AGRO-DEALER MAPPING IN KCDMS COUNTIES OF OPERATION

Feed the Future Kenya Crops and Dairy Market Systems Activity

TECHNICAL REPORT: AGRO-DEALER MAPPING IN KCDMS COUNTIES

Submitted July 18, 2018

Photo Caption

Front Cover: An agro-dealer store
Back Cover: Agro-dealer outlets

LIST OF ABBREVIATIONS AND ACRONYMS

AD	Agro-dealer
AEZ	Agro-Ecological Zones
A.I.	Artificial Insemination
CAO	County Agribusiness Officer
CDA	County Director for Agriculture
CO	Crop Officer
EO	County Extension Officers
FIPS	Farm Input Promotions Africa
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KALRO	Kenya Agriculture and Livestock Research Organization
KEPHIS	Kenya Plant Health Inspectorate Service
KVB	Kenya Veterinary Board
MCA	Member of the County Assembly
NCPB	National Cereals and Produce Board
NGO	Non-governmental Organization
PCPB	Pest Control and Produce Board
SCAO	Sub County Agribusiness Officer
SSPK	Seed Sector Platform Kenya
STAK	Seed Trade Association of Kenya
UoN	University of Nairobi
USIU	United States International University
VBA	Village Based Agents

BRIEF ON THE ASSIGNMENT

Introduction

The Kenya Crops and Dairy Market Systems Activity (KCDMS) is a five-year (Oct 2017– Sept 2022) program of the United States Agency for International Development (USAID). It is funded as part of Feed the Future, the U.S. Government's global hunger, and food security initiative that helps to increase agricultural production and reduce poverty and malnutrition in Kenya. KCDMS activity is being implemented in 12 counties and is designed to spur competitive, resilient market systems in Kenya's horticulture and dairy sectors. KCDMS also seeks to improve access to information and productivity-enhancing agricultural inputs for smallholder farmers through sustainable commercial supply channels. RTI has contracted Agri Experience, Ltd (a Kenyan consulting firm focused on seed systems development) to conduct five scoping studies as part of a seed and inputs sector assessment. Agri- Experience began work on the scoping studies in mid-February.

This report presents the results of the scoping activity focused on carrying out an agro-dealer mapping exercise in the focus counties. A vital component of this work is the development of an agro-dealer database which contains over 1,500 entries and is in Excel format. This report focuses on the analysis of the database and findings to the research questions outlined below.

Scope of work

The scope of work for this study was to carry out the following activities.

- The agro-dealer register from the Seed Sector Platform Kenya should be verified – confirming contact details and continued operation of the shops listed – clearly distinguishing which of these sell crop inputs, which sell vet inputs and which sell both
- Exploring the extent to which these agro-dealers are connected to or participate in other kinds of distribution models (franchise models, hub dealers, agent networks, supplier owned/contracted distributors, etc.).
- The updated list needs to be supplemented with additional listings from the identified counties – at least including all urban shops that have been opened since the creation of a web platform as well as any rural shops that are identified by the critical county-level stakeholders. A complete and exhaustive census is not expected now.
- Identify key attributes of agro-dealers with a high potential for expansion and those meeting criteria of women or youth
- Identify agro-dealers with a valid KEPHIS license, where possible.
- Identify agro-dealers who are members of their county association, where possible
- Comment on the adequacy of coverage and reach of the agro-dealer network regarding the average distance for the producer households in the county – identifying areas where coverage is problematic.
- Viability of the emerging alternative distribution models should be explored.

Besides, Agri Experience was asked to provide specific recommendations for consideration by the KCDMS team. The product was directed to be an Excel database of all information collected in the 12 counties in addition to an approximately 15-page report with relevant appendices which addressed the research questions.

METHODOLOGY

An agro-dealer workshop was held in Kisumu on February 27th and 28th 2018 to initiate the data collection process for the 12 KCDMSD focus counties. At this workshop, the briefing was done and county representatives requested to carry out a mapping exercise except for Bungoma county, which had already been engaged before the workshop, and Vihiga county, which only needed to update data collected conducted in quarter 3, 2017. The remaining ten counties provided insights on the best way to carry out the exercise and immediately began to engage and bring in the relevant stakeholders in preparation for training sessions on the data collection tool. Relevant stakeholders included officials of county governments if advised by the county agro-dealer representatives.

There were three main approaches used in carrying out the mapping exercise in the counties:

1. The county government provided officers to physically carry out the mapping at the sub county level;
2. The agro-dealer(s) self-organized and nominated representatives or enumerators to carry out the mapping at the sub county level; or
3. A blend of the above two – that is, either agro-dealers or the association coordinated the county officials carrying out the mapping.

The approach selected was based on if a county already had an established agro-dealer association. If an association was present, it was easier to mobilize county officials and other agro-dealers. In counties that did not have an association or in which the association was inactive, participating agro-dealers recruited and coordinated the mapping on their own. As mentioned above, Vihiga County was an exception to this process as most of the data had recently been collected as part of a Kenya Markets Trust project coordinated by Agri Experience. In counties where agro-dealers or association officials carried out the exercise, care was taken to ensure that the county government was aware and supportive of the process.

The responsible parties for each county were trained in the appropriate data collection methods on the dates outlined in Annex 3.

As might be expected, each county presented its level of successes and challenges. Details of the process for each county are outlined below:

County specific processes

1. Bungoma County

In Bungoma, the team met with the County Director for Agriculture (CDA), who had been briefed about the RTI project before our meeting and was already supportive of the project and the mapping exercise. The County Agribusiness Officer (CAO) facilitated the meeting and had already recruited nine Sub County Agribusiness Officers (SCAOs) to cover each of the sub-counties. The training was held at one of the county offices. The CAO coordinated the activity. Following the briefing at the workshop, the Bungoma County Agro-dealer Association (which is one of the more active associations) was linked with the CAO to assist in validation of the data. The mapping and validation of the data took ten days.

2. Busia County

Busia County has a strong and vibrant association. Following the briefing in Kisumu, the chairman of the association recruited an agro-dealer from each of the seven sub-counties to attend the training session at a local hotel. The agro-dealers, who also consisted of the vice chair and secretary of the association, coordinated data collection at the sub-county level with the chairman carrying out overall coordination. The chairman also briefed the CAO on the project, who gave the go ahead. Busia is one of the counties that had been keen to carry out a mapping exercise as a way of sustaining and recruiting new members to the association and was therefore quick to take up the opportunity. The mapping took ten days.

3. Homa Bay County

Homa Bay does not have an active association, so initially, one of the agro-dealers who had attended the workshop in Kisumu was engaged to assist with the mapping. This approach did not work well because agro-dealer became too busy to participate, possibly due to the early onset of the rains. He then delegated the task to one of his junior staff members who had limited knowledge about the industry and other agro-dealers in the county. Consequently, this approach was dropped.

The approach that was finally adopted was to engage with an agro-dealer from Kisumu who also supplied inputs to retailers in both Homa Bay and Migori. The Kisumu agro-dealer linked us to the former treasurer of the previous association who then connected us to a budding young agro-dealer. He recruited a few agro-dealers to focus on some sub-counties as well as enumerators to cater for the rest. The team was contracted to collect data in all eight sub-counties and was trained at a local hotel. There wasn't any direct county involvement in this county due to the tight timeline at that point, although the introduction letter was delivered. In this county, there was skepticism from some of the surveyed agro-dealers as they feared that the enumerators were from the government and were seeking to collect dues. To deal with this, each enumerator had a copy of the introduction letter and badges for identification. The exercise took six days

4. Kakamega County
Kakamega has an existing agro-dealer association, which facilitated a meeting with the CAO. Kakamega's association is quite active and was, therefore, able to mobilize the county officers quickly. The CAO recruited 13 Extension Officers (EOs) to represent the 12 sub-counties (2 EOs were hired for one large sub-county). The EOs were trained at the county office. The chairman of the association coordinated the mapping and validated the data. The exercise took 12 days.

