AGRODEALER & FARMER COVID-19 SURVEY, JULY-SEPTEMBER 2020

KEY FINDINGS

- Farmers optimistic about current harvest, but anticipate financial difficulties will constrain their ability to purchase inputs for the short rains season
- Continued food shortages and financial distress, relative to the same period in 2019
- Farmers and agro-dealers adapting to changing condition with revised sales and stocking practices

RECOMMENDATIONS

- Provide advisory content to farmers about less capital-intensive alternatives, such as organic farming techniques
- Establish communication channels between agro-dealers and suppliers
- Make short-term loans or cash grants available to agro-dealers to sustain business

CONTEXT

Between August and September 2020, Precision Agriculture for Development (PAD) interviewed 974 crop farmers and 427 agro-dealers registered on the MoA-INFO SMS platform in Kenya. This survey was a follow-up to a first round of surveys undertaken between late April and early June this year. Fifty-eight percent of Round Two (R2) farmer survey respondents and 60% of R2 agro-dealer survey respondents took part in Round One (R1).

During this period, COVID-19 continued to spread globally. Since the first reported case in Kenya on March 13, there have been 38,923 confirmed cases, and 725 deaths. At the same time, restrictions

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1 In an effort to build a panel dataset to track change over time, R1 respondents were prioritized. All R1 respondents were called three times before new respondents were called.

2 WHO Weekly Epidemiological Update, 05 October 2020. Weak testing infrastructure, particularly in rural areas, suggests the total number of cases may be higher; this is corroborated by antibody testing conducted by a team of immunologists from the KEMRI-Wellcome Trust Research Program, and found that 5.6% of study participants
to mobility and interaction have been relaxed. A nightly 7pm-5am curfew, first imposed on March 27 was revised to 9pm-4am on June 7.³ On April 6, a lockdown was imposed on Nairobi, which eventually covered five counties (Nairobi, Mombasa, Kilifi, Kwale, and Mandera). As of July 7, all restrictions on movement were lifted. Domestic flights also resumed on July 15, and international flights resumed August 1.

The results of PAD’s survey are intended to assist policymakers and the development community at-large to track the evolving economic and social effects of COVID-19. By conducting surveys with the same population over time, we are able to monitor shifts in reported welfare and expectations among smallholder farmers and agro-dealers in rural Kenya.

SAMPLE CHARACTERISTICS

Between April 29 and June 2, PAD interviewed 973 crop farmers and 483 agro-dealers.⁴ Interviews of farmers and agro-dealers covered 44 and 40 counties, respectively. The farmers interviewed were 58% male, 41 years old on average, and 79% grew maize as their primary crop. The agro-dealers interviewed owned Small to Mid-size Enterprises (SMEs), employing an average of two employees and averaging 1.3 million Kenyan Shillings (KSH - approximately US$12,000) in annual sales.

Between July 28 and September 3, PAD conducted a second round of surveys and interviewed a total of 974 farmers across 44 counties, including 561 who completed both rounds, 412 who only completed the R1 survey, and 413 who only completed the R2 survey. The total sample was 57% male and 42-years-old on average. Eighty percent of those surveyed in R1 and 79% of those surveyed in R2 grew maize as their primary crop.

During the second round of data collection, PAD also interviewed a total of 662 agro-dealers across 40 counties,⁵ including 248 who completed both rounds, 235 who only completed the R1 survey, and 179 who only completed the R2 survey. The total sample was 72% male, 45-years-old on average, and had an average of 1.5 employees and 1.3 million Kenya Shillings (KSH, or about US$12,000) in annual sales.⁶

³ On September 28, after the end of the survey period, President Uhuru Kenyatta further extended the curfew by two months, with revised hours of 11pm-4am.

⁴ In addition to crop farmers, 99 dairy farmers were interviewed. The analysis presented here excludes information reported by dairy farmers.

⁵ Two survey respondents (in round 2) did not report their county.

