

USAID KENYA Accelerated Value Chain Development Program

Potato Value Chain

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Prepared by:

International Potato Center

CONTENTS

CONTENTS.....	1
ACRONYMS.....	2
EXECUTIVE SUMMARY	3
1. BACKGROUND	1
2. KEY ACHIEVEMENTS (QUALITATIVE IMPACT).....	3
2.1 PROGRESS BY OBJECTIVES.....	3
2.1.1 Project Objective 1	3
2.1.2 Project Objective 2	5
2.1.3 Project Objective 3	6
2.1.4 Project Objective 4	8
2.2 LESSONS LEARNED.....	9
3. ACTIVITY PROGRESS (QUANTITATIVE IMPACT).....	9
4. PERFORMANCE MONITORING.....	10
5. CONSTRAINTS AND OPPORTUNITIES.....	10
6. PROGRESS ON GENDER STRATEGY: YOUTH AND PRIVATE SECTOR.....	11
7. PROGRESS ON ENVIRONMENTAL MITIGATION AND MONITORING	11
8. PROGRESS ON LINKS WITH GOVERNMENT OF KENYA AGENCIES.....	11
9. J2SR, SUSTAINABILITY, AND EXIT STRATEGY	11
10. WORK PLAN FOR Y3Q2.....	11
ANNEX 1. LIST OF DELIVERABLE PRODUCTS.....	14

ACRONYMS

AVCD	Accelerated Value Chain Development program
FPO	Farmer producer organizations
GAP	Good agricultural practices
J2SR	Journey to Self-Reliance
KCSAP	Kenya Climate Smart Agriculture Project
KWETSO	Bungoma Potato Farmers' Cooperative Society Ltd
KEPHIS	Kenya Plant Health Inspection Service
TTFPO	Taita Taveta Potato farmer Organization
WAO	Ward agricultural officer

EXECUTIVE SUMMARY

The 9 month cost extension from January to September 2021 supports sustainability of interventions that started only 2 years ago in Bungoma and Taita Taveta, focusing on further developing the farmer producer organizations (FPOs) to operate autonomously; supporting KWETSO, farmer groups and Taita Papa to produce certified seed potato and developing capacity of 6,000 farmers to farm as a business through numeracy training on numeracy learning farms. The county governments lead implementation of activities with guidance from AVCD while FPOs and private sector drive the value chain to support the Journey to Self-Reliance (J2SR).

There were no field activities during the reporting period and first quarter of the extension phase. Activities were largely focused on preparing for the April planting season, including to identify and register 389 farmer groups representing 6,939 farmers for the seasonal numeracy training, continued capacity development of FPOs and supporting County governments towards the J2SR.

Taita Taveta County government through the Kenya Climate Smart Agriculture Project (KCSAP) granted 25,500 USD to 32 farmer groups for the upcoming season, and is in process of a 12,000 USD grant to the Taita Taveta Potato FPO (TTFPO). These awards were a result of successful proposals submitted by farmer groups and TTFPO, hence the farmer institutions are sourcing financial support external from AVCD.

County governments lead and monitored production related activities during the short rains 2020 season (October to February). As a result of applying improved technologies, yields of 25 trained farmer groups from non-traditional agro-ecologies averaged of 16 and 9.9 t/ha in Bungoma and Taita Taveta, respectively, while in traditional agro-ecologies, yields of 49 farmer groups averaged 15.8 and 11.7 t/ha, up from baseline yields of 7.7 t/ha. **The 71 farmer groups collectively produced 88.8 tonnes of seed on-farm worth 49,750 USD, sufficient for ~0.5 ha per group.**

Important for FPO development are revenue streams. KWETSO FPO of Bungoma county prepared to start the first season of certified seed production, with Bungoma County government allocating 3 ha of land. KWETSO also prepared to purchase 5 tonnes of seed from out of county and sell to farmers, expecting a profit of approximately Kes 30,000. TT FPO secured one contract with a hotel in Wundanyi for supplying 500 kg of potato per week and is negotiating two further contracts. Cumulatively, there were 165 and 568 paid members of KWETSO and TTFPO, respectively, as of March 31, up from 151 and 266, respectively, in December 2020.

Seed system development was limited to assessing seed production in 2020 and preparing for the upcoming season. KWETSO is preparing for their first season of certified seed production as an outgrower under ADC Molo seed merchant license, starting with 2.4 tonnes of basic seed, which if half the first harvest is multiplied twice can produce 120 t of certified seed ready for April 2022. The KSCAP-supported seed business farmer groups produced 36.2 tonnes of certified seed over two seasons in 2020. Two farmer groups are preparing to plant 1 tonne of basic seed for April 2021, which if multiplied twice can produce 100 t of certified seed ready for April 2022. AVCD is supporting KSCAP and the farmer groups in seed planning to ensure sufficient land and storage.

A key CIP technology to advance value chain development are robust potato varieties adapting to diverse climates, resistant to disease, and tolerant to heat and water stress. After farmers observed the performance of robust varieties, of the 53.4 tonnes of seed farmers in Taita Taveta and Bungoma bought for the LR2021, 91% was of the robust variety Sherekea, resistant to late blight. Especially during the upcoming long rains when late blight disease pressure is great, resistance to the pathogen provides farmer with an effective tool to manage disease, along with reduced number of agro-chemical sprays.

I. BACKGROUND

Potato farming in Kenya supports approximately 800,000 largely smallholder farmers and another 2m people along the value chain as market agents, transporters, distributors, processors, vendors, retailers, and exporters.¹ Despite low yields, the average gross margin of potato farming is \$720/ha, equivalent to an income of \$180/month compared with gross margin of \$550/ha, which is an income of \$92/month for maize.² Doubling productivity would result in increasing gross margins to \$1,300–\$1,400/ha, which translates to monthly incomes of \$325–\$350/ha. With such an income, potato farmers can be food secure and out of poverty and graduate from subsistence to farming as business.