5. Kisii County
Despite the absence of a county association, a key agro-dealer took the lead in carrying out this exercise. The agro-dealer, who is a major wholesaler in the county, facilitated a briefing meeting with the CDA. Nine EOs were identified by the county and trained, at the county offices, to carry out the mapping. The agro-dealer coordinated the mapping and verified the data. The exercise took ten days.

6. Kisumu County
Despite Kisumu County not having an association, a key agro-dealer, who is a wholesaler in the county organized a meeting with the CDA and a briefing on the KCDMS project and the mapping. He advised that the fastest way to collect the data was to enable him to recruit enumerators to carry out the data collection. The enumerators were young people from college who the agro-dealer had worked with before. They covered each of the seven sub-counties. The agro-dealer coordinated and verified the data. The exercise took six days.

7. Kitui County

Kitui is arguably the largest of all 12 focus counties concerning the surface area and does not have a county association. However, the agro-dealer recruited to attend the workshop in Kisumu is very progressive and agreed to coordinate the exercise. He contacted several agro-dealers from the eight sub-counties to participate in a briefing on how to form an association. He was hopeful that they would buy into the idea of creating an association and then agree to assist in carrying out the mapping exercise. Unfortunately, due to very heavy rains in the county for the two days before the meeting, only five agro-dealers attended. The northern part of the county, i.e., the Mwingi area, had been cut off with the floods wiping out connecting roads. Also, the sudden rain meant the agro-dealers were busy selling inputs, and some declined to travel as they were busy attending to their customers.

Ultimately, the five agro-dealers who attended the session were receptive to the idea of forming an association and agreed to support the mapping exercise. (This county is worth monitoring for progress on the formation of an association.) Three of them were trained on the data collection tool, and one took it upon himself to travel to Mwingi to recruit and train others on sub-county mapping.

The agro-dealer was unable to engage the county government to attend the session or participate in the mapping exercise due to the tight timeline. He did, however, deliver the introduction letter to the county and contacted the deputy governor to inform him about the mapping. The exercise took ten days.

8. Makueni County

Makueni County does not have an agro-dealer association; hence the key agro-dealer from Makueni recruited agro-dealers from each of the six sub-counties to attend the training session on the mapping. The weather challenges faced in Kitui were also present in Makueni, with only half of the agro-dealers attending the meeting due to the sudden heavy downpour that not only cut off roads but also increased customer activity at their outlets. Despite this challenge the three agro-dealers that attended covered all the six sub-counties by volunteering to travel to the unrepresented counties, recruiting and training a key agro-dealer in each sub-county. The mapping exercise took eight days.

During the training session, the participants mentioned that Makueni had carried out an agro-dealer census in 2015.

Upon visiting the county office with the critical agro-dealer (who coordinated and validated the final data), a meeting was held with one of the Crop Officers (CO), as the CAO and CDA were not available. The introduction letter was left at the CDA's office. The CO was not aware of the KCDMS project or the mapping exercise, but after the briefing, he facilitated the receipt of a copy of the census data from 2015, which the agro-dealers had earlier mentioned. The census data unfortunately covered only 4 of the six sub-counties and was limited in the level of information captured, but was helpful, nonetheless.

9. Migori County

The team encountered the same issue in Migori as in Homa Bay – lack of a pivotal agro-dealer to coordinate. Migori County does not have an agro-dealer association. So, like Homa Bay, the agro-dealer from Kisumu who also distributes in Migori linked the team in Migori. The Migori agro-dealer approached the county office to brief and engage the county but was given the run around about who to interview. The agro-dealer then contacted EOs from each of the eight sub-counties, informed them about the project, and shared the introduction letter. The agro-dealer in Migori then recruited young enumerators from each of the sub-counties to carry out the exercise. The enumerators were trained at a local hotel. The exercise took six days.

10. Siaya County
Siaya Agro-dealer Association is one of the stronger associations. As a result, they have made inroads on communication with the county government. The chairman of the county agro-dealer association set up a meeting with the CDA to introduce the RTI project and provide a briefing on the mapping exercise. EOs from each of the six sub counties were recruited and trained to carry out the mapping. The agro-dealer association supervised the mapping with the chair and secretary verifying the data. Mapping in this county took 12 days.

11. Taita Taveta County

Although Taita Taveta has an agro-dealer association, the key agro-dealer, who is also the secretary of the association, opted to recruit enumerators to carry out the data collection. Since Taita Taveta only has four sub counties, but they are quite vast, 2 enumerators per sub county were recruited. In addition to the enumerators the chair of the county association also participated in the exercise and collected data in his sub county. The relevant county officials were not available on the day the team was in the county, but the local Member of the County Assembly did join us at the training and delivered the introduction letter to the county. The exercise took 6 days.

12. Vihiga County

Vihiga County is the only county that had already carried out a mapping exercise of their agro-dealers. In Q3 of 2017 the county association, in collaboration with the county and with facilitation and support from Kenya Markets Trust and Agri Experience, mapped the agro-dealers within the county. As a result, for the current exercise the county only had to update the data by contacting all mapped agro-dealers and asking them a few additional questions to capture information that wasn't previously collected. The new information collected included data such as the age and gender of the agro-dealer, date of opening the business, and types of inputs sold (vet or crop or both). This verification exercise was carried out by the chair and secretary of the association. The exercise took 12 days.

SUMMARY OF FINDINGS

A. *Verification of agro-dealers registered in the Seed Sector Platform Kenya (SSPK), and distinguishing which are selling crop inputs, vet inputs, or both*

The number of agro-dealer businesses for which information was captured in the mapping, in total, was approximately the same as the number captured in the SSPK exercise in 2014. However, a significant amount of additional information, for example telephone numbers, was captured. While the total numbers were similar, there were meaningful underlying shifts in agro-dealer data. These shifts are illustrated by changes in numbers in individual counties, and by the high number of agro-dealers that opened after 2014 and thus would not have been captured in the SSPK exercise.

Table 1: Summary of agro-dealers mapped versus those in SSPK

County	# of ADs in SSPK	# of ADs captured in mapping exercise	Change	# with telephone numbers	# without telephone number
Bungoma	300	253	-47	253	0
Busia	90	121	31	110	11
Homa Bay	127	80	-47	79	1
Kakamega	253	277	24	271	6
Kisii	124	169	45	169	0
Kisumu	77	94	17	92	2
Kitui	63	91	28	90	1
Makueni	184	140	-44	138	2
Migori	48	96	48	93	3
Siaya	76	65	-11	61	4
Taita Taveta	19	67	48	66	1
Vihiga	159	103	-56	101	2
Total	**1,520**	**1,556**	**36**	**1,523**	**33**

As the data in Table 1 indicates, agro-dealer establishments in seven of the twelve counties increased versus the SSPK numbers, with some counties, such as Taita Taveta, showing significant increases from low bases. For counties with reduced numbers, it is possible that establishments closed, or that all data was not captured during this exercise. (Information on data capture challenges is presented later in this report.)

Significantly, the data collection exercise captured the telephone numbers of 98% of the agro-dealers mapped. This is a significant increase from the SSPK database, which includes telephone numbers of less than 30% of the agro-dealers.

Most agro-dealers sell both crop and vet inputs, as shown in Table 2. For those that do not sell both types of inputs, they primarily sell crop inputs only; less than 5% of all agro-dealers mapped sell vet inputs only. Counties such as Taita Taveta and Migori have an almost a 50/50 split between agro-dealers that sell crop inputs only and those that sell both crop and vet inputs.

