Evaluation of ignitia's 2020 launch of iska weather forecasts in Burkina Faso

IGNITIA GHANA LTD.

ignitia TROPICAL WEATHER FORECASTING

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Executive Summary

This report analyses and evaluates the data collection campaign carried out by ignitia and its contracted M&E consultant to assess its iska subscriber base in Burkina Faso. Iska is a daily, SMS-based weather forecasting service that was launched in Burkina Faso with Orange Burkina Faso in June 2020. A sample of 5,000 iska subscribers were contacted, of which 1,681 were reached and provided responses as part of this evaluation.

This evaluation highlights the key findings regarding the subscribers' satisfaction, perception, and use of iska. It additionally highlights opportunities for ignitia to improve its service provision to drive customer satisfaction and retention and to further increase customer acquisition. Overall, 84.6% of subscribers surveyed reported high levels of satisfaction with the service and 84.8% reported high levels of forecast accuracy. This level of satisfaction translates to a subscriber base that is overwhelmingly interested in continuing their subscriptions through the 2021 rainy season, with 78.9% of subscribers confident that they will continue using iska. Additionally, 96.8% of subscribers that use the forecasts for farming report that the forecasts have improved their farming practices, with general planning, land preparation, and sowing of seeds being the most common farming activities for which subscribers report improvements.

Also highlighted were some challenges that subscribers face with using the forecasts. While the majority of subscribers are highly satisfied, subscribers that are not French speaking or literate in French report lower levels of satisfaction across the board. The major contributing factor to this is likely the ability to understand the forecast content; while just 10.7% of subscribers overall report that they struggle to understand the forecast content, 39.9% of subscribers that do not speak French and 42.1% of subscribers that are not literate in French have trouble with understanding the forecast content.

Finally, recommendations are made for opportunities for expansion and improvement of the service. These recommendations include exploring IVR for subscribers with limited French ability, adding additional content for subscribers during the dry season, implementing a subscription system through Orange Money, and the offering of an iska application to subscribers. Based on the results, there appears to be demand for some of these improvements that could ultimately further drive customer satisfaction and acquisition.

Introduction

In June 2020, ignitia launched its iska service to the public in Burkina Faso through Orange Burkina Faso's subscriber base. Iska is a daily, 48-hour weather forecast delivered via SMS to paid subscribers. These forecasts are both highly accurate, as they are developed based on a weather forecasting model that ignitia developed specifically for tropical climates and fine-tuned to the specificities of Burkina Faso, and designed to be easily understandable even to end users with limited literacy. As part of ignitia's work plan in Burkina Faso, an evaluation of subscriber feedback and interaction with the service was carried out in December 2020. This report highlights the findings of this evaluation.

This report goes into detail on the methodologies undertaken, the results, as well as interpretations of the results and the opportunities that exist to continue to improve the service and expand the subscriber base in Burkina Faso. Many of the findings are stratified by demographics, primarily on the basis of gender, age, and French literacy, the language for which the SMS-based forecasts are delivered. It additionally highlights key findings on how subscribers report to perceive, interact with, and leverage the weather forecasts, as well as subscriber feedback on the service in its current state on features they would like to see in a weather forecasting service that may not currently be offered to them through iska.

Methodology

This section outlines the methodology carried out in this monitoring and evaluation campaign to gather insights on subscribers to ignitia's weather forecasting service recently launched in Burkina Faso. The first evaluation of this new subscriber base, the primary purpose of the evaluation was to collect general information on the demographics of the subscribers, their general perceptions of iska, how they utilise and interact with the weather forecasts, and to identify opportunities for ignitia to improve the service provision in the country.

In order to gain these insights, a randomly selected sample of paid iska subscribers in Burkina Faso were contacted and asked to participate in a ten-minute, 31 question phone survey. This survey was designed to collect a combination of quantitative and qualitative data to be used and analysed in tandem. A team of enumerators based in Burkina Faso, with a combined ability to speak fluently in four different Burkinabé local languages was hired to contact the subscribers and were managed by a local M&E consultant.

The Sample

The sample of subscribers was selected at random from a database of subscribers that subscribed to iska through Orange Burkina Faso's subscription platform. In order to both acquire a sample representative of the subscriber base, as well as to ensure the subscribers had enough exposure to the service to be able to provide valuable feedback, the following qualifiers were applied to obtain the original list of subscribers:

- Subscribers for at least 30 days as of November 30, 2020
- Billing success rate of at least 33%

By limiting the subscriber base to the above criteria, a population of 17,351 was acquired. From this list of 17,351 subscribers, 5,000 were randomly selected to make up the sample of subscribers to be contacted as part of the data collection campaign. Limited information is available for each subscriber; the subscriber's phone number, billing method, days subscribed, billing success, and forecast location. With respect to this information, the sample was representative of the population.

Because there would be eight enumerators calling the subscribers, the sample was split into eight evenly distributed lists. These lists were separated based on forecast location (region), which was essentially used as a proxy for determining local language requirements. The region-language assignments can be seen in Table 1.

Table 1: Burkina Faso local language assignments by region

Local Language	**Regions**
Dioula	Boucle du Mouhoun, Cascades, Hauts-Bassins, Sud-Ouest
Fulfuldé	Sahel
Gormantché	Est
Mooré	Centre, Centre-Est, Centre-Nord, Centre-Sud, Plateau-Central, Nord

The lists were then put together based on the language ability of the enumerators in order to limit the chance of language barriers causing any non-response. A sample size of 5000 was selected in order to account for the likelihood of non-response and unreachability of subscribers to ensure that the desired number of respondents would be reached.

Survey Provision and Data Collection

Eight enumerators were hired to use a survey to gather insights from iska subscribers in Burkina Faso. The survey responses were recorded using ODK Collect, a free, open-source data collection software. In order to use this platform, the survey questions must first be added onto the ODK system. In this case, the survey responses were linked to a Google Sheets document; this means that when enumerators uploaded responses, they were immediately sent to this Google Sheet document. Benefits of this method include significantly reduced time and resource devotion to data entry, cleaner and more standardised data, and improved ability to monitor ongoing data collection and submission of responses.

The hired enumerators were trained over the course of two days to build their capacities on data collection tools through the ODK Collect application and to get them become familiar with the service provided by ignitia on weather forecasts. The first day of the training was dedicated to the following activities:

1. Introduction to and background of ignitia
2. Introduction to the survey and purpose of the evaluation
3. Presentation of ODK Collect and its use for this evaluation
4. Practical use of ODK collect tools by each enumerator
5. Sharing of best practices of survey provision

The second day was devoted to following up with the enumerators on the use of ODK Collect, continuing further test use of the data collection software, and troubleshooting any issues experienced. This allowed the enumerators to strengthen their skills on data collection tools such as ODK collect and to be sensitized on the importance of the quality of data to be collected in order to achieve the targeted objectives.

The survey provision took place over a period of 29 days, from December 6, 2020 through January 3, 2021. During this period, individual semi-structured call interviews were conducted with Orange Burkina Faso subscribers receiving iska weather forecasts. The main information collected focused on demographics, comprehension of the forecast, perceptions of forecast accuracy and benefits provided, feedback on the forecast provision, and opportunities for improvement of the service. The survey provision guides can be seen in the appendices.

The questionnaire was provided in French, and all responses were collected and submitted in French. However, the survey was carried out in several national languages, namely Mooré and Dioula, in addition to French, which is the common language.
The main criteria used for carrying out the survey was the consent of the respondent. This involved explaining the purpose of the survey in order to obtain the respondent's consent to answer the questions. Respondents were additionally informed that they could revoke their consent at any point during the survey and could end the survey at any time.

In many cases, subscribers could not be reached at all. If a subscriber could not be reached after three total attempts, carried out within at least six hours of each and other taking place on at least two separate days, they were considered as part of the non-response group. These responses were recorded and submitted via a separate form on ODK Collect, designed specifically for the unreachable subscribers. Based on the aforementioned criteria, there were three primary call results:

- Non-Response (Unreachable)
- Non-Response (Declined to Answer Survey)
- Response

The first days of the survey helped to identify some constraints and to improve the administration of questions to subscribers. Throughout the investigation, monitoring and progress reports were carried out on a weekly basis to evaluate progress and the quality of the data collected. Additionally, some meetings were periodically organized with the enumerators to identify the difficulties and constraints related to survey provision. This framework made it possible to share best ideas to conduct the survey and to aid in prompt and effective troubleshooting.

Analysis of Survey Responses

Before analysis of the survey responses could be carried out, the data had to be prepared to ensure effective analysis. The first step of the preparation process was to download both the survey response file and non-response file from Google Sheets. After this was carried out, verifications were made on the basis of phone numbers. Checks were carried out for phone number validity, ensuring that both the phone numbers came from the 5,000-

subscriber sample. The most common issues here were related to minor typos that were adjusted based on cross-checks against the list of sampled subscribers. There were additionally a number of duplicates phone numbers. While many of these were responses that were accidentally submitted from the ODK Collect system multiple times, others either were subscribers that initially declined participation in the survey but later called back to take part or duplicates that lacked explanation. Those that could not be explained were removed, with the first instance of each set of multiple responses for a single phone number removed.

