

growth and current and forecasted weather. Farmers receive 2-4 messages per month in their preferred language.

Looking forward, the Government of Kenya must decide whether to maximize reach through continued free provision of agro-weather advisory services or pursue cost recovery for the program.

With funding from the Feed the Future Innovation Lab on Markets, Risk and Resilience, a Kenya-based research team collected Willingness to Pay (WTP) data in order to offer insights around how much revenue—and customer attrition—could be expected at different price points.

Contingent Valuation

The team sought to target recipients of KALRO agro-weather advisories with their survey. The survey was conducted after KALRO had sent agro-weather advisories for one full cropping season, and had commenced advisories for the following season. However, only 37% of the 2,384 respondents indicated they had received the messages.

Respondents were asked to consider a hypothetical agro-weather advisory service that would provide guidance on management practices during the growth stages of their crop or livestock, based on the temperature and rainfall in their locality. Farmers' WTP was measured through a contingent valuation method. They first stated their willingness to pay an initial price. Then, they were asked about a second price—higher if they were willing to pay the initial price, lower if they were not.

Willingness to Pay

The average price farmers in the study are willing to pay for agro-weather advisories is Ksh 91.0 (\$58) per month, or Ksh 364 per season. Among respondents, 49% indicated unwillingness to pay for the advisories at any of the surveyed prices.

Figure 1: Factors That Do / Do Not Affect Farmer WTP

Increased WTP

- Received agro-advisories from KALRO
- Larger area under cultivation
- Farming is a primary economic activity
- Engaged in off-farm economic activities

No Impact on WTP

- Gender
- Education level
- Wealth
- Crop diversity
- Exposure to extreme weather in the previous year
- Adoption of technologies, innovations, and management practices
- Participation in markets for farm production
- Access to agricultural advice, market information, credit

WTP did not vary by gender or education level, nor did engagement with agricultural and financial markets have an effect. Factors that did increase WTP included: having received the agro-weather advisories from KALRO, cultivating a larger area, farming serving as a primary economic activity in the household, and participating in off-farm livelihood activities.

Costs and Sustainability

Were KALRO to start charging a subscription at the average WTP rate of Ksh 91.0, and farmers purchased according to their stated willingness, the costs of the agro-weather service would be covered. However, many smallholder farmers would be excluded from the service and miss opportunities to improve their production.

Price segmentation is an option that KALRO could consider in attempt to balance some cost recovery with higher reach. Acreage under cultivation would be the obvious factor along which to segment, as the survey showed WTP tended to increase with the quantity of land under cultivation. However, the costs involved in administering a complex pricing structure would have to be carefully considered—especially if it included verification of details like land holdings.

Global Applicability


Understanding farmer WTP for digital agricultural tools is valuable as the landscape of offerings grows and donors and investors consider their strategy. This study of KALRO's service yielded data consistent with a 2022 global survey that found approximately 50% of farmers were unwilling to pay for digital agricultural tools at any price.¹ With cost as a known barrier to adoption, developers, policymakers, and investors can benefit from deeper insights.

Further exploration is needed on the dissonance between proponents and intended users around the value of digital agricultural tools. While proponents see significant potential to improve farmers' production and revenue, does farmers' reluctance to pay indicate that these tools' value is overestimated? Or do farmers' views stem from a lack of understanding or trust, or an expectation that such tools should be free?

While WTP analysis alone cannot answer these questions, it offers a valuable method to quantify the value that farmers place on a given digital service. This information, whether standalone or accompanied by additional research, can inform decision making around what tools to develop and how to fund them.

¹ Fiocco, D., Ganesan, V., de la Serrana Lozano, M.G., and Sharifi, H. "Agtech: Breaking down the farmer adoption dilemma," McKinsey & Company, 7 February 2023.

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