Table 2: Inputs sold by mapped agro-dealers

County	Crop Inputs only		Vet Inputs only		Both Crop and Vet Inputs		No response
	No. of ADS	% AD	No. of ADS	% AD	No. of ADS	% AD	
Bungoma	89	35%	2	1%	161	64%	1
Busia	-	-	22	19%	95	81%	4
Homa Bay	8	10%	1	1%	71	89%	-
Kakamega	75	28%	6	2%	187	70%	9
Kisii	55	33%	13	8%	101	60%	-
Kisumu	20	21%	14	15%	60	64%	-
Kitui	6	7%	1	1%	84	92%	-
Makueni	7	5%	2	1%	129	93%	2
Migori	40	42%	7	7%	49	51%	-
Siaya	1	2%	2	4%	54	95%	8
Taita Taveta	31	47%	1	2%	34	52%	1
Vihiga	16	18%	-	-	73	82%	14
TOTAL	**348**	**23%**	**71**	**5%**	**1,098**	**72%**	**39**

B. To what extent are these agro-dealers connected to or participate in other kinds of distribution models

Government officials classify agro-dealers into four broad distribution categories, listed below, based on the volumes and products they sell. The counties and KEPHIS use these categories to provide licenses to agro-dealers and other input distributors.

- Wholesalers: These are the largest distributors of inputs in the value chain. They buy their inputs (mainly crop and vet inputs and, for some, agricultural tools such as sprayers, irrigation equipment, etc.) directly from manufacturers in large volumes and sell both to farmers and to smaller distributors (stockists/retailers). Because of the vast quantities they sell, they usually have extra storage facilities either within or close to their stores.
- Stockists (also known as retailers): These are the last point of sale for farmers. Stockists buy their inputs in small volumes from wholesalers. They generally sell only to farmers, although may occasionally trade with each other to meet local demand or level their inventories. Usually, their stock level is limited by the size of their shop.
- General shops in remote areas: Some shops sell food and household products such as bread, fruits, soap, and clothes, but also sell crop inputs, especially during the planting season. These stores, though perhaps selling these inputs illegally (without a license), take advantage of their remoteness to provide inputs to needy local farmers. They usually buy their seed from wholesalers.
- Hardware shops: Shops that sell products such as paint, tiles, and wheelbarrows take advantage of the peak planting season to sell crop inputs. These shops are mainly located in rural areas as well, but it is also common to find hardware shops in urban and peri-urban regions selling crop inputs. They usually buy their seed from wholesalers.

Table 3 provides details of the mapped agro-dealers broken down into the four broad categories outlined. Other distribution models are explored in under research question G, which relates to emerging alternative distribution models.

99% of agro-dealers responded to this question: 5% are wholesalers, 75% are stockists, and 21% own either general shops or hardware shops. The first two groups, wholesalers, and stockists can be classified as professional agro-dealers. Based on data collected, each wholesaler supplies roughly 200 stockists, although this varies based on the density of the agro-dealer network in each county. This number rises when general shops and hardware shops are included.

Table 3: Classification of agro-dealers by license and county category

| County | Wholesaler | Stockist | Other | | No response |
			General Shop	Hardware Shop	
Bungoma	6%	72%	19%	4%	-
Busia	3%	79%	16%	2%	-
Homa Bay	-	80%	15%	5%	-
Kakamega	5%	73%	20%	3%	4
Kisii	4%	59%	31%	5%	-
Kisumu	9%	69%	17%	5%	-
Kitui	4%	92%	3%	-	-
Makueni	6%	84%	6%	4%	-
Migori	5%	59%	26%	9%	-
Siaya	3%	97%	-	-	4
Taita Taveta	6%	67%	19%	7%	-
Vihiga	2%	85%	9%	3%	8
TOTAL	**5%**	**75%**	**17%**	**4%**	**16**

C. *The updated list supplemented with additional listings from the identified counties – including urban shops that have been opened since the SSPK online platform was created, as well as any rural shops that are identified by the key county level stakeholders.*

The SSPK agro-dealer database, Seed Shop, which was rolled out in 2014, provides six fields of agro-dealer detail. This data was sourced from KEPHIS and AGMARK in 2013 and then screened for duplicates, errors, etc. It does not include a rural/urban breakdown, and as noted earlier the majority of the SSPK agro-dealer records did not include telephone numbers. The current mapping exercise provided an opportunity to capture a higher level of detail from agro-dealers in the target counties, as an additional twelve data fields were added. Table 4, below, shows the initial data fields, and the data fields added to the current mapping exercise.

Table 4: Fields in SSPK vs fields captured during the mapping

	Fields captured during initial **SSPK** mapping based on **KEPHIS** and **AGMARK** data
1.	County
2.	Sub-county
3.	Market/town
4.	Name of premise
5.	Proprietor name
6.	Telephone number (although less than 30% had been provided)
	Additional fields captured during KCDMSD mapping using field-based investigation
7.	Name of local Village
8.	Gender of Proprietor
9.	Age of Proprietor
10.	Business Category (Stockist/Wholesaler/ General shop/ Hardware)
11.	Date of Opening Business
12.	Products sold (Crop Inputs only; Vet Inputs only; Both)
13.	Main Distribution Model (F - Franchise; WS - Wholesaler; R - Retailer; VD - Vet Distributor; CD - Contracted Distributor
14.	KEPHIS Licence Number
15.	VET (KVB) Licence Number
16.	PCPB Licence Number
17.	County Business Licence Number
18.	Membership in County Agro-dealer Association

The mapping exercise included all sub-counties of the 12 counties; some sub-counties are urban while others are rural. If deemed useful, further analysis can identify shops in urban settings versus those in rural settings. The exercise captured the name of the local village where the agro-dealer shop is located, and if needed this information can be used to conduct GPS mapping to pinpoint the general location of both rural and urban agro-dealers.

Email addresses were not captured because of previous experience in working with agro-dealers, in addition to findings from the 2016 Kenya Markets Trust/Agri Experience Agro-dealer Baseline Study, indicates that very few agro-dealers (approximately 5%) have active email addresses. Agro-dealers prefer to communicate via their mobile phones, with about 78% of agro-dealers using their mobile phones as their primary tool for communicating with customers and suppliers (Bayesian, 2016). Email is used by approximately 3%, while the remaining 19% do not communicate using ICT channels (either phone or email), conducting most of their communication in person.

Table 5 shows that a total of 473 agro-dealers (30%) opened their businesses after the launch of SSPK in September 2014. As expected, some of the agro-dealers have closed shop since 2014, but as shown in Figure 1 there has been a steady increase in the number of agro-dealer businesses opened, especially in the last ten years. Approximately 13% (202) of the respondents did not know precisely when the shop was opened or chose not to respond, but for these respondents, it is likely that the shop was set up some years ago.