After this first step was carried out, every single response had a unique phone number that could be traced directly to the subscriber sample. While most of the survey, specifically those with set responses (multiple choice, multiple selection, Likert Scale, etc.), had French responses directly linked to their English equivalents, parts of the survey relied on qualitative, open-ended responses. These responses were translated from French into English using a tool powered by Google Translate.

These open-ended responses, after being translated into English, were categorised based on the response. Categorisation was primarily carried out based on keywords and grouping of similar or identical responses. Some responses did require more critical interpretation in order to be categorised. Categorisation of these responses is essential for the analysis of responses and to identify patterns in the subscribers' feedback and perceptions of iska.

To analyse the data, simple quantitative analyses were combined with content and thematic analyses of the qualitative data obtained. This data was also analysed within the context of four key demographics identified based on the responses provided by the subscribers. The demographics, and the groups that make up each of these demographics that were relied upon for the purposes on analysis of survey responses, are summarised in Table 2.

Table 2: Key demographics evaluated during analysis of survey responses

Demographic	**Groups evaluated within the demographic**
Gender	- Female - Male
Age	- Under 18 - 18-29 - 30-39 - 40-49 - 50-59 - 60+
French Speaking Ability	- French Speaking - Not French Speaking
French Literacy	- French Literate - Not French Literate

By analysing the responses and data not just for the entire sample but also by breaking down findings by demographic groups, improved understanding of the entire subscriber base could be obtained. Because of potential, and realised, differences in how these demographic groups consume, use, perceive, and value products and services, these

differences were also evaluated within the context of iska. These more pointed insights provide additional opportunities to improve the product and service offering, by being able to better tailor the services to the wants and needs of different groups, especially for underserved groups that can benefit from receiving accurate weather forecasts.

Results

Overall, calls were attempted to 3009 subscribers that were randomly selected. The response rate for the survey was 55.9%, with a total of 1681 subscribers that participated. Of these 3009 subscribers, 39.4% were not able to be reached, with 55.6% of these individuals completely unreachable, where their phones were not able to be reached during any attempt by the enumerators. These individuals amounted to 21.9% of the entire sample. A breakdown of calling results can be observed below in Table 3.

Table 3: Summary of Call Results

Call Result	**Number of Subscribers**	**Percentage of Subscribers Called**
Not Reached, No Connection	658	21.9%
Not Reached, Phone Rang	526	17.5%
Reached, No Participation	144	4.8%
Reached, Responses Given	1681	55.9%

Demographics

As mentioned previously, data on demographics was collected. This data was carried out not just to better understand the characteristics of ignitia's subscriber base in Burkina Faso but also for the purposes of improved analysis. Understanding how demographics along the lines of gender, age, and use of the French language impact subscribers' interactions with the weather forecasts is key to identifying the strengths and opportunities available in this new market.

Overall, data on subscriber gender was collected for 1733 subscribers. 73.2% of these subscribers were male while 26.8% were female. Response rate among the male and female subscribers that were reached was very similar, with 95.6% of males reached willing to participate in the survey while 94.0% of females reached were willing to participate. Gender data is not available for the subscribers that could not be reached, thus it was not possible to investigate any potential gender differences with regards to reachability. Throughout this report, results will be evaluated with respect to gender.

Data on subscriber age was additionally collected. Age was broken down into six different categories, listed in Table 4 below. Some subscribers were unwilling to provide their age. 81.2% of subscribers that were willing to participate provided their age, with only a very small difference between males and females. 83.6% of males provided their age range while 80.8% of females were willing to do so. The overall breakdown of subscribers reached by age can be seen in Table 4.

Table 4: Breakdown of Reported Age of Subscribers Reached

Age Range	Number of Subscribers	Percentage of Total
Under 18	146	10.6%
18-29	539	39.0%
30-39	383	27.7%
40-49	203	14.7%
50-59	62	4.5%
60+	49	3.5%

Overall, a plurality of subscribers fell within the 18-29 age range, while a majority were between 18-39. Approximately half of the subscribers were under the age of 30.

Data on the language in which the survey was carried out was also collected. Overall, 67.6% of surveys were carried out in French, with 32.4% in local languages that include Mooré, Dyula, and Gormantché. Males were slightly more likely to prefer a survey in French, with 69.9% of males preferring French compared to 64.6% of females. In terms of age, the 60+ age range was more likely than any other group to prefer French, with 81.6% of these subscribers carrying out the survey in French. Individuals that provided their age were more likely to prefer French than those who did not, with greater than the overall average of 67.6% preferring French across each age range. In fact, only 55.6% of subscribers that did not provide their age preferred French. Breakdown of survey language used can be seen in Table 5 below.

Table 5: Breakdown of Survey Language Used

Survey Language	Number of Subscribers	Percentage of Total
French	1227	67.6%
Mooré	527	29.0%
Dyula	59	3.2%
Gormantché	2	0.1%
English	1	0.1%

Subscribers were additionally asked about their use of French, both in terms of speaking the language and literacy. 81.6% of respondents said that they speak French while 73.9% indicated that they are literate in French. Gender differences are minimal among respondents, with 82.3% of males and 80.5% of females indicating that they are

comfortable with speaking French. Additionally, 74.2% of males and 74.1% of females confirmed that they are literate in French.

In terms of age, the 60+ age group was most likely to speak French (93.8%) and be literate in French (91.7%). Second most likely in each category is the Under 18 age group, with 87.7% saying that they both speak French and are literate in French. Lowest among all age groups is the 30-39 age group, with 82.2% able to speak French and 72.4% reporting French literacy. Literacy among the subscribers is significantly higher than the average in Burkina Faso, with a literacy rate of just 41.2% country-wide with significant gender differences, with literacy rates of 50.1% for males and 32.7% for females.

French ability based on gender and age can be observed below in Table 6. It should be noted for this section and all sections in this report that French speaking and French literate are not mutually exclusive groups; the questions were asked separately, and therefore, for example, a subscriber in the French speaking group can also be in the French literate group.

Table 6: French Speaking and Literacy Rates Among Subscribers

Category	French Speaking Rate	French Literacy Rate
Gender: Female	80.5%	74.1%
Gender: Male	82.3%	74.2%
Age: Under 18	87.7%	87.7%
Age: 18-29	87.0%	80.2%
Age: 30-39	82.2%	72.4%
Age: 40-49	84.2%	76.4%
Age: 50-59	87.1%	82.3%
Age: 60+	93.8%	91.7%

Subscriber Interaction with Weather Forecasts

Farmers were asked a series of questions about their interaction with the weather forecasts. They were asked about

Overall, 93.4% of subscribers reported that they received the weather forecasts. This rate of forecast receipt was consistent among all gender lines and age groups. However, differences were observed between subscribers that are and are not French speaking and literate. French speakers and those literate in French were more likely to report forecast receipt; it is possible that the subscribers with limited literacy in French were unaware that they received forecasts. The differences based on French ability are outlined in Table 7 below.

Table 7: Forecast Receipt By French Ability

Group	Percent Reporting Receipt of Forecasts
French Speaking	95.3%
Non French Speaking	85.2%
French Literate	96.1%
Non French Literate	87.1%

Farmers were additionally asked how they learned about the weather forecasts and came to subscribe. Overall, 91.8% of subscribers reported that they discovered the forecasts and signed up through a notification from Orange Burkina Faso. This is a strong indication that the digital marketing activities carried out since the launch of the service have been instrumental in the acquisition of customers. Among all demographic groups, this was, by far, the most common way subscribers learned about the forecasts. Additionally, learning of the forecasts via word of mouth from a friend or family member was the next most prevalent method by which subscribers learned of the forecasts. Interestingly, the younger subscribers were significantly less likely to learn of iska via word of mouth, with just 1.4% of those under 18 indicating such and just 2.7% of those between 18 and 29. Conversely, 6.3% of subscribers aged between 50 to 59 and 3.9% of those aged between 40-49 discovered iska via word of mouth. This indicates some generational differences in how individuals utilise technology.

Among the subscribers that do not speak French or are not literate in French, significant portions of subscribers do not know how they learned about or subscribed to iska. Subscribers that either are not French literate or speakers are about 12 times more likely to not know how they subscribed than their French speaking and literate counterparts. This phenomenon is highlighted in Table 8 below.

Table 8: Differences in How Subscribers Learned About iska

Group	Orange Notification	Friend/Family	Used Before	Radio	Other	Unsure
French Speaking	93.9%	3.1%	0.4%	0.3%	0.9%	1.4%
Non French Speaking	76.1%	2.6%	0.6%	1.3%	1.9%	17.4%
French Literate	93.6%	3.1%	0.4%	0.5%	1.0%	1.3%
Non French Literate	80.0%	3.0%	0.0%	0.5%	1.5%	15.0%
ALL SUBSCRIBERS	91.8%	3.1%	0.4%	0.5%	1.0%	3.2%

Subscribers also reported their level of understanding of the forecast content on a five-level sliding scale. They rated their understanding as “None”, “Little”, “Some”, “Most”, or “Perfectly”. The majority of subscribers, 68.7%, report that they understand most of the forecast content or that they understand the forecast content perfectly. A plurality of subscribers, 36.1%, report a perfect understanding of the forecasts. Little differences were observed between male and female subscribers, though 37.9% of males reported a perfect understanding of forecast content as compared to 30.7% of females. 69.6% of males report that they have a perfect understanding or understand most of the content while 66.2% of females report the same. Figures 1 and 2 show the understanding levels of all subscribers and among males and females, respectively.