During the 3 years of phase I of the Accelerated Value Chain Development (AVCD) program, the potato value chain component, led by the International Potato Center (CIP), supported about 46,000 farming households with improved technologies to improve farm productivity and engage in market systems in Elgeyo-Marakwet, Meru, Nandi, and Uasin Gishu counties.

Phase 2 of the AVCD potato component is replicating phase I interventions in the two new counties of Bungoma and Taita Taveta. These are not major potato-producing counties in Kenya, hence general knowledge of good agricultural practices (GAP) for potato and the access to commercial seed are weak. The theory of change (ToC) partly relies on increasing the number of potato farmers so that the benefits of this crop and its contribution to national production can be realized at a greater scale, thereby increasing the importance of potato in these counties.

To support the ToC, the potato value chain is promoting potato production and marketing in 17 nontraditional wards where potato is grown at a very low level or not at all due to the agro-ecology, and in 10 traditional potato-producing wards where potato is commonly grown due to conducive highland conditions and high rainfall agro-ecology (Table 1, Fig. 1).

TABLE 1. POTATO WARDS UNDER AVCD POTATO VALUE CHAIN

County	Sub-county	Ward	Traditional or Nontraditional Potato Agro-ecology
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
		Chepyuk	Traditional
		Chesikaki	Traditional
		Elgon	Traditional
		Kapkateny	Traditional
		Kaptama	Traditional
	Sirisia	Namwela	Nontraditional

¹ Ministry of Agriculture, Livestock and Fisheries. 2016. The National Potato Strategy, 2016–2020.

² ACIDI-VOCA. 2012. Kenya Maize Development Programme II: Performance Evaluation.

County	Sub-county	Ward	Traditional or Nontraditional Potato Agro-ecology
	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

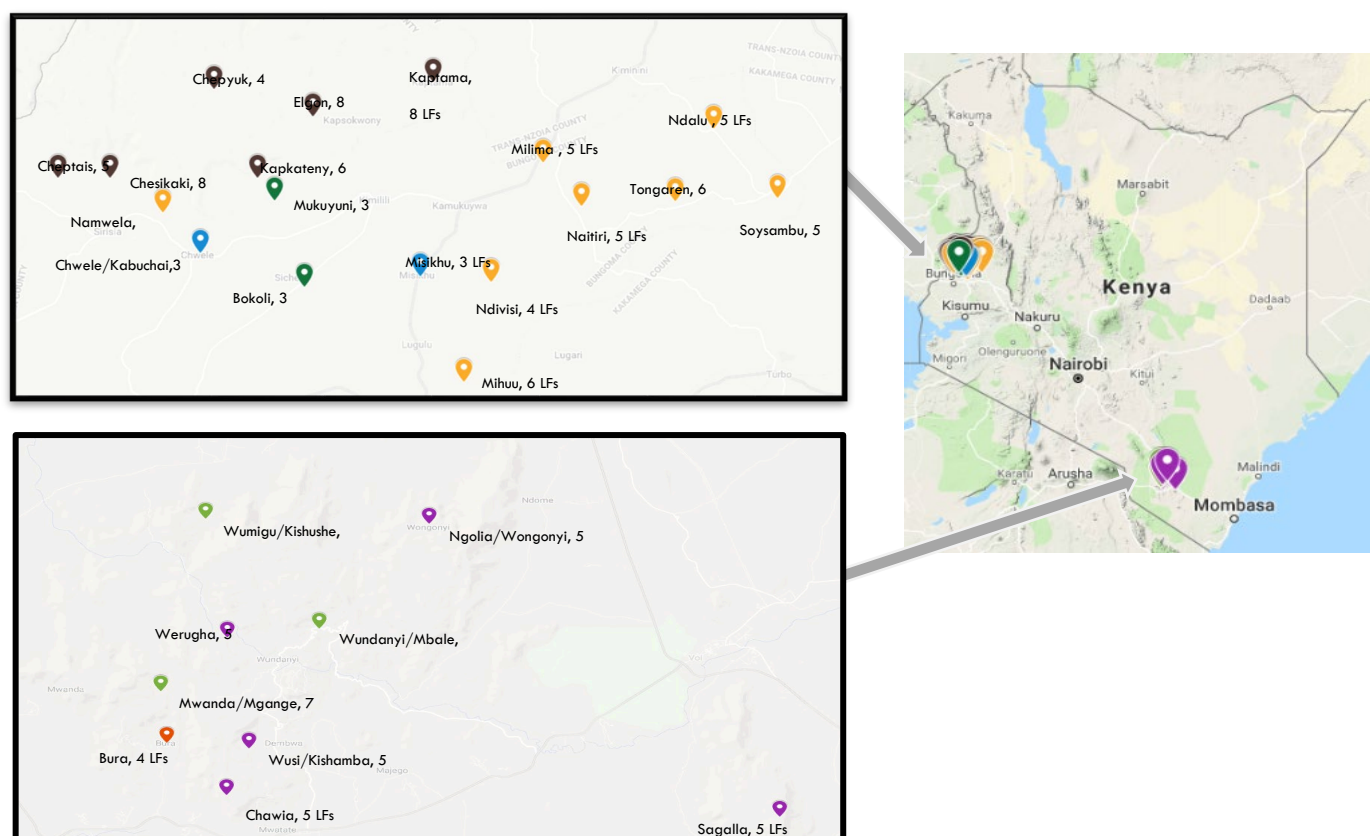


Figure 1. Map of AVCD potato learning farms by ward in Bungoma and Taita Taveta counties in Y2Q1.