Table 5: When agro-dealers opened their businesses

	Before 1990	1991-1996	1997-2002	2003-2008	2009-2014	2015-2018	Total Response	No Response
Bungoma	8	7	23	38	68	87	**231**	22
Busia	3	5	12	12	29	40	**101**	20
Homa bay	2	2	7	10	33	23	**77**	3
Kakamega	1	3	27	46	79	92	**248**	29
Kisii	4	7	19	34	63	37	**164**	5
Kisumu	0	0	7	12	32	25	**76**	18
Kitui	0	3	7	16	30	22	**78**	13
Makueni	1	2	3	10	44	46	**106**	34
Migori	0	3	3	23	20	34	**83**	13
Siaya	0	0	2	14	20	21	**57**	8
Taita Taveta	1	1	3	8	19	35	**67**	-
Vihiga	0	1	11	10	33	11	**66**	37
Total	**20**	**34**	**124**	**233**	**470**	**473**	**1,354**	**202**
Percentage	**1%**	**2%**	**8%**	**15%**	**30%**	**30%**		**13%**

Figure 1: 5-year moving average of agro-dealers opening businesses

5-year moving average of agro-dealers opening businesses
(n=1,345)
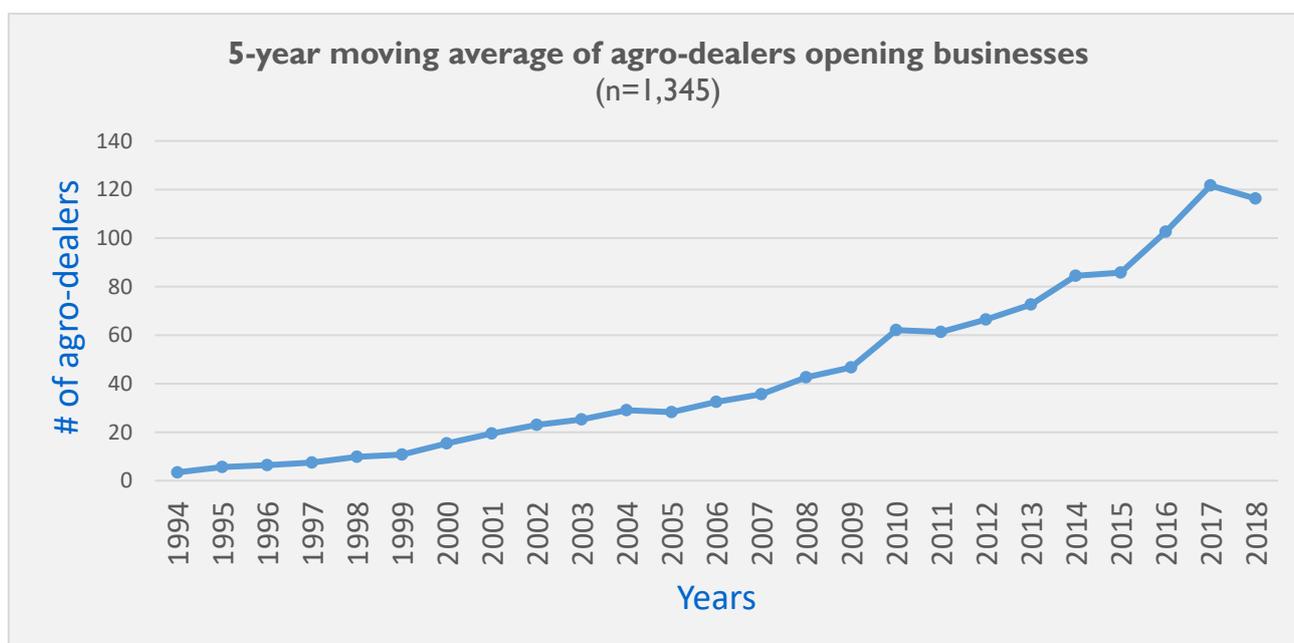
D. Key attributes of agro-dealers with a high potential for expansion, and/or those meeting criteria of women or youth

The breakdown of the age and gender of the business owners is provided in Table 6. Not surprisingly, most of businesses are owned by men (73%). The majority of owners (both male and female) are aged between 36 and 50 years old (53%). Male ownership across the age categories in specific counties is, in some cases, up to four times greater than female ownership. An interesting exception to this is Kitui, among young agro-dealers, where an equal number of women and men below 35 years old own agro-dealers. Of the 473 businesses that opened after the launch of SSPK (after 2014), 28% are women-owned businesses, and 40% are owned by youth (35 and below).

Table 6: Breakdown of agro-dealers by gender and age

	≤ 35 Years			36-50 Years			Above 50 Years			Total Response	No Response
	Female	Male	Total	Female	Male	Total	Female	Male	Total		
Bungoma	5%	14%	**19%**	15%	41%	**56%**	7%	18%	**25%**	251	2
Busia	11%	21%	**32%**	12%	32%	**44%**	5%	20%	**24%**	111	10
Homa Bay	8%	13%	**21%**	14%	37%	**51%**	3%	26%	**28%**	78	2
Kakamega	7%	16%	**23%**	18%	39%	**57%**	5%	15%	**20%**	258	19
Kisii	5%	20%	**25%**	8%	42%	**50%**	4%	21%	**24%**	169	0
Kisumu	9%	21%	**29%**	20%	30%	**50%**	4%	16%	**21%**	92	2
Kitui	12%	12%	**24%**	21%	34%	**56%**	3%	17%	**20%**	90	1
Makueni	11%	22%	**33%**	15%	42%	**57%**	2%	7%	**10%**	126	14
Migori	9%	20%	**29%**	14%	40%	**54%**	1%	16%	**17%**	93	3
Siaya	2%	22%	**23%**	18%	38%	**57%**	5%	15%	**20%**	60	5
Taita Taveta	10%	22%	**33%**	9%	37%	**46%**	4%	16%	**21%**	67	0
Vihiga	5%	9%	**14%**	13%	38%	**51%**	9%	27%	**35%**	93	10
TOTAL % of agro-dealers	8%	17%	25%	15%	38%	53%	5%	18%	22%	1,488	68

In almost all the counties there are more youth (35 and below) who own agro-dealer businesses than owners who are above 51 years. This represents a strong opportunity for strengthening the businesses, as young people are generally more tech savvy, more receptive to new innovations, and may be significantly more ambitious than their senior counterparts. In addition, the data in Table 7 shows that the majority of agro-dealers who are now between 35 and 50 started their business 10 years ago, reinforcing the potential of young entrepreneurs in this sector.

Table 7: Breakdown of agro-dealer shops opened in the last 10 years (2008-2018)

County	35 years and below			36-50 years			Above 51 years			Total Response
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Bungoma	6%	19%	**25%**	16%	40%	**55%**	6%	14%	**20%**	161
Busia	13%	29%	**42%**	13%	32%	**44%**	4%	10%	**14%**	72
Homa Bay	9%	16%	**24%**	10%	41%	**52%**	3%	21%	**24%**	58
Kakamega	8%	19%	**27%**	19%	40%	**59%**	3%	10%	**13%**	179
Kisii	6%	27%	**33%**	8%	45%	**54%**	1%	12%	**13%**	108
Kisumu	10%	28%	**38%**	18%	30%	**48%**	0%	13%	**13%**	60
Kitui	15%	20%	**35%**	24%	30%	**54%**	2%	9%	**11%**	54
Makueni	13%	27%	**41%**	11%	38%	**49%**	1%	9%	**10%**	91
Migori	12%	24%	**36%**	17%	31%	**48%**	0%	16%	**16%**	58
Siaya	2%	26%	**29%**	17%	33%	**50%**	5%	17%	**21%**	42
Taita Taveta	13%	26%	**39%**	9%	30%	**39%**	6%	17%	**22%**	54
Vihiga	6%	10%	**16%**	20%	33%	**53%**	12%	18%	**31%**	49
TOTAL % of Agro-dealers	**9%**	**22%**	**31%**	**15%**	**37%**	**52%**	**3%**	**13%**	**16%**	**100%**
Total Number	**90**	**220**	**310**	**149**	**365**	**514**	**34**	**128**	**162**	**986**

E. Do these agro-dealers have a valid KEPHIS license? And, are these agro-dealers members of their county associations?

The number of agro-dealers who have a Kenya Plant Health Inspectorate Service (KEPHIS), Kenya Veterinary board (KVB), Pest Control and Produce Board (PCPB) and a county business license is shown in Table 8. In a significant development, most them declined to provide this information. As a result, the relevant analysis is based only on the agro-dealers that provided this information. As noted in the section on challenges later in the report, gathering license information created conflict in some counties, with some informants refusing to divulge licensing information. This reluctance could be because the business did not have the license, because the respondent was not the business owner and didn't have the details, or because they feared how the information would be used.