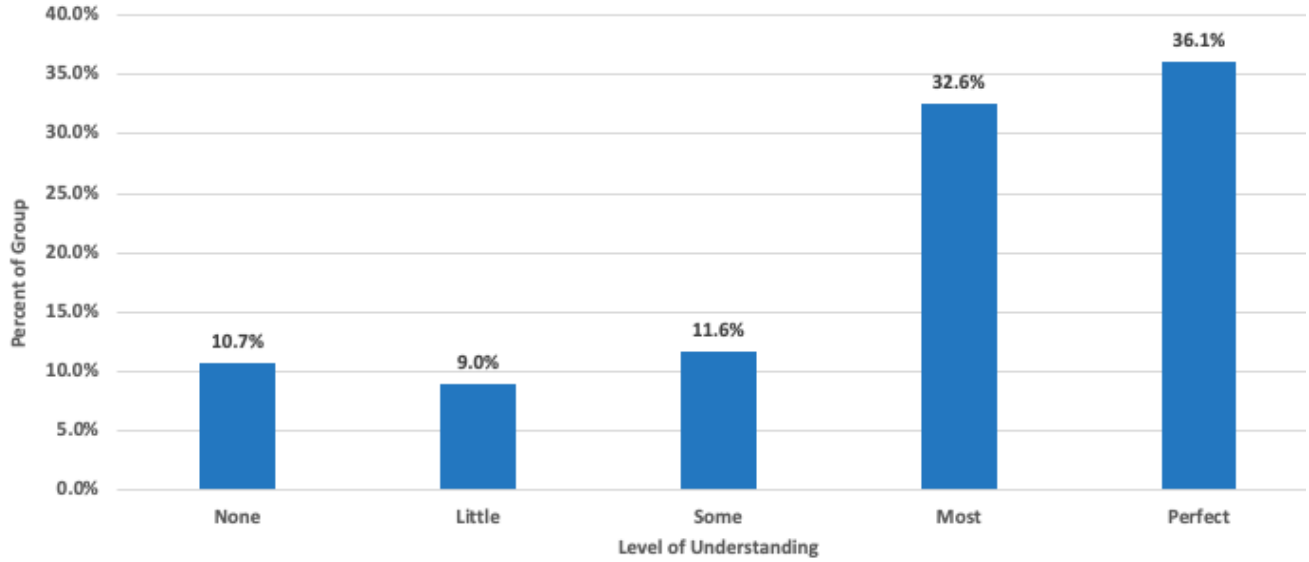

Figure 1: Understanding of Forecast Content: All Subscribers

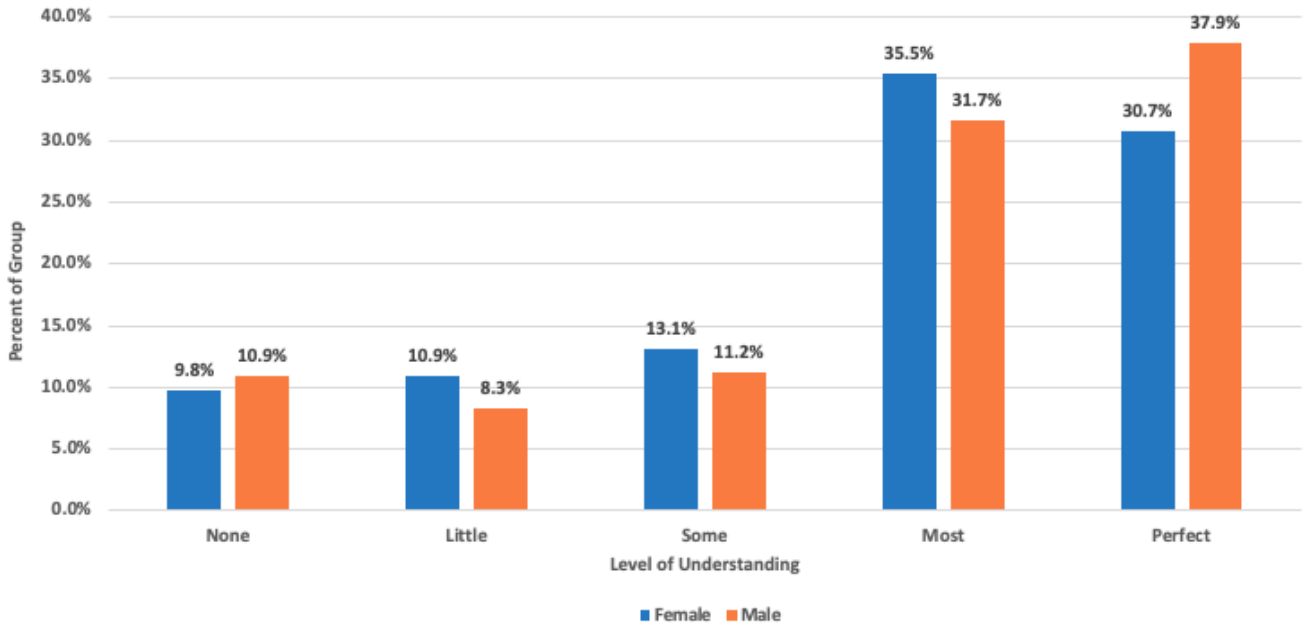

Figure 2: Understanding of Forecast Content: Disaggregated By Gender

Unlike the gender disaggregation, there were differences reported between age groups and significant differences reported between French speaking and literate subscribers. Ratings of “None”, “Little”, or “Some” understanding decreased with increasing age. The 50-59 and 60+ age groups both had a majority of subscribers report a perfect understanding of forecast content. The breakdown by age group can be observed in Figure 3.

Unsurprisingly, the most significant differences were observed based on French speaking ability and literacy. A majority of non-French speakers and subscribers not literate in French reported that they either understand none or little of the forecast content. On the other hand, 76.8% of French speakers and 81.2% of those literate in French report either a perfect understanding or an understanding of most of the forecast content. Figure 4 details the differences in understanding among subscribers with varying ability in French.

Though there are some challenges with understanding the forecast content among the subscribers that are not French speakers nor literate in the language, many report that friends or family members help them to understand the messages. Additionally, in other geographies, non-literate end users are able to elicit meaning from the forecasts through repetition and word recognition, as the forecast language is designed to encourage this via consistency in language.