2. KEY ACHIEVEMENTS (QUALITATIVE IMPACT)

2.1 PROGRESS BY OBJECTIVES

The 9 month cost extension from January to September 2021 supports sustainability of interventions that started only 2 years ago in Bungoma and Taita Taveta, focusing on further developing the farmer producer organizations (FPOs) to operate autonomously; supporting KWETSO, farmer groups and Taita Papa to produce certified seed, and developing capacity of 6,000 farmers to farm as a business through numeracy training on numeracy learning farms. The county governments lead implementation of activities with guidance from AVCD while FPOs and private sector drive the value chain to support the Journey to Self-Reliance (J2SR). Potato in Bungoma and Taita Taveta counties was relatively low profile until AVCD, which has contributed to these counties prioritizing the crop in county development plans and starting to invest through Kenya Climate Smart Agriculture Project (KCSAP) and county government budgets.

2.1.1 Project Objective I

Project Objective I focuses on adding depth to the good agricultural practices (GAP) training of phase 2 following assessment of limited numeracy skills. Through a season-long, 3-module numeracy training program on learning farms led by the county governments, 389 among the 849 farmer groups from phase 2 will be able to calculate cost of production and net income from potato farming enabling farming as a business.

Project Objective I brings farming as a business to the forefront of the potato farming system aligning with **IR 1 Strengthened inclusive agriculture systems that are productive and profitable**. Development of county-level potato strategies/programs are providing the enabling environment impacting *the number of individuals in the agriculture system who have applied improved management practices or technologies*. Further aligning with **IR 4: Increased sustainable productivity, particularly through climate smart approaches**, Project Objective I *increases production of the important national food security crop by increasing productivity of potato farming systems with climate smart technologies*.

The original project plan was to end activities December 2020, thus there were no AVCD activities supporting potato production during the short rains 2020 (SR2020; October to February). However, the counties autonomously continued with AVCD GAP activities for SR 2020 contributing to the J2SR. The 33 ward agricultural officers (WAOs) in Bungoma and Taita Taveta counties supported the trained farmer groups and individual farmers from the previous 2 years to *apply technologies, including saving seed on farm, resulting in improved yields by 200 and 50%, respectively, and significant cost-savings on farm production*.

Applying technologies – certified seed and saving seed on-farm. Farmers bought 7.9 tonnes of certified seed valued at USD 4,537 for the long rains 2021 season (LR2021, April to August). Farmer groups multiplied the seed a second season that they received LR2020 to apply the GAP training. During the SR2020, yields of 25 trained farmer groups from non-traditional agro-ecologies averaged of 16 and 9.9 t/ha in Bungoma and Taita Taveta, respectively, while in traditional agro-ecologies, yields of 49 farmer groups averaged 15.8 and 11.7 t/ha, up from baseline yields of 7.8 and 7.7 t/ha, respectively. **The 71 farmer groups collectively produced 88.8 tonnes of seed on-farm worth 49,750 USD, sufficient for 0.65 and 0.45 ha per group** in Bungoma and Taita Taveta, respectively (Tables 2 and 3). This production was on target whereby 1 bag should produce 75 bags after two cycles of multiplication at a yield of 15 t/ha.

TABLE 2. HARVEST OF SEED PLOTS FROM SHORT RAINS 2020 OF INDIVIDUAL AND FARMER GROUPS IN BUNGOMA COUNTY

Ward	No. of FG ^a	Variety	Quantity planted Oct 2020 (kg)	Quantity harvested Mar 2021 (kg)	Yield (t/ha)	Agro-ecology for potato
Chepyuk	6	Sherekea, Unica, Dutch Robjin, Shangi	950	4,950	10.4	Traditional
Chesikaki	7		980	8,785	17.9	Traditional
Elgon	14		2,690	22,247	16.5	Traditional
Kapkateny	9		1,800	14,857	16.5	Traditional
Total/Average	36		6,420	50,839	15.8	Traditional
Misikhu	3	Shangi, Sherekea, Unica	500	4,244	17	Non-Traditional
Mukuyuni	1	Dutch Robjin	100	500	10	Non-Traditional
Ndalu Tabani	8	Sherekea, Unica, Dutch Robjin, Shangi	1,370	11,757	17.2	Non-Traditional
Soysambu/Mitua	3	Sherekea, Dutch Robjin	450	2,900	12.9	Non-Traditional
Tongaren	1	Sherekea	100	763	15.3	Non-Traditional
Total/Average	16		2,520	20,163	16.0	Non-Traditional
Overall/Average	52		8,940	71,002	15.9^b	

^a Farmer groups and individual farmers

^b Baseline survey average yield in 2019 was 7.8 t/ha.