KEPHIS licenses are a mandatory requirement for agro-dealers that sell seed; KVB licenses are required for those that sell vet products, and the PCPB license is mandatory for those that sell pest control chemicals (both animal and crop). However, data shows that less than half of the agro-dealers mapped have the required licenses (KEPHIS 37%, KVB 16%, PCPB 31%). There is an increased uptake of the county business license (an average of 54%), and this may be because respective counties are more active in ensuring compliance as a way of revenue generation. The counties may be a more appropriate channel to use either in issuing agro-dealers' licenses or for enforcing and educating agro-dealers on the importance of complying with other licensing requirements.

Table 8: Summary of ADs by status of agro-dealer licenses

County	KEPHIS Licence		KVB Licence		PCPB Licence		County Licence	
	# With Licence	No Response	# With Licence	No Response	# With Licence	No Response	# With Licence	No Response
Bungoma	142	111	45	208	88	165	152	101
Busia	26	95	5	116	24	97	38	83
Homa Bay	36	44	10	70	19	61	54	26
Kakamega	109	168	39	238	84	193	158	119
Kisii	37	132	32	137	35	134	68	101
Kisumu	35	59	16	78	56	38	67	27
Kitui	33	58	17	74	42	49	57	34
Makueni	42	98	32	108	46	94	55	85
Migori	17	79	7	89	17	79	53	43
Siaya	17	48	9	56	15	50	19	46
Taita Taveta	32	35	10	57	30	37	45	22
Vihiga	42	61	20	83	26	77	73	30
Total	**568**	**988**	**242**	**1,314**	**482**	**1,074**	**839**	**717**
Total %	**37%**	**63%**	**16%**	**84%**	**31%**	**69%**	**54%**	**46%**

Membership in an agro-dealer association is low, most likely since county-based agro-dealer associations are a relatively new development, or due to lack of existence of associations in half of the 12 counties. Of the 12 focus counties, five have a formally-registered agro-dealer association, and one has started but not completed the process. Only Taita Taveta has a membership of over 50% of mapped agro-dealers, as shown in Table 9.

Table 9: Number of agro-dealers that belong to their county association, in counties with associations, and percent of mapped agro-dealers in that county

County	Belong to association		Do not belong		No response		TOTAL
	# of Agro-dealers	%	# of Agro-dealers	%	# of Agro-dealers	%	
Bungoma	68	27%	169	67%	16	6%	**253**
Busia	44	36%	66	55%	11	9%	**121**
Kakamega	69	25%	176	64%	32	12%	**277**
Siaya	12	18%	9	14%	44	68%	**65**
Taita Taveta	41	61%	26	39%	-	-	**67**
Vihiga	20	19%	77	75%	6	6%	**103**
TOTAL	**254**	**29%**	**523**	**59%**	**109**	**12%**	**886**

F. Is there adequate coverage and reach of the agro-dealer network in terms of average distance for the households in the county; are there areas with problematic coverage?

A key measure of agro-dealer coverage is an estimate of the average number of farmers per agro-dealer in the county. Estimates of farmers in seven of the 12 focus counties were available and used to calculate the ratios of agro-dealers to farmers in these seven focus counties as shown in Table 10, below. There is massive variation, with Makueni at the low end at 138 farmers per agro-dealer, and Siaya at the high end with close to 4,000 farmers per agro-dealer.

Table 10: Ratio of agro-dealers to smallholder farmers

County	# of HH	# of ADs captured in mapping	HH/ Agro-dealer
Bungoma	401,669	253	1,588
Busia	129,159	121	1,067
Homabay	248,677	80	3,108
Kakamega	444,194	276	1,609
Kisii	295,426	169	1,748
Kisumu	273,350	94	2,908
Kitui	245,581	91	2,699
Makueni	222,858	140	1,592
Migori	217,277	96	2,263
Siaya	239,971	65	3,692
Taita Taveta	91,949	67	1,372
Vihiga	154,044	103	1,496
Total	2,964,156	1,555	1,906
Average	**247,013**	**130**	**2,095**

Sources: 1) Kenya Population and Housing Census, August 2009, number of households per county 2) http://asdsp.co.ke/index.php and 3) agro-dealer mapping data

Given that not all households are smallholder farmers, this analysis exaggerates the number of households per agro-dealer. However, since the last population census in 2009, it is estimated that there has been a population increase of 22.68% up to 2018, at the annual increase rate of 2.52% per annum (www.worldpopulationreview.com) the estimate might not be too overly exaggerated.

Research data provided by Tegemeo Institute of Agricultural Policy and Development[1] shows that coverage of farmers by agro-dealers has not changed much between the two relevant studies the Institute published in 2010 and in 2015 (the distance covered on average by a farmer going to an agro-dealer is 4.3 km). This varies, as one might expect, by county and sub-county.

---

[1] Tegemeo Institute of Agricultural Policy and Development is a policy research institute under the Division of Research and Extension of Egerton University. The Institute conducts research and analysis on policy in Agriculture, Rural development, Natural resources and Environment.

For the more recent study, Tegemeo carried out a study during the 2013/14 cropping year with a sample of 6,512 households from seven Agro-Ecological Zones (AEZ), all of which cover the 12 focus counties in this project. Tables 11 and 12 provide data from the Tegemeo study that sheds light on the issue of the average distance between agro-dealers and farming households. Table 11 outlines the coverage of the study, while Table 12 indicates the average distances traveled by farmers to acquire various agricultural inputs.

Table 11: Distribution of counties by AEZ, with KCDMSD focus counties shaded

Agro-Ecological Zone	Counties
Coastal Lowlands	Kilifi, Kwale, Taita Taveta, and Tana river
Lower Highlands	Baringo, Bomet, Bungoma, Elgeyo Marakwet, Kakamega, Kericho, Kiambu, Kisii, Laikipia, Makueni, Muranga, Nakuru, Nandi, West Pokot, Uasin Gishu, Trans Nzoia, Nyandarua, Nyeri, and Nyamira
Lower Midland (1-2)	Bungoma, Busia, Homa Bay, Kakamega, Kisumu, Migori, Siaya, and Vihiga
Lower Midlands (3-6)	Baringo, Busia, Elgeyo Marakwet, Embu, Homa Bay, Kajiado, Kirinyaga, Kisumu, Kitui, Machakos, Makueni, Meru, Migori, Muranga, Samburu, Taita Taveta, Tharaka, and West Pokot
Upper Highlands	Elgeyo Marakwet, Kiambu, Laikipia, Meru, Muranga, Nakuru, Narok, Nyandarua, Nyeri, Uasin Gishu, and West Pokot
Upper Midlands (0-1)	Bomet, Bungoma, Embu, Kakamega, Kericho, Kiambu, Kirinyaga, Kisii, Kisumu, Murang'a, Nandi, Nyamira, Nyeri, Tharaka, and Vihiga
Upper Midlands (2-6)	Baringo, Bomet, Bungoma, Busia, Elgeyo Marakwet, Embu, Kajiado, Kakamega, Kericho, Kiambu, Kisumu, Kitui, Laikipia, Machakos, Makueni, Meru, Muranga, Nakuru, Narok, Nyamira, Nyeri, Tharaka, Trans Nzoia, Uasin Gishu, and West Pokot

Source: Tegemeo Institute of Agricultural Policy and Development

Most of the 12 focus counties appear in multiple AEZs by their topography, as illustrated by counties such as Bungoma, Kakamega, Busia, Makueni, and Kitui.

Table 12 provides the study findings relative to the distances to selected service providers, and access to amenities. On average, the distance from the household to the nearest hybrid maize seed or fertilizer seller (agro-dealer) was 4.3 km. Households in the Coastal Lowlands were located the farthest away from hybrid maize seed or fertilizer sellers (average of 13 km) while those in the Upper Midlands 0-1 were closest (2.2 km).