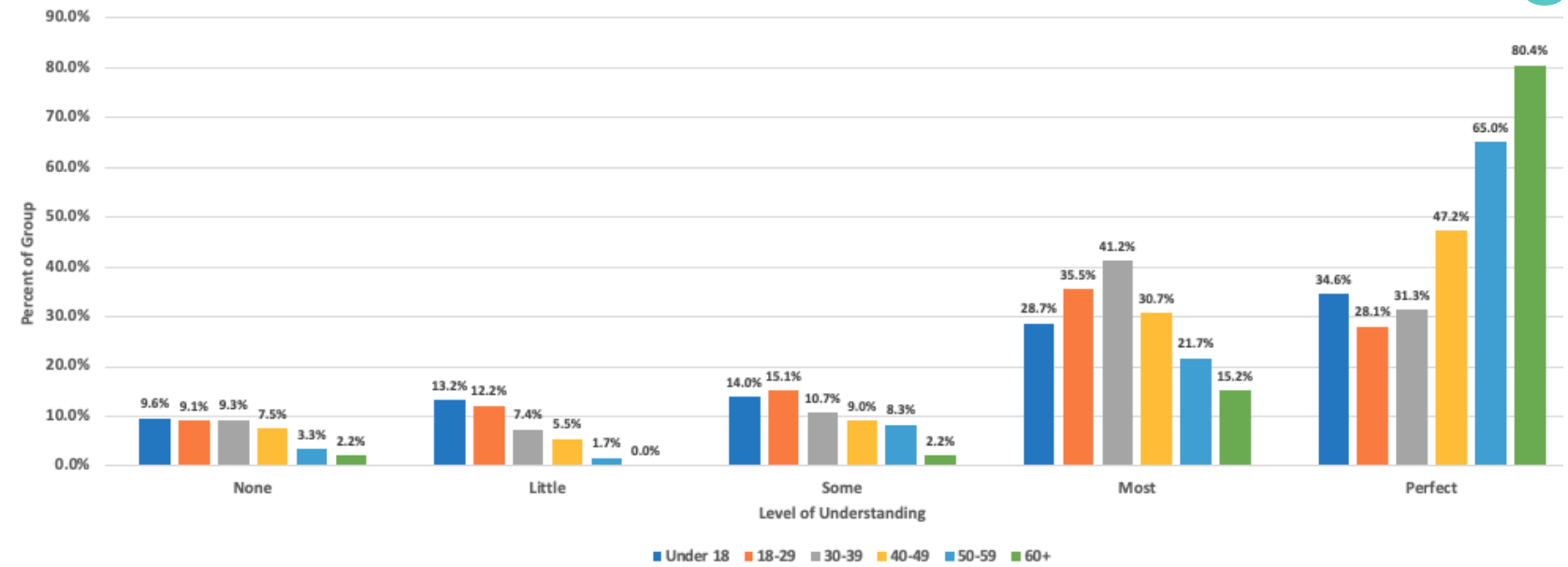

Figure 3: Understanding of Forecast Content: Disaggregated By Age Group

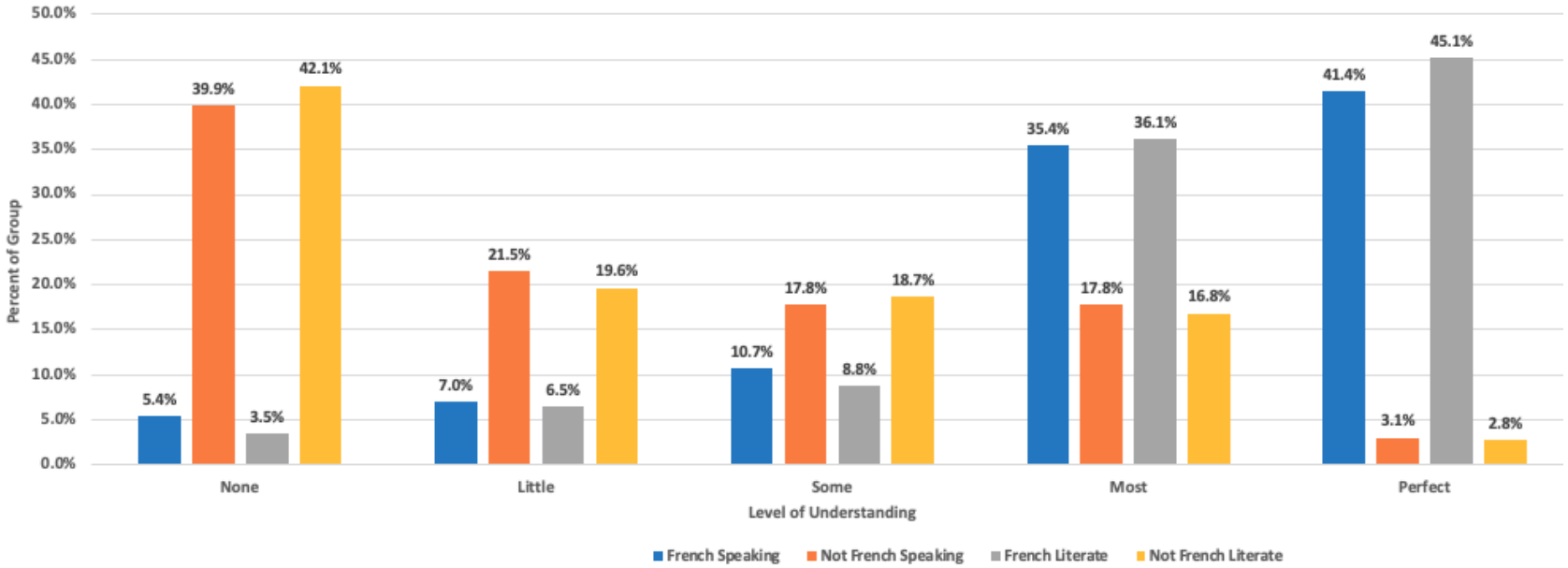

Figure 4: Understanding of Forecast Content: Disaggregated By French Language Ability

Forecast Performance

Subscribers were also asked to evaluate the performance of the weather forecasts. They were asked about their forecast reception, ratings of forecast accuracy, and general levels of satisfaction. This information provides additional information regarding the performance and value of the forecasts from the perspective of the subscribers.

The subscribers first were asked about the number of forecasts that they receive in a typical week, providing answers between 0 to 7. The average subscriber reported receiving 6.32 forecasts per week and 67.4% of subscribers reported that they receive seven forecasts in a typical week. All demographic groups evaluated reported a generally high level of forecast receipt, with 90.9% reporting receiving forecasts on at least five days per week, and no single demographic with less than 87.7% reporting at least five forecasts per week. Additionally, just 4.7% of all subscribers reported receiving forecasts less than half of the time (three or fewer forecasts per week). A histogram of reported forecasts per week received among all subscribers can be seen in Figure 5.

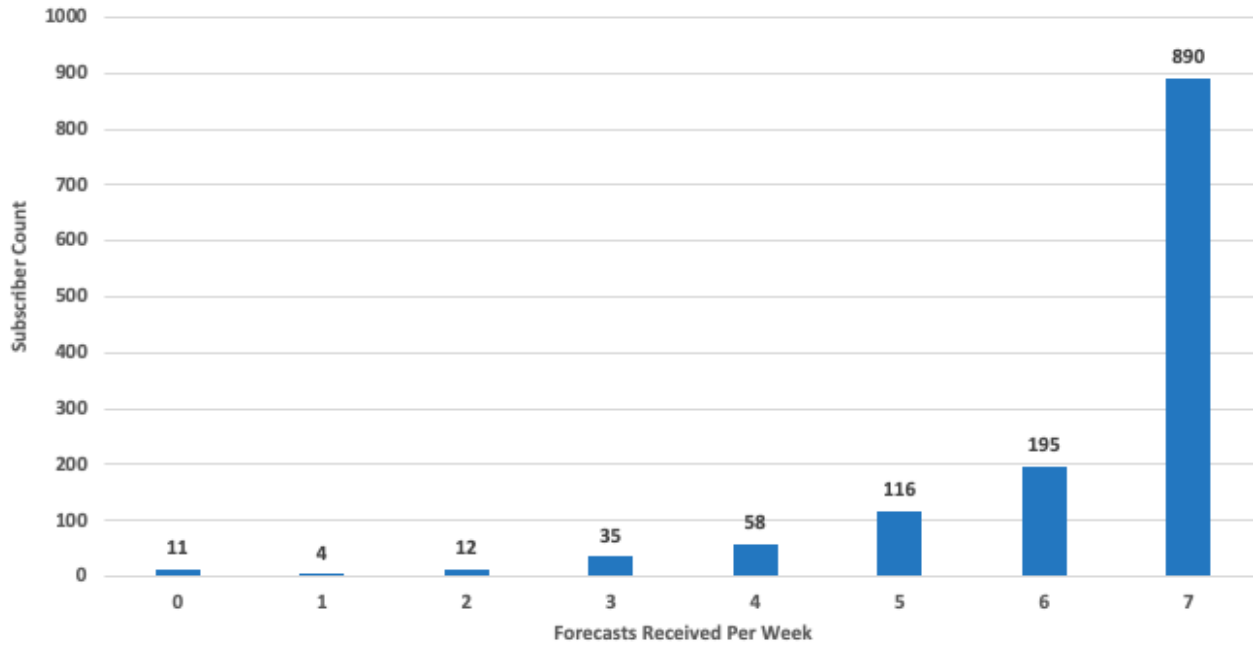

Figure 5: Histogram of Reported Forecast Receipt

Subscribers were subsequently asked about forecast accuracy. Using a five-level sliding scale, subscribers noted how often the forecasts they received were accurate, or that the prediction came true, with options from “Never”, “Rarely”, “Sometimes”, “Often”, to “Always”. Overall, 84.8% of subscribers indicated that the forecasts are either often or always accurate, with just 2.6% reporting that the forecasts are either never or rarely accurate. Subscribers under the age of 18, those that do not speak French, and those that are not literate in French were much less likely to consider the forecasts often or always accurate. However, neither group was more likely than the entire sample to consider the forecasts never or rarely accurate. Instead, they were more likely to say the forecasts were sometimes accurate, with 28.0% of those below 18, 33.3% of those that do not speak French, and 32.9% of those that are not literate in French reporting this; the sample-wide proportion that said the forecasts are sometimes accurate was 12.5%. Other findings to

note are that older subscribers were more likely to assess a high level of accuracy and males were slightly more likely to do so than females. The breakdown of responses from the full sample can be seen below in Figure 6.

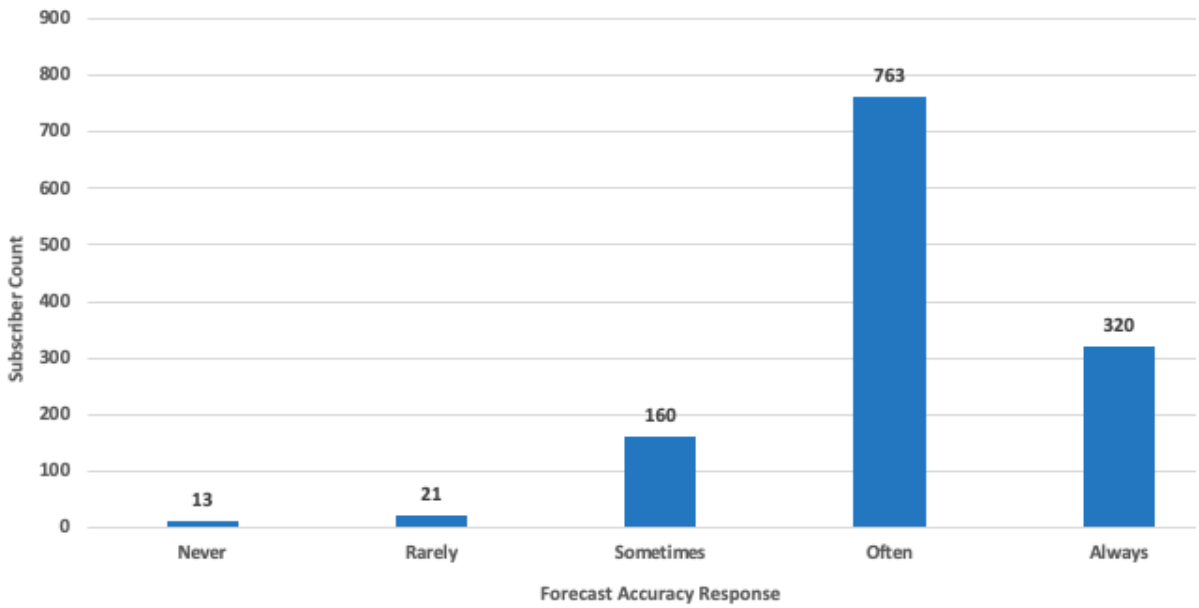

Figure 6: Histogram of Reported Forecast Accuracy

Forecast Perceptions

Subscribers were additionally asked about their general levels of satisfaction with the forecasts and to expand upon their reasons for both liking and disliking the forecasts. In terms of general satisfaction, subscribers were asked about their overall level of happiness with the service, prompted to choose their response from a five-level scale that goes from "Very Unhappy", "Unhappy", "Neutral", "Happy", to "Very Happy". Subscribers generally exhibited strong levels of satisfaction with the service, as 84.6% of all respondents said that they were either happy or very happy with the forecast provision. A breakdown of responses can be seen below in Figure 7.