TABLE 3. HARVEST OF SEED PLOTS FROM SHORT RAINS 2020 OF INDIVIDUAL AND FARMER GROUPS IN TAITA TAVETA

Ward	No. of FG ^a	Variety	Planted Oct/Nov 2020 (kg)	Harvested Feb/March 2021 (kg)	Yield (t/ha)	Agro-ecology for potato	% individuals below the poverty line
Mwanda/ Mgange	2	Unica, Sherekea	172	577	6.7	Traditional	53.5
Werugha	3	Shangi	450	3,285	14.6	Traditional	50.6
Wundanyi/ Mbale	6	Shangi, Unica, Lenana ^b	1,356	7,772	11.5	Traditional	51.1
Wusi/ Kishamba	2	Shangi, Unica	120	617	10.3	Traditional	58.1
Total/ Average	13		2,098	12,251	11.7	Traditional	
Chawia	2	Lenana ^b , Unica, Nyota ^b , Shangi	498	2,422	9.7	Non-Traditional	58.2
Mwanda/ Mgange	1	Unica	52	318	12.2	Non-Traditional	53.5
Sagalla	1	Farida	60	339	11.3	Non-Traditional	56.2
Wusi/ Kishamba	5	Farida, Shangi, Unica, Sherekea	515	2,516	9.8	Non-Traditional	58.1
Total/ Average	9		1,125	5,595	9.9	Non-Traditional	
Overall/Average	19^c		3,223	17,846	11.1^d		

^a Farmer groups and individual farmers

^b These varieties were multiplied from cuttings from Taita Papa nursery

^c Number of unique farmer groups/individuals

^d Baseline survey average yield in 2019 was 7.7 t/ha

Applying technologies – farmer group numeracy training. WAOs identified and registered the target 389 farmer groups (307 in Bungoma, 82 in Taita Taveta) representing 6,939 smallholder farmers (5,605 in Bungoma, 1,334 in Taita Taveta) to receive basic numeracy/business skills training at the numeracy learning farms during the upcoming LR2021 (Table 4). All the 389 selected groups met the following criteria:

1. Successfully completed the GAP training in any of 3 previous phase 2 project seasons;
2. The farmer group must have submitted yield data from their learning farm or group seed plot;
3. Majority of the farmer group members must have attended GAP training sessions;
4. Has at least 15 active members who are growing potatoes during the previous season, SR2020;
5. At least 20 + Women only farmer groups/county; and
6. At least 10 + youth only farmer groups/county.

WAOs identified host farmers for each of the 95 numeracy learning farms (54 in Bungoma and 41 in Taita Taveta). The host farmers were selected by group members with guidance from their respective WAO. Each numeracy learning farm is assigned to 2 and 6 farmer groups in Taita Taveta and Bungoma county, respectively.

TABLE 4. FARMER GROUPS TO BE TRAINED BY WAOS AT NUMERACY LEARNING FARMS FOR LONG RAINS 2020

	Sub County	No. of Wards	No. of FG ^a	# Women	# Men	Grand Total	% Women	% Youth	Potato agro-ecology
Bungoma	Sirisia	1	6	76	54	130	58.5	17.7	Non-Traditional
	Tongaren	5	70	837	392	1,229	68.1	8.5	Non-Traditional
	Webuye East	1	12	143	45	188	76.1	5.3	Non-Traditional
	Webuye West	2	23	253	117	370	68.4	3.2	Non-Traditional
	Chwele/Kabuchai	2	12	198	47	245	80.8	6.9	Non-Traditional
	Mt. Elgon	6	184	2,263	1,180	3,443	65.7	22.8	Traditional
	Subtotal	17	307	3,770	1,835	5,605	67.3	17.0	
Taita Taveta	Mwatate	3	26	279	124	403	69.2	14.4	Non-Traditional
	Voi	2	12	154	69	223	69.1	9.0	Non-Traditional
	Taita	4	44	509	199	708	71.9	7.6	Traditional
	Subtotal	9	82	942	392	1,334	70.6	9.9	
Total		26	389	4,712	2,227	6,939	67.9	15.6	

^a Farmer groups

WAOs will lead the basic numeracy/business skills training following 3 modules covering understanding farming as a business, farm records, cost benefit analysis. AVCD potato component conducted the ToT for the WAOs providing a training manual and numeracy brief and calculation sheet for farmers. WAOs will further monitor the participation at the training and sample farmers to assess applying numeracy skills training.

2.1.2 Project Objective 2

Project Objective 2 focuses on seed system development by supporting FPOS and farmer groups to produce certified seed and enable farmers to save quality seed on farm using specific technologies. To increase access to seed, especially by women and youth, FPOs will coordinate the collective purchase of inputs to support use of certified seed, creating markets for the seed businesses and resulting in increased yields of 25%.

Through developing seed roadmaps with county governments and supporting certified seed production by private seed businesses: KWETSO FPO in Bungoma and farmer groups in Taita Taveta, Project Objective 2 aligns with **IR 2 Strengthened and expanded access to markets and trade resulting in farmers buying certified seed which is critical for trade**. Seed production was limited to assessing seed production in 2020 and preparing for the LR2021 during the reporting period which was between cropping seasons.

Certified seed production. KWESTO FPO in Bungoma county is preparing for their first season of certified seed production as an outgrower under ADC Molo seed merchant license, starting with 2.4 tonnes of basic seed of varieties Unica, Sherekea and Shangri on 1.2 ha in Chepyuk ward, noting Bungoma county allocated the land in Chepyuk ward. In preparation for planting, KEPHIS inspected the site and took soil samples for analysis following seed certification protocols. KWESTO further has developed a plan to plant 10,000 apical cuttings in Kaptama ward with support from GIZ-NuSePPP in collaboration with AVCD project.

AVCD-KSCAP held a meeting in January to elaborate on certified seed production by the four farmer groups. The meeting specifically addressed seed production to date and plans for upcoming season with emphasis on seed planning to ensure that seed is multiplied over two seasons while maintaining quality assurance – essential for a profitable seed business. The farmer groups produced 36.2 tonnes of certified seed over two seasons in 2020. Two farmer groups are planning to plant 1 tonne of basic seed for LR2021, which if multiplied twice can produce 100 t of certified seed ready for LR2022. Challenges are certification processes which delay labels and farmers accessing certified seed.