Table 12: Mean distance (km) to agricultural service providers

Agro-Ecological Zone	Fertilizer Seller	Hybrid Maize Seed Seller	Nearest NCPB Depot	Extension Advice	A.I. Service Provider
Coastal Lowlands	14.9	11.4	39.4	11.5	11.9
Lower Highlands	3.5	3.8	23.2	6.5	4.9
Lower Midlands 1-2	2.7	3.5	18.4	5.3	5.7
Lower Midlands 3-6	6.7	5.8	31.7	11.1	10.6
Upper Highlands	3.6	3.6	23.7	7.3	5.3
Upper Midlands 0-1	2.2	2.3	16.6	5.3	4.0
Upper Midlands 2-6	3.5	3.6	24.0	7.3	6.4
Overall	**4.3**	**4.3**	**24.2**	**7.6**	**6.7**

Source: Tegemeo Institute of Agricultural Policy and Development

Subsidized fertilizer from the national government is distributed through National Cereals and Produce Boards (NCPB) depots. On average, households were located 24 Km from one of the 17 nearest NCPB depots, although this distance may be much greater if only the target counties are considered since the main farming counties in Kenya are not a focus of this study. Households in the Coastal Lowlands were located the farthest from a depot, while those in Upper Midlands 0-1 were located the closest.

The study showed that households travelled an average of 7.6 km to get extension advice. Households in the Coastal Lowlands and those in the Lower Midlands 3-6 travelled the furthest to get extension advice (11.5 and 11.1 km respectively), while those in the Upper Midlands 0-1 and Lower Midlands 1-2 travelled the least distance, i.e. 5.3 km.

Extension services in many counties have not been functional for many years. This is due largely to lack of financial support and effective management, and an aged workforce, and at the county level (Migiki 2013). Over the years agro-dealers have become the default extension officers, providing over-the-counter advice to farmers, with more proactive agro-dealers providing individual consultations and visits. Given this dynamic, training agro-dealer owners, and their staff, on proper extension knowledge is critical.

The average distance from a household to roads, and transport cost for fertilizer from the nearest seller, is provided in Table 13. On average, households lived 9.5 km away from the nearest tarmac road. Households in the Coastal Lowlands were farthest from the nearest tarmac road (15.5 km) while those in Upper Midlands 0-1 were closest to the nearest tarmac road (3.1 km). However, the households were located 0.4 km away from a motorable road. Households in Coastal Lowlands and Upper Midlands 3-6 were furthest from a motorable road (0.5 km), while those in Upper Midlands 0-1 were the nearest (0.2 km). This data is consistent with data from the previous table, and clearly illustrates how far farmers must travel to get to an agro-dealer, who is usually located in a town and/or along a tarmac road.

Table 13: Mean distance (km) to Roads and Markets

Agro-Ecological Zone	Tarmac Road	Motorable road	Transport cost (Ksh/50 Kg bag of fertilizer)
Coastal Lowlands	15.5	0.5	145
Lower Highlands	7.5	0.3	72
Lower Midlands 1-2	5.3	0.3	59
Lower Midlands 3-6	14.8	0.5	91
Upper Highlands	7.9	0.3	92
Upper Midlands 0-1	3.1	0.2	56
Upper Midlands 2-6	11.2	0.4	74
Overall	**9.5**	**0.4**	**77**

Source: Tegemeo Institute of Agricultural Policy and Development

G. How viable are the emerging alternative distribution models?

There are few successful and growing emerging alternative distribution models among agro-dealer businesses, and even these are often receiving significant donor support so cannot be viewed as completely commercially viable models, yet. The Village-Based Advisors (VBA) model, and the SIDAI (evolving) model, are key examples of these emerging models (See tables 14 and 15 below for more information). Kenya is, perhaps, more distinguished by the absence of models that one would expect to see – such as the large retail chains of agro-dealers in African countries such as Mozambique and South Africa – than by their presence. Distribution of inputs is offered either by private sector, national or county governments, or donors, including NGOs or social enterprises. Table 14 broadly describes this broad landscape of distribution models, while Table 15 describes the distribution models found among agro-dealers in Kenya.

Table 14: Broad distribution approaches for agricultural inputs in Kenya

Input provider	Legal structure	Description
Private Sector	1. Franchise	In this context, a franchise is a type of licensed business arrangement that allows an agro-dealer (the franchisee) to have access to another business's (the franchiser's) proprietary knowledge, services, processes, and trademarks to sell a product or provide a service. A general example of this in Kenya is Subway (fast food provider); an agro-dealer example is Farm Shop.
	2. Wholly-owned outlet (may be a legal subsidiary, but does not have to be)	A wholly owned outlet (may be a legal subsidiary) is completely owned by a parent company. An example of a parent, or holding, company is Kenya Seed Company, which owns more than ten distribution outlets or depots
	3. Independently-owned outlet with mixed supplier arrangements	Most wholesalers and stockists fall into this category. Shops are independently owned and make different arrangements with different suppliers.

Input provider	Legal structure	Description
Government	Either national or county government	Governments, both national and county, carry out input distribution. These can be structured as subsidy programs, such as fertilizer distribution through NCPB sites, or seed or other inputs provision through entities such as public research institutions or public universities.
Donors/NGOs	Not for profit organizations which either fund aspects of distribution, or partner with funders to implement distribution activities	These organizations offer some form of subsidy on, or credit for, inputs – including sometimes providing free inputs. They may be directly involved in input distribution, or indirectly involved by supporting a partner to distribute the inputs.

This category includes mixed donor/commercial models, which were started with significant donor support and continue to receive donor support for various development activities, but which strive for as much commercial viability as possible. They are included in this category as they do operate, by the nature of their financial support, quite differently from purely commercial models. While they often have strong growth trajectories due to their donor funding, their stand-alone sustainability is yet unproven and in some geographies, they are viewed as crowding out pure private sector players. On the positive side they bring in more professional stock management, distribution, and input testing capabilities, and provide inputs on credit to the farmers they serve. A key example is One Acre Fund. |

Table 15: Specific distribution models among agro-dealers in Kenya

Distribution Model	Description	Advantages	Disadvantages
Private Sector Models			
Franchise	This model uses the application of standard methodologies by establishing a franchise network of agro-dealers usually located in rural, underserved areas. The franchisor focuses on sourcing and stocking supplies and management of the franchisees, and does not actually meet farmers, although he/she can provide extension services through the franchisees. Farm Shop and Farmers' Pride are key examples of agro-dealer franchises. A very small fraction (probably less than 2%) of agro-dealers in Kenya are part of a franchise system at present.	• Delivers rapid investment for the franchisor without starting up individual agro-dealers • Franchisee benefits from an established and recognizable brand, access to established distribution networks, discounts and successful distribution and supply methodologies • Saves time for franchisee as critical business aspects like product sourcing are handled by franchisor • Farmer benefits from consistency of products and services	• A rogue franchisee can drag the franchise brand name down • Franchisee must make premium up-front investment • Franchisee is not able to revise prices based on the market rate as these are preset • Franchise rules usually limit the products and brands a franchisee can sell • Franchisee must pay part of revenue to franchisor • Loss of independence by franchisee in terms of investment and credit options
Wholy-owned subsidiary/ Exclusive contract distributor	These are outlets that distribute only allowable products from the parent company or the contractor. These distributors receive specialized training from the manufacturer or parent company on how to use/sell their products, and have an exclusive contractual or parent company-defined authorization to sell the manufacturers' products in a region. Contract distribution is particularly popular with fertilizer and vet products suppliers. Key examples are Coopers, and now Sidai, which is transitioning from being only a franchise to add exclusive contracts.	• Customers have confidence in the quality of products • Distributor gets a good markup on products sold • Vertical control • Support for technical backstopping	• Limited range of products for farmers