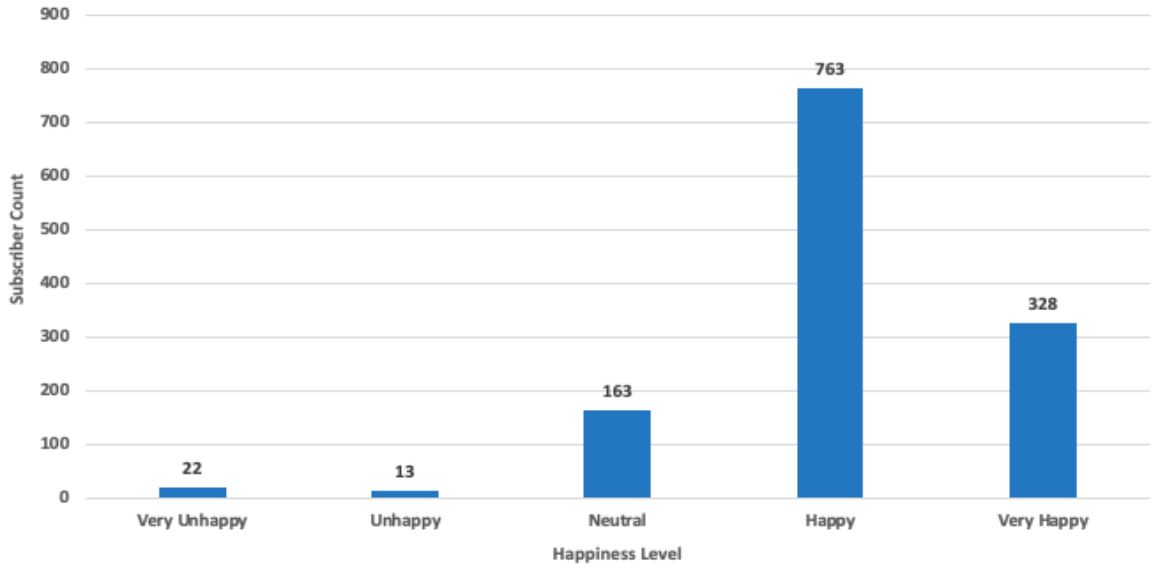

Figure 7: Subscriber Happiness with Service Provision

Overall, subscribers that do not speak French and are not literate in French reported the lowest levels of satisfaction. Just 61.0% of those not literate and 64.7% of those that do not speak French reported that they were happy or very happy with the forecasts. They were also much more likely than any other group to report that they were very unhappy, with 7.6% of non French speakers and 7.8% of non French literates providing this response. Only 1.7% of all respondents reported that they were very unhappy. The under 18 age group also reported lower rates of being happy or very happy with the forecasts, as just 72.8% of these subscribers indicating so. However, this did not coincide with a low rate of satisfaction; only 0.8% of the under 18 age group said that they were very unhappy and 1.6% said they were unhappy, both of which rank among the lowest of all demographic groups evaluated.

Many of the subscribers also provided explanations on what they like about the weather forecasts. The most common thing the subscribers like about the forecasts is the high level of accuracy; of those that highlighted a specific thing they like about the forecasts, 52.4% specifically noted the accuracy. The other most prominent responses included the benefits to their daily and economic activities and the reliability of the forecasts. There were not any noteworthy differences in responses based on demographic groups. A breakdown of the responses can be seen in Table 9.

Table 9: What Subscribers Like About the Forecasts

Category	**Percent of Respondents**
Forecast accuracy	52.4%
Benefits to daily and/or economic activities	16.4%
Reliability of the service	14.9%
Content of the messages	6.4%
Frequency of the forecasts	6.4%
Timing of the forecast to enable decision making	3.4%
Cost of the forecasts (affordability)	0.3%

Subscribers were also asked about what they dislike about the weather forecasts. The most prevalent reasons that they mentioned for disliking the service are the cost, the delivery of weather forecasts during the dry season, and, interestingly enough, the accuracy of the forecasts. The most notable difference between demographic groups is related to French speaking and literate subscribers. While just 9.6% of all respondents said they disliked that the forecasts are difficult to understand, 60.9% of respondents that do not speak French and 58.8% of those that are not literate in French highlighted difficulties with understanding the forecasts.

Additionally, a key difference between what males and females dislike most about the service has to do with cost and the provision of dry season forecasts. Females were far more likely than males to say the cost of the forecast was too high, with 36.0% of females

commenting on this compared to 18.2% of males. Males were more likely to dislike the provision of dry season forecasts, with 26.0% raising this issue compared to just 9.3% of female respondents. A breakdown of the subscribers' dislikes about the weather forecasts can be observed in Table 10.

Table 10: What Subscribers Dislike About the Forecasts

Category	**Percent of Respondents**
Cost of the service	22.7%
Provision of forecasts during the dry season	21.8%
Forecast accuracy	14.2%
Repetition of forecasts/forecasts sent too frequently	12.8%
Message content too simple	11.0%
Difficult to understand the forecasts	9.6%
Billing method (taking directly from airtime)	3.8%
Location for forecasts not precise	2.0%
Time of forecast delivery not optimal	2.0%

Use of Weather Forecasts

Subscribers were additionally asked about how they utilise the weather forecast information. Though the target market for the forecasts is for farmers, subscribers do use the forecasts for other economic activities and even simply for personal, day to day use. The subscribers were first asked about their primary use of the forecasts and then, if they did not indicate farming, were asked if they used the forecasts at all for farming. Those that did use the forecasts in farming activities were asked about the specific steps within the farming process that the forecast information assisted them with.

Overall, a plurality of subscribers indicated that their primary use of the forecasts was for farming, with 44.1% of respondents indicating such. Overall, 50.1% of respondents reported that they used the forecasts for farming at all, as some primarily utilise the forecasts for other activities. In terms of farming, male subscribers are more likely to use the forecasts for farming, with 54.9% overall using forecasts for farming activities compared to 36.0% of females. Additionally, non French speakers and subscribers that are not literate in French are more likely to use the forecasts for farming activities than their French-using counterparts. A breakdown of the proportion of subscribers that use the forecasts for farming by demographic group can be seen below in Table 11.

Table 11: Use of Forecasts for Farming by Demographic Group

Demographic Group	**Percent Using Forecasts for Farming**
All Subscribers	50.1%
Gender: Male	54.9%
Gender: Female	36.0%
Age: Under 18	39.1%
Age: 18-29	45.6%
Age: 30-39	57.8%
Age: 40-49	59.3%
Age: 50-59	57.9%
Age: 60+	47.7%
French Speaking	48.5%
Not French Speaking	64.3%
French Literate	46.8%
Not French Literate	64.4%

Aside from use for farming, other prominent uses of the forecasts include personal usage for day to day activities, schooling, business and trading, driving and transportation, and construction. The plurality of the under 18 age group, 36.7%, actually primarily use the forecasts for their schooling. This is the only demographic group evaluated for which a plurality do not use the forecasts primarily for farming.

While women were less likely to use the forecasts for farming than men, they were also significantly more likely to utilise the forecasts for personal/household use, schooling purposes, and trading than men. 25.3% of female subscribers use the forecasts for personal/household purposes compared to 16.8% of male subscribers. Additionally, 18.3% of females use the forecasts for business and trading compared to 11.4% of men and 15.9% of females use the forecasts for schooling purposes compared to 5.2% of men. A breakdown of primary use of weather forecasts can be seen in Table 12.