Commercial production of apical cuttings in Taita Taveta county. Taita Papa nursery has overcome the technical problems faced in 2020 which previously caused high losses in the screenhouse. The third season of production began January to prepare mother plants to target cuttings available from mid-March. The quality of the cuttings has improved, producing high quality juvenile cuttings.

KWETSO FPO plans to purchase 5 tonnes of certified seed to sell onwards to farmers, estimating a revenue of 30,000 kes. The Taita Taveta Potato FPO (TTFPO) aggregated 2.8 tonnes in seed orders for farmer members valued at 1,500 USD.

Taita Taveta county increases investment in potato through KSCAP. KCSAP will support 32 farmer groups under a competitive grant to receive 45.6 tonnes of seed of the robust CIP variety Sherekea valued at approximately 25,500 USD. This is an increase from last season when 10 farmer groups were supported by competitive KCSAP grants bought 26.5 tonnes of certified seed. Valued at 14,800 USD.

2.1.3 Project Objective 3

Project Objective 3 focuses on empowering potato FPOs to engage in marketing and value addition through organizational and business capacity development. The idea is to then provide necessary services among member farmers to support farming as a business.

Project Objective 3 will ensure better coordinated marketing systems for potato farmers through improving business performance of FPOs to increase *value of annual sales of smallholder farmers* contributing to **IR 2 Strengthened and expanded access to markets and trade**. In the reporting period, FPOs improved business performance advancing on FPO coordination and business plans, developing revenue streams and increasing membership.

FPO/County meetings. AVCD potato component supports the FPOs to host monthly meetings to support coordination within the FPO and the county governments. These meetings commenced in March and the FPO Secretary Manager records the minutes for each meeting:

- Executive Monthly Progress/Planning Meetings: In attendance are FPO Chairman and Secretary Manager, county potato focal point and AVCD field officer.
- Full Committee/county Monthly Progress/Planning Meetings: TT FPO and KWESTO hold their full committee monthly meetings to review progress and agree on upcoming activities. Meetings are attended by FPO committee members and secretary manager, county staff from Department of Agriculture and Social Development/Cooperative and AVCD field officers.

On a quarterly basis, senior County officials from Departments of Agriculture and Social Services, AVCD potato component team and all FPO committee members meet to discuss progress to date and planning for the next quarter. The first meetings were held in January³.

FPO Operations and Record Keeping. The FPOs are active rallying membership and support from county government and other programs. The FPOs are carrying out market surveys. The secretary manager for both KWESTO and TTFPO continue to keep records on membership and financial status for their respective FPO.

In March, KWETSO hosted a meeting to request support for certified seed production. Ministry of Agriculture, representatives of Yara Fertilizers Ltd, Toyota Tsusho Baraka fertilizers Ltd, Cereal Growers Association and Send A Cow attended the meeting. The follow up of this meeting is still in progress.

FPO revenue streams. KWESTO has plans to purchase 5 tonnes of seed from out of county and sell to farmers, expecting a profit of approximately Kes 30,000. Aggregating seed orders is projected to become an income source, supporting the FPOs towards becoming independent of external support.

TT FPO secured one contract with a hotel in Wundanyi for supplying 500 kg of potato per week and is negotiating two further contracts. The contract sells potato at 35 kes/kg, compared to a retail price of 40 kes/kg.

KCSAP national office in Nairobi visited TTFPO to assess the eligibility to apply for the investment funds/enterprise development funds from KCSAP. The KSCAP committee accepted TTFPO's investment plan and submission of a 12 million kes (12,000 USD) proposal for:

- 2 solar powered cold storage unit using fabricated 40 ft containers: one for each seed and ware potato
- 7 aggregation centers with equipment for weighing, grading and packaging.

The FPO will be awarded the grant upon submitting the financial report and achieving the membership target for the Kes 1 Million (10,000 USD) in inclusion grants to register at least 1,000 members.

Membership Recruitment. The FPOs will benefit from the farmers mobilized for the numeracy learning farm trainings to rally members. Cumulatively, there were 165 and 568 paid members of KWETSO and TTFPO, respectively, as of March 31, up from 151 and 266, respectively, in December 2020. Each member is required to pay a registration fee of Kes 500 and Kes 200 respectively for KWESTO and TT PFO. Both FPOs have a receipt book and each member is given a receipt upon payments.

³ https://www.dropbox.com/s/rfy8j6y2dr8e2sh/MINUTES%20_KWESTO%20FCS%20STRATEGY-PLANNING%20MEETING%20%20-18%20Jan%202021.pdf?dl=0
https://www.dropbox.com/s/wbqrrigr6gem9d/MINUTES%20_TAITA%20TAVETA%20POTATO%20%20FPO%20STRATEGY-PLANNING%20MEETING%20%20-19%20Jan%202021.pdf?dl=0

Enhancing the Digital Platform Viazi Soko to Support Seed and Potato Marketing in Kenya.

NPCK hosts the Viazi Soko (potato marketing) platform where farmers are able to query and access seed availability information such as; variety, quantity, price per kg, location and contacts of seed producer and market prices of ware potato in major towns. Leading up to the LR2021 season, 400 smallholder farmers accessed information on seed availability and prices through the platform., ordering 134 tonnes of certified seed which was delivered by registered service providers to the nearest designated drop off points where farmers or group members would pick their orders.

2.1.4 Project Objective 4

Project **Objective 4 develops the** capacities of institutions, partners and stakeholders for the sustainability of the interventions and the J2SR. Transforming value chains is a process requiring enabling environment, capacity development at many levels, multi-stakeholder coordination, access to resources, behavior change and a monitoring system to guide support. Objective 4 builds upon gains made in Bungoma and Taita Taveta counties by developing the capacity of key potato value chain institutions to carry forth AVCD interventions.