Distribution Model	Description	Advantages	Disadvantages
Wholesaler/ stockist	Also known as the wheel/hub and spoke distribution model, this is the typical model where an independent wholesaler supplies stockists, who in turn sell inputs to farmers. This model has a high potential to reach to many farmers.	• High reach to farmers • Encourages competitiveness and entrepreneurial approach to business • Builds trust between input suppliers and clients, as clients have choices for suppliers and can "vote with their feet". Farmers are assured some level of quality inputs and traceability, assuming the wheel/spoke entities are not rogue and provide quality control • In many counties stockists provide over the counter advice and extension services to farmers • Easy entry for new stockists who find underserved areas	• Long supply chain may lead to quality of inputs deteriorating during transportation and storage • Coverage may be inadequate in areas which are vast, or where demand is low • Timing of payments back to the supplier may not always be ideal • Lack of scale puts stress on management and resources • Stockists face staff capacity challenges • Sometimes gets infiltrated with rogue suppliers
Village Based Agents (VBA) (Emerging model)	Distribution through VBAs is a model mainly supported by NGOs and social enterprises, although efforts are underway to make the VBAs themselves commercially viable, at scale. VBAs are trained to: organize farmers in producer groups, provide extension services, promote labor-saving technologies, support farmers (on cost-sharing basis) to buy authentic inputs for production and value addition (e.g. tractors, processing machinery), and link farmers to local traders and exporters. Some VBAs carry on privately after the end of donor projects, to become private input suppliers. This is an emerging model. Key example is FIPS VBAs.	• Inputs are more readily accessible to farmers who may have challenges travelling to an agro-dealer shop • VBAs also provide extension services • Model reaches the last mile delivery • Leverages individual entrepreneurship	• VBAs level of training is often limited what is provide/coordinated by the NGO • Lack of knowledge and training among VBAs • Poor links with agro-dealers; supply chain is not always well established, and at times still supported by the NGO • Some can have unethical practices

Distribution Model	Description	Advantages	Disadvantages
Distribution through an online open-market platform	With the increased penetration of the internet in Kenya online platforms are becoming increasingly popular not just as a source of information on farming practices but also as an option for distribution of farm inputs. This is mainly achieved by linking the farmer with an input provider or trader. While an option, this model has not yet achieved broad acceptance for farm inputs, not just in Africa but in other parts of the world. An example in Kenya is Digi Farm.	• May offer farmer convenience • Includes delivery service, which saves travel time	• Many farmers do not have access to Internet • Input quality not verifiable • Little recourse for farmer if delivery is wrong or product quality is low • No over-the-counter advice, as offered by agro-dealers
County and National Government Supported Programs			
Subsidy programs	Subsidy programs have become increasingly popular with both levels of government (national and county). Programs at county level are usually used to gain political mileage or to fulfil election pledges; input prices are subsidized, or even given to farmers at no cost	• Agricultural input is provided to farmers at either no cost or at a significantly reduced cost (subsidized) • Can benefit the poorest farmers, if well targeted • Can help increase farmer adoption of improved farming technologies	• No way of knowing quality of inputs distributed; often of low quality • Expensive model for input provision • Creates farmer dependency • Mostly unsustainable • Usually crowds out private sector • Inputs usually arrive late • Payments to suppliers often delayed • Elite capture for political and other interests

Distribution Model	Description	Advantages	Disadvantages
Government Distribution	Government research institutions and universities are sometimes setup to sell inputs, e.g. seed of the varieties they develop, directly to farmers. Examples of this are: KALRO for many kinds of seed; JKUAT for seedlings; and UoN and Egerton for bean seed.	• Farmers can access technologies which private sector suppliers may not which to invest in	• Often stifles commercialization by interested private sector entities as government entities have commercial incentive to delay licensing and private sector commercialization of new technologies • Leads to mission creep – institutions focus on selling instead of research • No way of knowing quality of inputs distributed; often of low quality; seed may or may not be certified by KEPHIS • Not a good pathway for scaling; volumes generally tend to be low, but for seed the low volumes effectively tie up the critical parent seed needed to scale • Usually crowd out private sector • Elite capture for political and other interests

Distribution Model	Description	Advantages	Disadvantages
Depot/outlet distribution	Kenya Seed Company (KSC), the largest seed company in Kenya has over 10 depots in Kenya - mainly in the Rift Valley region where farmers (mostly large-scale farmers) can buy seed in bulk. Depots also sell to stockists and agents. Depots only stock supplies from the one supplier. Sidai Kenya Ltd[2] is a new entrant into this model; they brand their inputs and distribute through their 11 company run stores.	• Depots allow farmers to buy products from one company in large volumes. • Clear chain for resolution of farmers complaints • Customers have confidence in input quality • Can efficiently distribute further down the chain • Have better storage conditions • Have more professionalism • Vertical integration most likely most profitable form of distribution for parent company	• Depots only stock certain supplies, and from one supplier; farmers are therefore forced to look elsewhere for suppliers for other inputs • Limited range of products • Limited range of locations, farmer reach • Managing bricks and mortar can be time-consuming and costly if not done properly
Donor/NGO Distribution			
NGO/Social Enterprise model	This model is becoming increasingly popular especially in the Western and Nyanza counties. The model provides various forms of support, such as credit arrangements, revolving seed funds, part or full cost of inputs, training and market facilitation.	• Farmers benefit from reduced input costs as well as extension services • In some cases, farmers can use their harvest as capital for input for the next season • Provides farmers with some input in cases of disasters such as floods and severe drought • May also include crop insurance	• Like the subsidy model, can lead to farmer dependency • By-passes normal distribution channels, causing disruptions in the value chain and to market systems • Sustainability without donor funding has not been possible with failed models; sustainability of current models not yet clear. • Can limit farmer flexibility by tying farmer in to one program

---

[2] *Sidai is a company that provides livestock and crop products through a network of branded, company managed and franchised retail outlets and field staff.*

Caveats with the data

During this mapping exercise, some agro-dealer shops were closed, or enumerators were asked to return on a different day which may have been beyond the allocated time for the mapping. As a result, not all agro-dealers were captured in the exercise, although most agro-dealers are most likely included. In addition, not all agro-dealers responded to all questions. There are gaps in the data either because the agro-dealer refused to reply or didn't have the information immediately available.

Challenges faced during mapping exercise

In some counties agro-dealers refused to share their license number details, particularly their KEPHIS and Kenya Veterinary Board licenses for fear of prosecution, of being fined for not having the license, or of not having renewed the license. It is highly likely that that most of those who refused to give this information don't have the licenses. In some cases, for instance in Homa Bay and Migori, some agro-dealers closed shop when they heard there were people coming to collect data. To deal with this issue the enumerators in Taita Taveta, Migori, Homa Bay and Kisumu were issued with a copy of the introduction letter and in some cases identification badges to avoid getting into altercations with the agro-dealers.

During the briefing meetings with the counties it became clear that in most counties the senior officials, who generally had already received the project information from the KCDMSD team, had not shared it with other officers down the line. This made introduction of the mapping process difficult as some county officials refused to participate, stating that they were waiting for direction "from above."

The mapping exercise, unfortunately, commenced just as the rains began. This was not planned, as the long rains started about 3 weeks earlier than expected and were very heavy. In counties like Kitui and Makueni there was a lot of flooding, making roads impassable and some sub counties completely inaccessible. In addition, the beginning of the rainy season is peak sales time for agro-dealers as farmers rush to buy seed and fertilizer. As a result, agro-dealers were often reluctant to leave their business to attend a training or participate in the mapping.

Certain counties like Kitui and Makueni are vast. In some rural areas travelling from one town to the next could take up to a day. In these areas public transport is also a big challenge. If a more granular assessment of agro-dealers in extremely rural areas is desired, additional time would need to be dedicated to this.