Table 12: Primary Uses for Weather Forecasts

Primary Forecast Use	All Subscribers	Female	Male	French Literate	Not French Literate
Farming	44.1%	29.6%	49.0%	40.2%	63.1%
Personal Use	19.0%	25.3%	16.8%	21.9%	4.4%
Business & Trading	13.1%	18.3%	11.4%	13.0%	11.3%
Schooling	7.9%	15.9%	5.2%	9.4%	0.6%
Transport & Driving	3.9%	2.4%	4.4%	4.3%	2.5%
Construction	2.3%	0.0%	3.1%	2.0%	2.5%
No Use	3.9%	6.4%	3.1%	3.0%	11.3%
Other	5.8%	2.1%	7.0%	6.3%	4.4%

Aside from the listed primary uses of the forecast information, there are additional uses of the forecasts that make up the "Other" category. These uses include animal rearing, car mechanic work, welding, mining, fishing, artisanry, and health work. This wide range of primary uses for the weather forecasts indicate that improved knowledge of forecasted rainfall can improve many economic activities and that subscribers are willing to apply the forecast information to these other activities. However, the fact that a majority of subscribers use the forecasts for farming at all and a plurality use the forecast information primarily for farming does clarify the fact that farming, especially rain-fed farming, is exceptionally reliant on rainfall, and that improved knowledge of forecasted rainfall can make farming more efficient and profitable.

As mentioned previously, just over half of the subscribers, 50.1%, indicated that they utilise the forecasts for farming at all. Of these, 96.8% reported specific steps within the farming process for which they adopted the weather forecasting technology to improve. The only significant difference in overall adoption is between French speaking farmers and French literate farmers. 97.8% of French speakers and 98.8% of subscribers literare in French reported changes to their farming activities via adoption of weather forecasting technology compared to 88.9% of non French speakers and 90.3% of farmers not literate in French. Farmers reported that the forecasts improved their activities throughout the farming process, including in land preparation, sowing, fertilisation, application of crop protection products, harvesting, drying, and general planning. The most prominent farming activity that subscribers reported improvements to is in general farm planning, with 87.4% of farmers reporting changes. A breakdown of adoption of forecasts into the different farming activities mentioned can be seen in Table 13.

Table 13: Adoption of forecast information into farming activities

Farming Activity	All Farming Subscribers	Females	Males
At Least 1 Change Made	96.8%	93.2%	97.6%
General planning	87.4%	84.7%	88.0%
Land preparation	52.9%	50.8%	53.4%
Sowing	56.2%	55.1%	56.4%
Fertilization	29.8%	18.6%	32.3%
Application of crop protection products	24.9%	22.0%	25.6%
Harvesting	22.2%	28.8%	20.7%
Drying of crops	10.0%	14.4%	9.0%

Overall, a majority of farmers reported making changes to their general planning, land preparation, and sowing practices. Significantly fewer reported changes to their fertilization, application of crop protection productions, harvesting, and drying of crops. While slightly higher proportions of males made most of the listed changes, females were more likely to report changes to harvesting and drying of crops. This is likely related to the division of labour by gender on the farm, whereas women are more likely to be responsible for the harvesting and post-harvest activities related to crop production.

Ongoing Forecast Use and Future Opportunities

In terms of likelihood to continue subscription, 78.9% of subscribers indicated that they are either likely or very likely to continue their subscription during 2021. Conversely, 7.2% say that they would be very unlikely or unlikely to continue their subscription. There were some differences in responses between demographic groups to note. In terms of gender, males were more likely to be willing to continue their subscription, with 82.9% likely or very likely to do so, compared to just 67.1% of females. Older subscribers are also more likely to be willing to continue their subscriptions, with willingness to continue decreasing with decreasing age; there is not, however, as clear a correlation regarding an unwillingness to continue subscription. Younger subscribers are more likely to be unsure if they will continue their subscriptions or not. Subscribers that are literate and speak French are also much more likely to be willing to continue their subscriptions. Data regarding willingness to continue subscriptions are summarised in Figure 8 and Table 14 below.

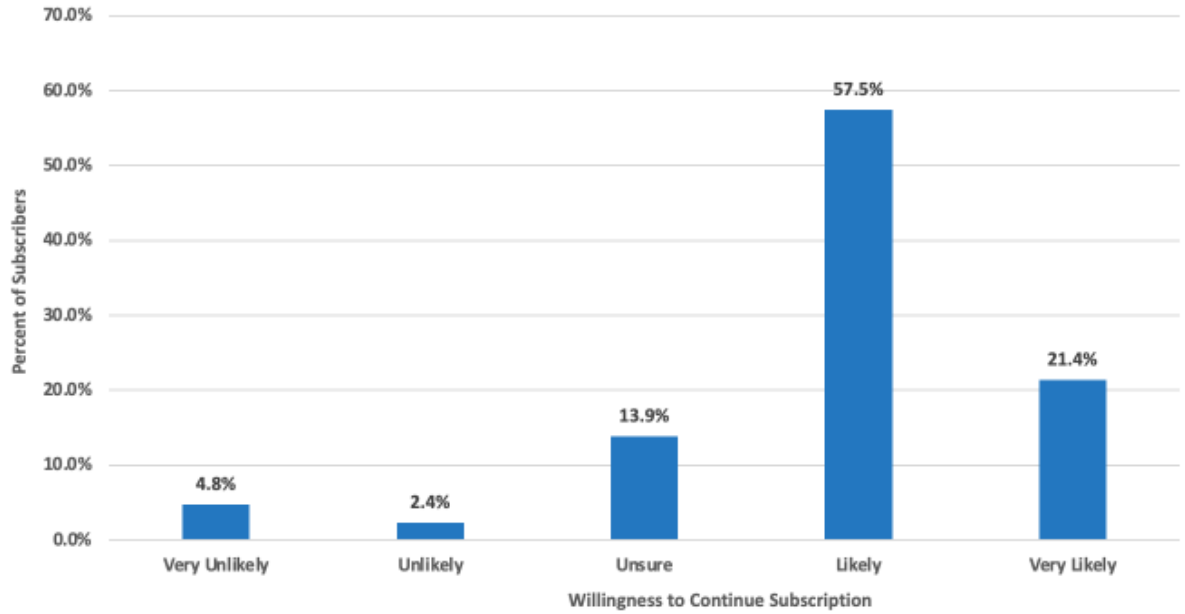

Figure 8: Subscriber Willingness to Continue Subscription

Table 14: Willingness to Continue Subscription by Demographic

Demographic Group	Very Unlikely	Unlikely	Unsure	Likely	Very Likely
Female	6.3%	3.8%	22.9%	54.9%	12.2%
Male	4.3%	1.9%	10.9%	58.4%	24.5%
Age: Under 18	4.1%	1.7%	27.3%	59.5%	7.4%
Age: 18-29	6.8%	3.3%	17.2%	56.3%	16.4%
Age: 30-39	3.3%	2.4%	10.7%	64.9%	18.8%
Age: 40-49	4.3%	2.1%	7.0%	51.3%	35.3%
Age: 50-59	0.0%	0.0%	3.7%	46.3%	50.0%
Age: 60+	4.4%	0.0%	2.2%	55.6%	37.8%
French Speaking	3.9%	2.2%	12.4%	58.6%	22.8%
Not French Speaker	13.9%	4.3%	23.5%	49.6%	8.7%
French Literate	3.5%	1.8%	11.2%	59.7%	23.7%
Not French Literate	14.0%	4.7%	28.7%	43.3%	9.3%

Subscribers were also asked about their reasons for their response to this question about their willingness to continue their subscription. While many respondents only provided very general feedback regarding their reasons for their likelihood or unlikelihood of continuing their subscription, a handful were more specific about their reasons for their response,

detailed below as proportions of those who provided specific reasons. Of those that indicated they were likely to continue their subscription, the most common reasons include the benefits subscribers experience because of the utilisation of the forecasts in the activities (72.7%), forecast accuracy (10.6%), and reliability (8.7%). Among those that said they are unsure or not likely to continue their subscription, common reasons include the cost of subscription (34.7%), difficulty understanding the forecast content (16.4%), not finding the forecasts useful (12.3%), and the delivery of repetitive dry season forecasts (7.1%).

Subscribers were additionally asked about their use of weather forecasts from sources other than iska. Overall, 54.6% of subscribers have or currently use weather forecasts from another source. Males, older subscribers, and French speakers and those literate in French are the most likely groups to have used forecasts from other sources. The most common alternative weather forecast sources include television and radio. A breakdown of alternative sources can be seen in Table 15.

Table 15: Where iska subscribers also get their weather forecasts from

	Radio	**TV**	**Phone App**	**Government**
Percent of Subscribers that use forecasts from other sources	67.1%	70.3%	8.3%	1.9%

Subscribers that use weather forecasts were asked to compare iska to the other weather forecast source by indicating if they prefer iska, prefer the other weather forecasts, or are not sure/lack a preference. Overall, 66.3% prefer iska.The majority of subscribers in all demographic groups aside from those under 18 years old, subscribers that do not speak French, and those that are not literate in French prefer iska to the other forecast sources. A summary of forecast preferences among subscribers that have used other weather forecasts can be seen in Table 16.

Table 16: Subscriber Forecast Preferences

Demographic	**Prefer Other Forecasts**	**No Preference/Unsure**	**Prefer iska**
TOTAL	6.3%	27.4%	66.3%
Female	14.6%	24.7%	60.8%
Male	8.7%	16.1%	75.2%
French Literate	6.4%	16.4%	77.2%
Not French Literate	32.9%	37.1%	30.0%

Subscribers were additionally asked about their willingness to recommend the use of the weather forecasts to friends and family. Overall, 20.0% of subscribers say they would be very likely to recommend the forecasts to friends and family, while an additional 62.4% say

that they would be likely to recommend the forecasts. Conversely, just 6.7% of respondents say that they would be very unlikely or unlikely to recommend the forecasts to friends and family. All demographic groups have a majority that are either likely or very likely to recommend use of the forecasts, though the subscribers that are not literate or do not speak French are significantly more likely to be unlikely to recommend the use of the forecasts to friends and family. The distribution of responses can be observed in Figure 9.