Through capacity development of county government and FPOs, Project Objective 4 aligns to **CCIR6 Improved Human, organizational and system performance** *impacting county government investments in the potato value chain guided by county strategies/programs thereby contributing to enhancing uptake of productivity-enhancing technologies and streamlining value chains thereby supporting the J2SR through enabling more effective governance, policy, and institutions.*

Sensitization meeting for Agriculture Committee Members of Bungoma County Assembly. The Ministry of Agriculture in Bungoma county and potato component of AVCD hosted a meeting in March for the Agriculture Committee Members of Bungoma County Assembly (MCA) to sensitize, seek support/buy-in and promote ownership of the Bungoma Potato Strategy by the MCAs. The MCAs committed to upholding a line for the potato value chain in the county budget to support key areas in the strategy complementing AVCD⁴. The Bungoma county government allocating 2.5 ha land in Chepyuk ward to KWETSO for certified seed production completing a follow up action from the meeting.

Several other county planning and evaluation meetings occurred during the reporting period, including:

- January: Project cost-extension planning meetings with each county in January
- January: County meetings with FPOs in January to discuss the cost extension plan and targets
- January: KSCAP seed planning meeting for certified seed production by AVCD farmer groups
- February: AVCD Project Management Secretariat (PMS), field monitoring in Taita Taveta and Bungoma County. During the field monitoring, PMS team accompanied by potato value chain and county team visited the two FPOs (KWESTO and TTFPO) and one trained farmer group in each county.
- February: WAO ToT for numeracy and business skills training
- March: Development/ reviewing of Business plan for KWESTO and TTFPO with county government Department of Agriculture and Social Development/Cooperative

As described above, Taita Taveta and Bungoma counties are investing in the potato value chain to ultimately contribute to development outcomes. Taita Taveta has invested 25,500 USD under competitive grants for 32 farmer groups to purchase seed and is expecting to invest a further 12,000 USD in TTFPO. Upon achieving the 1,000 member target of the previous 10,000 USD grant. The county governments are involved in all activities, with cascading workshops to plan activities with

4

<https://www.dropbox.com/s/mc19lq2947h4v9a/MINUTES%20OF%20THE%20BUNGOMA%20COUNTY%20POTATO%20STRATEGY%20SENSITIZATION%20MEETING%20-MCA-16%20March%202021.pdf?dl=0>

senior county and field officers. Value of Bungoma county direct investments into the potato value chain are being followed up following the MCA meeting. Both counties further contribute an AVCD focal point, WAOs and CHVs to implement AVCD activities, along with senior county officials having included potato-related matters into their agendas.

2.2 LESSONS LEARNED

Coordinating all activities with all levels of county governments with them leading follow up activities have been key in county governments prioritizing and investing in potato value chain in their various county programs. The capacity development at all levels of county government cemented the commitment of the counties to autonomously continue forward with AVCD interventions as they provided extension and monitoring support to farmer groups in the absence of direct support from AVCD.

3. ACTIVITY PROGRESS (QUANTITATIVE IMPACT)

There were no field activities contributing to indicators during the reporting period and first quarter of the extension phase (Table 5, Annex 2). Activities were largely focused on preparing for the LR2021 season, including to register the 6,939 farmers for the season. The majority of indicators will be measured in August, after the cropping season and sales have completed. AVCD did not support activities during the SR2020 as it was expected for the project to end December 2020 before the completion of the cropping season, as per the workplan. The counties however continued with production activities providing extension support and monitored the production of farmer group seed plots, contributing continuous monitoring data to EG.3-10 -11,-12 Yield of targeted agricultural commodities.

TABLE 5. TARGETS OF FTF INTERMEDIATE RESULTS INDICATORS FOR THE POTATO VALUE CHAIN COMPONENT OF AVCD, JANUARY TO SEPTEMBER, 2021

Indicator	Target	Achieved	Comment
EG.3-2: Number of individuals participating in USG food security programs [IM-level]	6,000	0	6,939 beneficiaries registered to benefit from numeracy training entered into the database. They will be become beneficiaries once participate in the training
EG.3.2-24 Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance [IM-level]	6,000	0	Will be determined through continuous monitoring and rapid endline survey lead by county governments at end of the cropping season, August No activities to support these indicators during the reporting period, January to March, 2021 * From continuous monitoring of 52 and 19 farmer groups in Bungoma
EG.3.2-26 Value of annual sales of farms and firms receiving USG assistance [IM-level]	1,100,000	0	
EG.3-10 -11,-12 Yield of targeted agricultural commodities among program participants with USG assistance [IM-level]	14 t/ha	15.9 and 11.1 t/ha*	
EG.3.2-25 Number of hectares under improved management practices or technologies with USG assistance [IM-level]	800	0	
GNDR-2 Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources [IM-level]	40%	0%	

YOUTH-3 Percentage of participants in USG-assisted programs designed to increase access to productive economic resources who are youth (15-29) [IM-level]	10%	0%	and Taita Taveta, respectively after SR2020 season, the county provided extension and monitored the farmer groups
CBLD-9 Percent of USG-assisted organizations with improved performance [IM-level]	100%	100%	
HL9-2 Number of children under age 2 (0–23 months) reached with community-level nutrition interventions through USG-supported programs [IM-level]	400	0	Planned for Q2 April to June

4. PERFORMANCE MONITORING

Monitoring was limited to entering the 6,939 smallholder farmers that will benefit from potato component activities into the monitoring database. WAOs identified the farmers among the 17,800 that applied technologies during phase 2 (2019-2020) and submitted the lists to the potato component for entry.