⁶ One survey respondent did not report the number of employees and 157 did not report annual sales. Both of these variables were winsorized at the 5th and 95th percentile to adjust for outliers.
FINDINGS

Farmers optimistic about current harvest, but anticipate financial difficulties will constrain their ability to purchase inputs for the short rains season

Farmers in both R1 and R2 communicated optimism about the prospects of a good harvest for the long rainy season which occurs from early spring to early summer. During R1, 52% of farmers surveyed reported that they expected a larger harvest and 66% expected a higher sale price relative to the previous year. However, R1 came earlier in the long rainy season, when 89% of farmers had not yet harvested; by contrast, 25% of R2 farmers had harvested their crops at the time of their enumeration and an additional 20% had sold their harvest, or were engaged in post-harvest processing. Nevertheless, R2 farmers remained optimistic about volume and prices for the season’s harvest, with 49% of farmers reporting they expected a higher harvest and 58% reporting that they expected a higher sales price relative to this time last year. Expectations were buoyed by good rains and, reportedly, improved farming practices.

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Expectations: Inputs, Outputs, Sale Price

<table>
<thead>
<tr>
<th>Input usage (R1)</th>
<th>Input usage (R2)</th>
<th>Harvest Amount (R1)</th>
<th>Harvest Amount (R2)</th>
<th>Crop sale price (R1)</th>
<th>Crop sale price (R2)</th>
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<td>49%</td>
<td>66%</td>
<td>58%</td>
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More | Same | Less

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7 Exact timing may vary slightly based on geographic area, but in most counties, the long rainy season starts in February-March and ends in May-June.
That said, 76% of farmers surveyed in R2 anticipated difficulties purchasing sufficient inputs for the impending short rains agricultural season, with 66% reporting they did not have enough money to do so. Agro-dealers similarly reported that a lack of financial resources negatively impacted their ability to meet farmers’ demand: of the 22% of R2 agro-dealers who said they did not expect to be able to meet farmer demand, 58% percent attributed this to insufficient capital. The next most commonly reported reason was constraints on the availability of inputs (51%). For comparison, of the 29% of R1 agro-dealers who reported that they would be unable to meet farmer demand, 71% attributed this to unavailable inputs, and just 11% reported having insufficient capital.

In both survey rounds, farmers and agro-dealers reported high input prices, which may be either a cause or an effect of decreased input availability. In total, 57% of farmers in R1 and 56% in R2 reporting that at least one key input (i.e. fertilizer, seeds, or pesticides) had risen in price relative to the same season last year. Similarly, 65% of agro-dealers surveyed in R1 and 55% of those surveyed in R2 reported year-on-year price increases for the same set of inputs. In turn, agro-dealers were statistically more likely to report charging farmers higher prices if the prices charged to them by suppliers had increased. Moreover, agro-dealers in R2, were statistically more likely to report price increases from suppliers than those surveyed in R1.

**Continued food shortages and financial distress, relative to the same period in 2019**

Farmers’ financial woes are also reflected in patterns of reported household consumption. In R2, 71% of farmers interviewed reported difficulties buying food due to market changes – a marked improvement from 87% in R1 – and fewer farmers reported difficulty accessing markets due to mobility restrictions (44% in R2 versus 48% in R1). On the other hand, elevated financial distress is suggested by shifting reported food consumption: 62% of R2 farmers reported reducing the number or size of household meals and 70% reported difficulties purchasing food due to reduced income, compared to 46% and 63%, respectively, in R1.

In R2, we asked farmers similar questions about their life experiences during the same period in 2019 in order to tease out the extent to which the reported difficulties were attributable to the
pandemic as opposed to annual consumption patterns due to the agricultural cycle (i.e. "lean season"). The reported results strongly suggest that COVID-19 exacerbated normal seasonal difficulties. Just 20% of farmers reported difficulties buying food due to market changes in 2019 and only 25% reported issues accessing markets due to mobility restrictions during this time. Additionally, just 13% reported reducing the size or number of meals and only 20% reported difficulties purchasing food due to reduced income in 2019. While 65% of R2 respondents reported changing diet composition (e.g. eating fewer vegetables or protein) this year, only 17% reported making such changes in 2019.8

Farmers and agro-dealers adapting to changing condition with revised sales and stocking practices