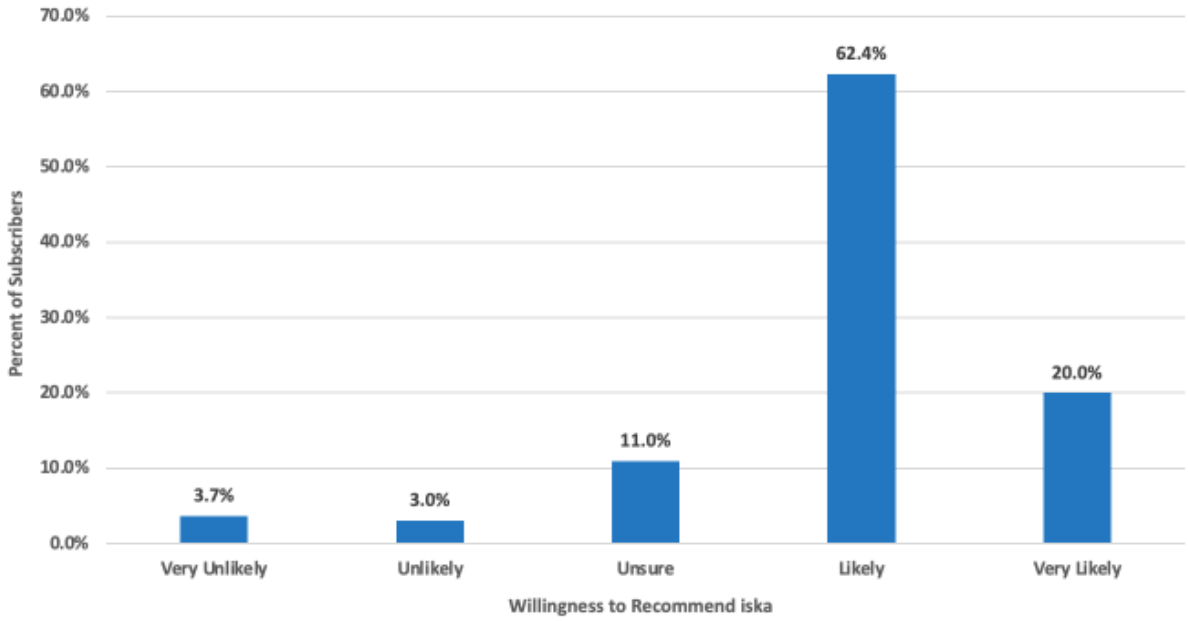

Figure 9: Subscriber willingness to recommend iska to friends and family

Additional Opportunities

While much of the survey was focused on the weather forecasting service in its current state, there was also some attention placed on evaluating future opportunities related to the provision of weather forecasts to subscribers in Burkina Faso that are not currently available. The information explored in this survey is related to the method of accessing the forecast information, the type of information available, and method of payment for the service.

Subscribers were first asked about their interest in receiving additional weather information than what is provided by iska's SMS weather forecasts. Overall, 54.6% of subscribers indicated that they would like more information. While some simply said they would like more information without naming any specific parameter or parameters they would be most interested in, many did mention specific information they would like iska to have provided. A summary of these parameters requested by subscribers can be seen in Table 17.

Table 17: Weather Parameters Requested by Subscribers

Weather Parameter	**Percent Interested**
Temperature	15.6%
Wind	8.9%
Dust Coverage (Harmattan)	5.0%
Rainfall Amount	4.6%
Location Specificity	2.7%
Timing of Rainfall	1.6%
Seasonal Outlook	1.3%
Sunshine	0.9%

While seasonal forecasts are already provided by iska, the rest of these parameters are not. These preferences from subscribers indicate key areas of opportunity where improvements to the service could be made in order to improve customer satisfaction.

In addition to the weather parameters, subscribers were also asked about their interest in receiving agricultural advice via SMS. Overall, 53.0% of subscribers expressed an interest in receiving agricultural advice via SMS. Female subscribers, subscribers that do not speak French, and subscribers that are not literate in French were significantly less likely to want agricultural advice, with just 37.8%, 33.9%, and 35.7% interested in it, respectively. Even among those interested in agricultural advice, these three groups were also significantly less likely to be willing to pay for agricultural advice, with 68.3% of females, 53.7% of non French speakers, and 62.5% of those not literate in French willing to do so, compared to 80.2% of all subscribers that expressed an interest in receiving agricultural advice. Additionally, subscribers under the age of 30 were also less likely to be interested in paying for such advice.

The potential use of Orange Money, Orange Burkina Faso's mobile wallet platform, to collect subscription payment as opposed to deduction from subscribers' airtime was also evaluated. Overall, 81.0% of subscribers indicated that they use Orange Money. Of those who use Orange Money, 60.9% said that they would be interested in paying for iska using the platform. This 60.9% of Orange Money users represents 49.3% of all respondents, including those that do not use Orange Money. A breakdown of responses can be seen in Table 18.

Table 18: Subscriber willingness to use Orange Money to pay for iska subscription

Willingness to pay for iska using Orange Money:	Using Orange Money	Orange Money Users: Yes	Orange Money Users: Unsure	Orange Money Users: No
All Subscribers	81.0%	60.9%	11.0%	27.8%

Finally, subscribers were asked about their smartphone usage and interest in an iska smartphone application. 48.6% of subscribers indicated that they use smartphones, while 99.0% of these smartphone users use phone applications. Males are more likely to use smartphones (51.3%) than females (40.2%). Additionally, French speakers are far more likely to use smartphones (52.0%) than those who are not French speakers (21.1%). This pattern holds for subscribers that are literate in French and those who are not, with 54.3% and 23.9% using smartphones, respectively. Subscribers that do use smartphones were asked about their application usage. Their responses are summarised in Figure 10.

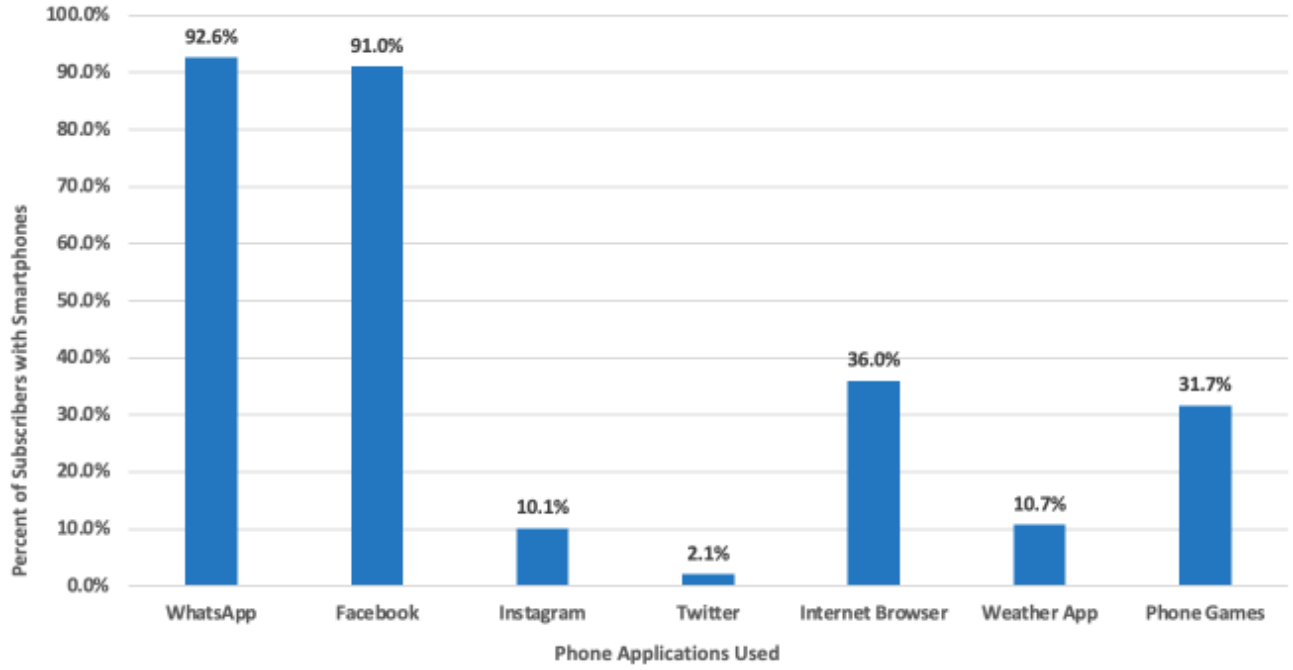

Figure 10: Smartphone application use by subscribers

Overall, a vast majority of smartphone users use both WhatsApp and Facebook. These are the only applications used by a majority of smartphone users; around one-third of them use their internet browser or access phone games, while just over 10% use Instagram or a weather application. Finally, subscribers were asked about their interest in an iska application. Overall, 50.0% of subscribers indicated that they would be interested in this. Of those with smartphones, 77.8% expressed an interest in an iska smartphone application.

