-level]	80%	N/A	N/A	N/A
HL.9-2 Number of children under age 2 (0–23 months) reached with community-level nutrition interventions through USG-supported programs [IM-level]	800	0/400	0/320	0/80
HL.9-15 Percent of participants of community-level nutrition interventions who practice promoted infant and young child feeding behaviors [IM-level]	50%	N/A	N/A	N/A
GNDR-2 Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources [IM-level]	40%	66%	66%	62%
YOUTH-3 Percentage of participants in USG-assisted programs designed to increase access to productive economic resources who are youth (15-29) [IM-level]	15%	8%	9%	4%
EG.3.2-29 Number of organizations with increased performance improvement with USG assistance [IM-level]	8	N/A	N/A	1

\* N/A refers to annually monitored indicator that will be reported after Y1 interventions.

### **3. PERFORMANCE MONITORING**

Staff, particularly WAOs, from the county government agriculture department played a central role in project monitoring, helping to prepare data collection templates and using those templates to collect data. They were trained in using refined templates, which is expected to facilitate efficient data collection from activities. To further refine monitoring, the WAOs had to generate the farmer group lists ahead of time to pre-identify the farmers and further improve efficiency in monitoring large numbers of farmers in an activity occurring over a short period of time. However, with the anticipated use of the MEASURE platform, the role of the WAOs in data collection will be greatly reduced. Thus, they will be playing a critical role in field-monitoring activities with the assistance of sub-county agriculture officers.

### **4. CONSTRAINTS AND OPPORTUNITIES**

Owing to small land sizes owned by potato farmers in Taita Taveta County, it was not possible to identify as much land for learning farms as called for in the initial plan (approximately 300 m<sup>2</sup>). The size of learning farms in the county was therefore reduced by half.

### **5. PROGRESS ON GENDER STRATEGY: YOUTH AND PRIVATE SECTOR**

The households in which targeted group members are participating in seed distribution will be profiled in order to gather information on household demographics. Knowing the demographics, particularly different age sets, will be crucial in ascertaining the number of youths who could potentially be targeted by the project interventions, particularly those activities focusing on youth. Furthermore, each learning farm will nominate a young person to help the WAOs collect data when activities are being implemented. We saw progress in Q2 regarding youth participation in the potato value chain, as indicated by the achieved percentage of youth at 8% (9% in Bungoma County, 4% in Taita Taveta County) compared with the baseline of 3%.

### **6. PROGRESS ON ENVIRONMENTAL MITIGATION AND MONITORING**

Taita Taveta suffered from significant reductions in rainfall during the growing season. The 'Unica' variety, however, which was planted in the learning farms, is showing resistance to water stress as posted in the AVCD Potato WhatsApp group (Fig. 2). Actual rainfall and harvest data will be presented in the Q3 report.



*Figure 2. In this post from the AVCD Potato WhatsApp group, the chairperson and a member of Mnarani Farmers Self Help Group in Chawia ward T/Taveta County admire 'Unica' growing at their learning farm. They hope to place their own potato seed orders early to have them on their farms by the end of August for the coming summer season. There is a lot of hope in 'Unica'. There has been no rain in the whole of Taita.*

## 7. PROGRESS ON LINKS WITH GOVERNMENT OF KENYA AGENCIES

In phase 2 of the AVCD potato component, county governments are the principal partners, with a minor role for the National Potato Council of Kenya to support marketing forums and other market support activities. This demonstrates the key roles that the county governments and a national institution play in designing, implementing, and monitoring interventions in the counties. This will foster ownership of the interventions and contribute to ensuring sustainability, as the county can further assess the interventions and note where complementary support is needed. To start, the counties took leadership to identify and preselect the participants in each farmer group, plan and establish learning farms for training in potato production and basic numeracy, and implement seed distribution activities to raise awareness of new varieties and the benefits of quality seed. County offices will lead nutrition-messaging activities. Following the same model as in phase I, the WAOs will work closely with the nutrition department to deliver nutrition messages to the same households that were trained in improved potato production technologies.

The project is also linking to the Kenya Climate Smart Agriculture Project to advocate complementing AVCD activities.

## 8. SUSTAINABILITY AND EXIT STRATEGY

Project activities are being implemented in close collaboration with county government agriculture, cooperative extension, and nutrition and dietetics departments. Close engagement with county governments helps to position potato growing among the objectives of these departments at the county level. Co-investment by county governments under their agricultural support work plans and budgets will be encouraged and monitored by the project. The extensive capacity building at several levels will help build competencies so that interventions such as ToT, farmer training in productivity-enhancing technologies, potato production and GAP, seed production, and farmer institution/marketing cooperative development will continue after the project closes. A further key to sustainability is ensuring access to seed because without it none of the interventions can continue.

## 9. WORK PLAN FOR Q3

Activities in Q3 for the potato component will concentrate on harvesting the learning farms and collecting harvest data, nutrition messaging, developing a cooperative organization in Bungoma County and potato marketing groups in Taita Taveta County, and assessing the feasibility of developing a cooperative organization in Taita Taveta. Further, feasibility of seed production in Taita Taveta will continue to be assessed, and a seed business in Taita Taveta and Bungoma will be identified.

All activities were completed as planned in Q2, with some activities continuing into Q3 (Table 5).

**TABLE 5. STATUS OF ACTIVITIES FOR PROJECT Y1Q2**

<b>Planned Actions from Previous Quarter</b>	<b>Actual Status (Q2)</b>	<b>Explanations for Deviations</b>
Hold activity planning meetings with partners and stakeholders		
Develop communication materials	In process	Developing case studies from phase I of AVCD
Rapid assessment Bungoma and Taita Taveta	Completed	
County agriculture: Raise awareness of quality seed, seed distribution	Completed	
County agriculture: establish learning farms	Completed	
County agriculture: train on learning farms	In process	Modules 1–3 completed, Module 4 in Q3
County agriculture: targeted training campaign on options to save seed on farm	Completed	
County nutrition: train CHVs in nutrition messaging	Completed	
County nutrition: train CHVs in infant and young-child feeding	Completed	
Support farmer producer organizations to form/rally members	In process	Process has begun in both Bungoma and Taita Taveta

# **ANNEX I. LIST OF DELIVERABLE PRODUCTS**

The hard copy version of the GAP training package was submitted to ILRI. Samples were provided to USAID.

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