Both farmers and agro-dealers continue to find ways to adapt to changing conditions. In R1, 31% of agro-dealers had made changes to stock in response to the impacts of the COVID-19 pandemic, 29% had made changes to sales, and 63% had made changes to operations. In R2, we saw a continuation of these trends, with R2 agro-dealers being statistically more likely to report making changes in all three categories. Compared to R1 agro-dealers, R2 agro-dealers were statistically more likely to report using cashless or electronic transactions to facilitate interactions suppliers and farmers and more likely to report extending credit to farmers. They were more likely to order inputs in advance and to have them delivered. Additionally, compared to R1 agro-dealers, R2 agro-dealers were

8 This question was added in R2, so this statistic in unavailable for R1.
statistically more likely to make directional changes in the volume of inputs; that is, more R2 agro-dealers reported both decreasing and increasing the total amount of inputs. Moreover, agro-dealers were statistically more likely to adopt a range of preventative health measures in both sales and operations: for example, they were statistically more likely to report encouraging handwashing, sanitizer use, mask use, and social distancing. With the implementation of these measures — and the relaxation of the nationwide curfew — agro-dealers were able to resume normal shop hours.

**Footfall & Sales: Observed & Expected**

Sixty-five percent of respondents reported closing between 6-8pm normally,9 and 67% percent of R2 respondents reported closing during this time interval, compared to just 30% of R1 respondents. Agro-dealers surveyed in R2 were 21% less likely to report lower sales compared to those in R1. They were also 39% less likely to report lower footfall expectations and 40% less likely to report lower sales expectations for the following week. While this may partially due to seasonal patterns in business operations — farmers are more likely to buy inputs in August versus May, as they prepare for the upcoming short rains — it also suggests that both farmers and agro-dealers are adjusting to evolving conditions.

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9 R1 respondents were asked the following: “At what time do you close your shop normally?” While this question was meant to be asked to new respondents in R2, this was not done due to an error in survey logic.
Additionally, gender differentials in food security observed in R1 seem to have been partially resolved in R2. In R1, female crop farmers were statistically more likely than their male counterparts to report that household members were spending fewer days on their own farms and paying higher prices for fertilizer (relative to the previous year); this was not the case in R2. However, in both rounds, female crop farmers were significantly more likely than their male counterparts to report that they had had to rely on assistance from family to cover living expenses and were more likely to report having to reduce the size or number of meals served in the 30 days prior to being surveyed.

**RECOMMENDATIONS**

At PAD we are carefully considering which interventions would be more likely to empower farmers and agro-dealers to more effectively adjust to ongoing changes in the business environment associated with the pandemic.

Reported financial considerations and product availability are persistent obstacles constraining the ability of farmers to access the inputs they would typically use in the growing season. Capitalizing on our expertise in providing digital services, one potential way to promote farmer resilience would be to dispense advisory content to farmers about less capital-intensive alternatives, such as organic farming techniques (i.e., composting, mulching, monitoring the farm for pests and diseases and crushing pest eggs early on) that do not rely on chemical fertilizers and pesticides that must be purchased in the marketplace.

At the same time, we see potential in the use of digital technologies to promote more effective communication and information sharing across the supply chain. A majority of agro-dealers (63% in R2) reported receiving more than one message from farmers per day. In both R1 and R2, if an agro-dealer reported receiving more than one message from farmers per day this was statistically correlated with a greater number of customers purchasing inputs in the previous week. In R2, 89% of agro-dealers reported communicating with suppliers at least weekly. Establishing a way for agro-dealers to communicate farmer preferences may enable them to overcome supply chain issues: 41% of agro-dealers reported difficulties sourcing certain products, and an additional 14% reported difficulties finding particular brands of inputs.

Finally, while financial services are not within PAD’s ambit, the dramatic increase in the proportion of agro-dealers reporting an inability to meet farmer demand due to insufficient capital suggests that short-term loans or cash grants to agro-dealers could help agro-dealers stay open by allowing them to pay rent, staff, and other fixed costs until farmer demand rebounds. Given that farmers are also cash-constrained, however, cash grants would be particularly effective if coupled with the provision of vouchers to farmers targeted to support the purchase of inputs.