For the extension phase, county governments will lead monitoring of field activities for FtF and potato component specific indicators. The potato component will work with the county governments to develop a monitoring program for continuously and annually monitored indicators. WAOs will monitor sampled farmers throughout the season to assess applying the numeracy training. At the end of the growing season, WAOs will survey sample farmers for annually monitored indicators: applying numeracy training technologies, yield and value of sales. FPOs and seed businesses will continuously monitor indicators to assess improved performance.

The potato component will work with the county Ministry of Nutrition to guide CHVs to collect data on nutrition messaging targeting potato beneficiary households with children < 2 years.

With technical backstopping from potato component, specific monitoring plans with indicators will be developed with the counties and FPOs to further lead monitoring of the outcomes:

- smallholders farming as a business through engagement in FPO and better integration into the value chain
- women and youth engagement in the FPOs and value chain.

A registry of monitoring templates and surveys will be maintained by the county governments to support future monitoring and evaluation of interventions.

5. CONSTRAINTS AND OPPORTUNITIES

After adapting to health measures, COVID-19 did not present any constraints to potato component workplan during the quarter. Nor were there observations from partners of any disruptions due to COVID. Virtual meetings to adapt to limited participant measures have become systematic to host enabling critical communication on planning and progress with the county governments.

6. PROGRESS ON GENDER STRATEGY: YOUTH AND PRIVATE SECTOR

As there were no minimal field activities during this quarter. Women and youth participation in FPO and the value chain will be evaluated as per the monitoring plan.

7. PROGRESS ON ENVIRONMENTAL MITIGATION AND MONITORING

After farmers observed the performance of robust varieties, of the 53.4 tonnes of seed farmers in Taita Taveta and Bungoma bought for the LR2021, 91% was of the robust variety Sherekea, resistant to late blight. Especially during the upcoming long rains when late blight disease pressure is great, resistance to the pathogen provides farmer with an effective tool to manage disease, along with reduced agro-chemical sprays. Two thirds of the seed KWETSO is multiplying for certified seed are of Sherekea and Unica, tolerant to late blight, heat and water stress, varieties.

8. PROGRESS ON LINKS WITH GOVERNMENT OF KENYA AGENCIES

CIP-AVCD continues to collaborate closely with county governments, they are the only partners in the project. County programs continue to invest in potato value chain to grow from the AVCD interventions.

9. J2SR, SUSTAINABILITY, AND EXIT STRATEGY

The potato value chain operates under a model of private sector institutions leading activities along the value chain, while public institutions, namely county governments, provide the enabling environment and support services. With close technical support from CIP, county government institutions lead implementation of project activities related to farmer and FPO capacity development, along with providing the enabling environment to invest in the PVC through county potato strategies and integrating PVC into agricultural support work plans.

The project works closely with private sector institutions operating along the value chain as a critical component to self-reliance. Private sector institutions will focus on seed production as a premise to stable and sustainable seed supply in the two project counties, and development of FPOs through market linkages to support farmers to equitably and competitively engage in the value chain.

The extensive capacity building of staff within the county departments and those from private institutions operating within the two counties is central to all interventions as it ensures the continuity of activities beyond the project cycle. While developing capacity of large numbers of farmers to improve productivity is a core goal of the project, developing capacity of implementors

who drive the project will contribute to continued support to the system and scaling out interventions.

10. WORK PLAN FOR Y3Q2

Upon completing the majority of planned activities for the past quarter (Table 6), activities planned for April to July, 2021 in close partnership with county governments:

1. Continue capacity development to further operationalize KWETSO and TTFPO, support revenue streams.
2. Support certified seed production: KWETSO in Bungoma, support Taita Papa and KSCAP farmer groups producing certified seed in Taita Taveta
3. Support county governments to implement farmer group numeracy training on learning farms
4. Continuous monitoring of activities towards indicators
5. Nutrition messaging for potato beneficiaries with children < 2

TABLE 6. STATUS OF ACTIVITIES FOR Y3Q1 (JANUARY TO MARCH, 2021)

Planned Actions for Y3Q1	Actual Status (Q1)	Explanations for Deviations
County Government: Select 389 farmer groups to be trained in numeracy and 95 farmer groups to host numeracy learning farm	Completed	
ToT for WAOs in numeracy training for farmers	Completed	
Support production of cuttings for off-season order of 15,000	Cancelled	technical and management problems arose the in the screenhouse which have been addressed
Support production of 20,000+ cuttings for LR2021	In progress	Season continues from March to May, into the next reporting period
Support Kephis certification of cuttings	Delayed	Delayed until next season as production has improved and the nursery will be ready for certification next season
Technical backstopping of Taita Papa nursery	In progress	On-going. Careful backstopping has resulted in improved performance of the nursery and still progressing
ToT for county governments/WAOs to train farmers on cuttings	Delayed	Was to start in March and continue to April. Delayed to April when cuttings will be ready for training and distribution
County government: WAOs train farmer groups in using apical cuttings to produce seed on-farm	Delayed	
County government: Support FPOs to consolidate farmer seed/input orders	Completed	
County government: guide Bungoma county investment in seed production	Completed	
County government: Support FPO monthly meetings	Completed	
County government: Support FPO in membership drives	Completed	
Support enrollment in training courses for FPO committee members in management and business skills	Delayed	FPO are yet to identify a course
Support FPO linkages with buyers to provide potato under contract	Completed	
General backstopping of FPOs to ensure understand and follow business plans, and	Completed	