The amount of time allocated to carry out this exercise was very tight, due to late contracting and inception dates and early deadlines for completion. With a longer timeframe, and the absence of some of the challenges outlined above, more data could have been captured. Additional time would have permitted going back to towns where agro-dealer shops were closed, and/or following up with business owners to gather missing data. That said, it is estimated that a bigger percentage of agro-dealers, accounting for most of inputs sold in the counties, were captured. As noted above, the only missing area of knowledge might relate to agro-dealer availability and profiling in extremely rural areas.

RECOMMENDATIONS FOR MARKET SYSTEM DEVELOPMENT

1. _Facilitate the Seed Trade Association of Kenya (STAK) to update the data in their Seed Shop database so that the data can be freely accessed by all who need it_

    Note that some sensitive information such as licenses may not be suitable for the database, as it is quickly out of date and may not be viable for annual updating. The STAK database does include GPS mapping capability, so this would need to be developed for the new agro-dealers that are added (estimated to be 500+).

2. _Proactively share data with:_
    a. Counties that have associations (this will be important as they are counting on this data to assist in their membership recruitment drives);
    b. Input supply companies or associations so that they can utilize the information for greater sales reach and/or training; and
    c. County governments to encourage them to support this sector, especially through extension services and collaboration with county agro-dealer associations, as well as through effective regulation to remove rogue traders and counterfeiters.
3. _Utilize data for SMS blasts and information_ provision regarding opportunities such as training, etc., in target counties
4. _Utilize data to identify youth and women agro-dealers_ for support in targeted geographies, potentially to become wholesalers
5. _Utilize data to identify key agro-dealers_ to support the growing seedling nursery business, by county, particularly near potentially to-be-identified strategic hub nurseries supplying planting material for KCDMSD value chain crops.
6. _Utilize the data to expand sales of seed of African leafy vegetables,_ when available, in addition to seed for _pasture and fodder crops_
7. _Facilitate fact-finding on real bottlenecks facing wholesalers,_ which has resulted in wholesalers constituting only 5% of agro-dealers in the target counties
8. Utilize the data to _reach out to agro-dealers who can then "self-select" for county-based training opportunities_ on a cost shared basis, such as tailor-made training programs that support ICT adoption, business management, financial management, marketing etc. among agro-dealers. An example of a program that has proven to be very popular with youth agro-dealers is a business simulation training that is provided by the Unites States International University (USIU). See below bar for more information.

USIU- AGRI BUSINESS SIMULATION TRAINING

This is a role-playing exercise where entrepreneurs gain practical experience in the use of a range of approaches related to financial planning, investment options, customer service approaches, and record keeping tools including working capital management, and cash flow forecasting and budgeting.

The simulation exercise consists of three trading periods in which teams have full decision-making power and are accountable for the business results. In each trading period, the goal is for the team-based companies to grow their business by building loyal customers, increasing revenue and covering all expenses.

The simulation encourages participants to take ownership of the business. They are encouraged to brainstorm on the challenges facing them and possible solutions. Through this they benefit from group diversity where at least every member has something to contribute and is motivated to help the team achieve success.

CONCLUSION

Agro-dealers in Kenya play a critical role in serving smallholder farmers. While it is almost impossible to quantify the current value they add to farmers, the potential future value is even greater. Mapping agro-dealers, including collecting information such as telephone numbers, lays the groundwork for more systemic interaction with agro-dealers, knowledge transmission, networking and linkages, and overall development of product and service offerings.

This knowledge transmission may be particularly welcomed and valued by the high proportion of agro-dealers started in the last ten years, especially those started by tech savvy youth.

Agri Experience is grateful for the opportunity to work on this important study, and the learning experience it has provided.

Annex 1: List of the key people who provided responses during in-depth interview sessions

County	Name	Organization	Position
Busia	Anthony Wahome	Busia Agrovet	Proprietor & chair of county association
Vihiga	Alex Adala	Magada Farm Inputs	Proprietor
Siaya	Zachary Okongo	Marinyo Farmers Agrovet	Proprietor & chair of county association
Kakamega	Festus Makau	County Government	CAO
Kitui	Dr. Justus Kisinga	Snow Agrovet	Proprietor
Makueni	Vincent Ngala Wambua	Tazama Agrovet	Proprietor
Taita Taveta	Liverson Mwaluma	Valleyson Enterprise	Proprietor & secretary of the county association
Homa Bay	Micah Otieno	Ranalo Agrovet	Proprietor
Kisumu	Betty Okello	Tiva Agrovet	Proprietor
Kisii	Nora Mageto	Stans Agrovet	Proprietor
Migori	Micah Otieno	Ranalo Agrovet	Proprietor
Bungoma	Sylvanus Wanjala	County Government	CAO

Annex 2: Literature reviewed (Note: only most relevant are included)

AFAP. (2018). *Relief Web.* Retrieved from https://reliefweb.int/report/world/getting-inputs-farmers-hubs-and-spokes-agro-dealer-model

AGMARK. (2016). *Deepening Agro-dealer Impact in Coastal Kenya - End of Project Report.* Nairobi, Kenya : AGMARK.

AGMARK & CNFA. (2007). *Development of the Business and Technical Capacity of Agro-dealers and Regional Wholesalers - Final Narrative Report.* Nairobi.

AGMARK & CNFA. (2010). Kenya Agro-dealer Strengthening Program - Final Project Report. Nairobi.

Bayesian Consulting Group Limited. (2016). *Agro-dealer Baseline Study - Final Report.* Nairobi: Kenya Market Trust Ltd

Changemakers. (2017). *Changemakers - Creating Shared Value Prize.* Retrieved from Changemakers Website: https://network.changemakers.com/challenge/creatingsharedvalue/entry/farmers-pride-last-mile-agricultural-inputs-and-services-delivery-through-franchise-agro-dealer-model-and-village-youth-agent-network

http://asdsp.co.ke/index.php. Accessed on May 10, 2018

http://worldpopulationreview.com. Accessed on May 10, 2018

Kenya Population and Housing Census. 2009

Migiki A. (2013). *Influence of Agricultural Extension Services on Household Food Security in Nyamira District,.* Nyamira County, Kenya.

Mulupi, D. (2013). *How We Made it in A*(Bayesian Consulting Group Limited, 2016)*frica - How Farmshop is Modernising the Agro-dealership Experience.* Retrieved from How We Made it in Africa: https://www.howwemadeitinafrica.com/how-farm-shop-is-modernising-the-agro-dealership-experience/26942/

Njagi, et al. (2015). *Tegemeo Agricultural Policy Research Analysis (TAPRA) II Project - Rural Household Survey Report.* Nairobi, Kenya: Egerton University.

One Acre Fund (2018). *One Acre Fund Ltd.* Retrieved from https://oneacrefund.org/what-we-do/how-we-grow/

Safaricom. (2018). *Safaricom.* Retrieved from Safaricom Ltd Web Site: https://www.safaricom.co.ke/sustainabilityreport_2017/innovation/digifarm-and-connected-farmer/

Annex 3: Dates of the interviews conducted in the field

County	Training date
Bungoma	26 February, 2018
Vihiga	27 February, 2018
Busia	1 March, 2018
Siaya	2 March, 2018
Kakamega	2 March, 2018
Kitui	7 March, 2018
Kisumu	7 March, 2018
Makueni	8 March, 2018
Kisii	8 March, 2018
Taita Taveta	9 March, 2018
Homa Bay	9 March, 2018
Migori	9 March, 2018

USAID-Kenya Crops and Dairy Market Systems Activity
8th Floor, The Westwood I Vale Close, off Ring Road Parklands
P.O. Box 1181 Village Market
Telephone: +254204241000 I Fax +254203749921
Email: info@kcdmsd.rti.org I Website: www.rti.org