Planned Actions for Y3Q1	Actual Status (Q1)	Explanations for Deviations
provide services to farmer members (including FPO manager)		
County government: monitor farmer engagement in FPO	Completed	
County government: monitor women and youth engagement in FPO	Delayed	Developing monitoring design with county governments in May
NPCK: Integrate an E-Extension component into Viazzi Soko platform	Delayed	Coordinating partner NPCK developed schedule beginning May
County government: Develop County Potato strategy with Taita Taveta County Government and stakeholders	Delayed	Coordinating partner NPCK developed schedule for strategy development with the county beginning April
County government: Launch county potato strategy in Bungoma and Taita Taveta counties	Completed	
County government: Identify 1-3 farmer groups to multiply basic seed for certified seed in Bungoma	Completed	
Train farmer groups in seed production and business skills: CIP Bungoma and KSCAP Taita Taveta	Completed	
Arrange for outgrower certified seed production under a seed merchant license (ADC Molo or KALRO) for Bungoma farmer groups	Completed and on-going	
Technical backstopping of seed production by farmer groups	Completed	
County government: Support data capture with CHVs on nutrition messaging	Delayed	Delayed to April when farmer lists for messaging were established
County government: Meetings with stakeholders to follow the J2SR	Completed	
Develop and disseminate communication materials/deliverables	Completed	
Continuous monitoring/spot check of interventions	Completed	

ANNEX I. LIST OF DELIVERABLE PRODUCTS

Deliverables below are in final process of branding and finalising open access links.

1. Numeracy training Module Farming as a Business_WAO/Extension
2. Numeracy training Module _Farmers
3. Calculation tool to project income from post-harvest storage of potato: [Calculation tool to project income from post-harvest storage of potato](#)

The public links from last reporting period deliverables that were not finalized at the time of reporting:

4. Economic feasibility of potato postharvest storage using differing storage units: [Economic feasibility of potato postharvest storage using differing storage units](#)
5. Enhancing the Digital Platform Viazi Soko (Potato Market) in Kenya: [Enhancing the Digital Platform Viazi Soko to Support Seed and Potato Marketing in Kenya](#)
6. Bacterial Wilt of Potato Management Guide for Extension: [Bacterial wilt of potato extension guide for this destructive disease](#)
7. Business skills training guide for farmer producer organisation_Potato: still waiting finalization
8. Taita Taveta Potato Farmer Organization – Draft Business Plan-30-Oct 2020 [Taita Taveta Potato Farmer Organization – Draft Business Plan-30-Oct 2020](#)
9. Bungoma Potato Cooperative KWETSO - Draft Business Plan-30-Oct 2020 [KWETSO - Draft Business Plan-30-Oct 2020](#)

ANNEX 2. PERFORMANCE TABLES

Indicator Title: Number of individuals participating in USG food security programs [IM-level].																									
						Indicator Number: EG.3-2																			
UNIT					DISAGGREGATE BY: Location, event, date and gender																				
	Geographic Location				Activity Title														Date (2021)		W	M	Subtotal		
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Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline		Reporting Period Jan-March 2021				Reporting Period April-June 2021				Reporting Period July-Sept 2021								FY 2021		FY 2021		End of Activity Target		
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Indicator Title: Number of hectares under improved management practices or technologies with USG assistance [IM-level]																									
Indicator Number: EG.3-10 -11,-12																									
UNIT							DISAGGREGATE BY: Location, event, date and gender																		
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Indicator Title: Value of annual sales of farms and firms receiving USG assistance [IM-level]																										
Indicator Number: : EG.3.2-26																										
UNIT							DISAGGREGATE BY: Location, event, date and gender																			
	Geographic Location						Activity Title														Date (2020)		W	M	Subtotal	
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Bungoma			0	0	0	0																

Indicator Title: Yield of targeted agricultural commodities among program participants with USG assistance [IM-level]																									
Indicator Number: EG.3.2-25																									
UNIT							DISAGGREGATE BY: Location, event, date and gender																		
	Geographic Location						Activity Title										Date (2020)		W	M	Subtotal				
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Indicator Title: Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources											
Indicator Number: GNDR-2											
UNIT	DISAGGREGATE BY: Location, event, date and Percentage										
	Geographic Location		Activity Title			Date (2020)				Subtotal	
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Additional Criteria If other criteria are important, add lines for setting targets and tracking	Baseline	Reporting Period Jan-March 2021	Reporting Period April-June 2021		Reporting Period July-Sept 2021		Reporting Period Oct-Dec 2021		FY 2020	FY 2020	End of Activity Target
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Indicator Title: Percentage of participants in USG-assisted programs designed to increase access to productive economic resources who are youth (15-29)											
Indicator Number: YOUTH-3											
UNIT	DISAGGREGATE BY: Location, event, date and gender										
	Geographic Location		Activity Title			Date (2020)		W	M	Subtotal	
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	Baseline		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target
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Indicator Title: Number of children under age 2 (0–23 months) reached with community-level nutrition interventions through USG-supported programs [IM-level]																								
Indicator Number: HL.9-2																								
UNIT							DISAGGREGATE BY: Location, event, date and gender																	
	Geographic Location						Activity Title												Date (2020)		W	M	Subtotal	
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			Target		Achieved		Target		Achieved		Target		Achieved		Target		Achieved		Target		Achieved		Target	
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Indicator Title: Percent of USG-assisted organizations with improved performance [IM-level]												
Indicator Number: CBLD-9												
UNIT	DISAGGREGATE BY: Location, event, date and percentage											
	Geographic Location		Activity Title			Date (2021)		W		M	Subtotal	
	Bungoma and Taita Taveta		Percent of organizations with improved performance			Jan - Mar					100%	
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