Discussion of Results

Overall, the results evidence a high level of subscriber satisfaction with the forecasts. The subscribers report a high frequency of forecast receipt, with 90.9% of subscribers reporting that they receive at least five forecasts in a given week. Compounded by the fact that 84.8% of subscribers indicated that the forecasts are either “often” or “always” accurate and 84.6% say they are either “happy” or “very happy” with the iska service as a whole, there is an overwhelmingly positive attitude towards the service among the subscribers surveyed. It additionally appears that the accuracy of the forecasts is a major reason why subscribers are, in general, highly satisfied with the forecasts, as a majority of subscribers that noted a particular reason why they like the forecasts mentioned the accuracy.

This general satisfaction appears to translate into utilization of the forecasts to improve economic and day-to-day activities of subscribers. 96.1% of subscribers indicated that the forecasts provide benefits to them in terms of planning their activities, with just over half of these subscribers reporting that the forecast help them to improve their farming activities. Of these subscribers that use iska to help their farming, 96.8% pointed to at least one specific stage of the farming process for which the forecasts have helped to improve, with general planning, land preparation, and sowing of seeds being the most predominant activities for which farmers report to have utilized the forecast information for. It is clear that subscribers are benefitting from the forecasts and that there is a significant reach of the target market of farmers, though it may be a bit lower than expected. This is likely due to the fact that this is a new technology, and those in urban areas are typically more likely to be early adopters.

Further compounding the high levels of reported satisfaction is the fact that 78.9% of subscribers report that they are either “likely” or “very likely” to continue their subscription. 13.9% are unsure if they will continue while just 7.2% say they would be “unlikely” or “very unlikely” to continue their subscription. Additionally, 82.4% of subscribers say that they would be “very likely” or “likely” to recommend iska to their friends or family, further confirming this high rate of satisfaction with the service as a whole. Moreover, 66.3% of subscribers that have previously or currently use other sources for weather forecasts report that they prefer iska to other weather forecasts, while just 6.3% say they prefer the other sources. Interestingly, subscribers that are not literate in French actually prefer other forecast sources, with 32.9% preferring other forecasts while just 30.0% prefer iska. Likely, this is due to the fact that iska is a text-based service, while other widely used sources such as radio and TV have an audio component.

This lower rate of preference of iska among subscribers that are not literate in French or that do not speak French is not isolated to this specific question; across the survey, these subscribers generally have a less favourable view of iska than subscribers that speak and read in French. The likely source of this lower satisfaction is the ability to understand the forecast content. 61.4% of those that do not speak French and 61.7% of subscribers that are not literate in French report that they understand “little” to “none” of the forecast content on their own. In these cases, many subscribers do rely on family or friends to convey the forecast information to them; however, this is an understandably less than desirable situation. These groups also reported the lowest rates of general happiness with the forecast provision, with just 61.0% of subscribers that are not literate in French and 64.7%

of subscribers that do not speak French reporting that they were either “happy” or “very happy” with iska.

However, it should be noted that 81.6% of subscribers report that they speak French while 73.9% report that they are literate in French. While this does indicate that the impacts of a French-language service on the subscriber base are not a major barrier, it should also be noted that this literacy rate is significantly higher than the literacy rate for Burkina Faso as a whole, which is 41.2%. Once again, it should also be stressed that, as this is a new service that has only been available to the Burkinabé public for six months, penetration of the population with lower literacy in both French and in terms of technological literacy are likely to be lower. This is additionally evident in terms of the feedback provided by the subscribers; subscribers were more likely to find issue with the forecast content being too simple than the forecast content being difficult to understand. A further complication is that the most common complaint about the service provision is the cost of the service. Offering an IVR-type service will likely be more expensive for the end users.

Other major complaints about the service, in addition to the cost of the service, include the provision of forecasts during the dry season, forecast accuracy, repetition of forecast content, and the simplistic nature of the forecast content. It is possible that some of the complaints surrounding forecast repetition may be related to the provision of dry season forecasts, which will have limited variability due to the fact that rainfall is rare during this time. Interestingly, forecast accuracy was a concern here; however, with 14.2% of respondents indicating issues with the accuracy of forecasts, compared to the 52.4% that highlighted this as the best thing about the service, forecast accuracy is much more likely to be seen as a positive by subscribers than as a negative.

A number of opportunities were presented based on the subscriber responses to the survey. Subscribers were asked about additional weather parameters they were interested in, with temperature, wind, dust coverage, and rainfall amount the most prominent parameters requested. In all, 54.6% of subscribers said that they would like to receive more information on the weather than they already received through iska. They were additionally asked about receiving agricultural advice via SMS, which 53.0% of subscribers expressed interest in. 80.2% of subscribers that were interested in agricultural advice said they would be willing to pay for it, though younger subscribers, females, and non-French speakers were significantly less interested in both receiving such advice and also less willing to pay for the advice.

Subscribers were additionally asked about opportunities to pay for and/or use iska through different platforms. In terms of payment, 81.0% of subscribers say that they use Orange Money, Orange’s mobile wallet platform. A majority of these Orange Money users indicated they would be interested in using the platform to pay for iska; Orange Money users that would be willing to pay for iska represented 49.3% of all respondents.

Finally, smart phone usage and interest in using an iska smartphone application was investigated. Much of the feedback related to things subscribers dislike about the service, as well as related to additional weather parameters, could potentially be addressed though an iska application. Overall, 48.6% of subscribers report that they use a smartphone, of which 99.0% use applications. The most common applications used among the smartphone users

are WhatsApp and Facebook, with over 90% of smartphone users reporting use of these two applications. Around one-third of smartphone users report using their internet browser and phone games, while smaller proportions use weather applications. However, 77.8% of the subscribers that use smartphones expressed an interest in using an iska application – this amounts to 37.8% of all the subscribers, which represents a significant portion of the subscriber base.

Overall, the results highlight high levels of satisfaction among subscribers. Subscribers tend to value the reliability and accuracy of the service. However, there are some relatively underserved groups – while it is largely the nature of such a service, iska has not yet reached many farmers that are not literate in French, and even those it has reached have significantly lower rates of satisfaction. There are opportunities to improve the service provision to these subscribers and to this market, as well as additional opportunities related to improving the service provision for all subscribers. Identified opportunities include offering an alternative billing method via Orange Money, making available agricultural advice, and offering a smartphone application that provides more detailed weather forecasts.

Conclusions and Recommendations

As mentioned in the Discussion of Results, there are a number of key opportunities to improve service provision. However, it should be stressed that there is a high level of satisfaction already, and that major changes likely are not necessary to maintain this high level of satisfaction. As long as forecast accuracy and consistent delivery of forecasts can be maintained, satisfaction should remain high.

One opportunity that exists is related to how to better address the needs of people who are not French speaking or French literate. The most obvious recommendation here would be an investigation on how the service could be delivered in local languages, with a primary focus on Mooré and a secondary focus on Dioula. Forecasts could be delivered in local languages via two methods: one could be the translation of the SMS content to the local languages. This, however, may not fully address the needs of subscribers as they may also not be literate in local language. A deeper look into local language literacy may be required. Additionally, the provision of forecasts via interactive voice response (IVR) in local languages could be explored. While this would be the most obvious choice, there are some drawbacks. First, IVR is more expensive to use than SMS. Thus, additional costs would need to be relayed to the end user, which is in direct conflict with the most common complaint about the service – the cost. Additionally, there is no simple way to save the forecast content; this would need to be done manually by the end user by using a recording feature on their phone, remembering the forecast content, or by writing down the forecasted conditions, which can also pose challenges for illiterate subscribers. While this is not a simple challenge to address, it is worth evaluating in order to better meet the needs of end users and to reach more subscribers.

One major piece of feedback from subscribers is a dissatisfaction with the dry season forecasts, which are highly repetitive and offer little value to many subscribers. Evaluating opportunities to address this by providing more useful content during the dry season should

be carried out. Based on the subscriber feedback provided in this survey, possibilities include providing information on temperature, wind, and dust coverage (which is inherently associated with the dry season). Additionally, offering agricultural advice during this time may be helpful to limit the repetition in content.

Based on the survey results, there is a high level of use of Orange Money among iska subscribers. Additionally, many of these users of Orange Money would be interested in paying for iska through Orange Money. Based on these results, the implementation of Orange Money as a billing method for iska should be explored.

Finally, there is a significant contingent of subscribers that use smartphones and would be interested in an iska application. Not only is there interest, but many subscribers commented that the SMS forecast content is too simple and lacking location specificity. An iska application could address both of these concerns. Additionally, an iska application would be able to provide subscribers with access to more of the weather parameters that have been requested such as temperature and wind.

This evaluation, overall, displays a service that is overwhelmingly positively received by its paid subscribers. However, it also presents a number of opportunities for improvement, improvements which can further increase satisfaction, limit churn, and expand the subscriber base.

Appendices

Appendix A: List of Survey Questions

- Language used for Survey (French, Móorè, Dyula, Fulfulde, Other)
- Willing to Answer survey questions (Yes/No)
- Gender (Male/Female/Unsure)
- Name
- Age (Under 18, 18-29, 30-39, 40-49, 50-59, 60+, No response)
- Are you able to speak French? (Yes/No/Unsure)
- Are you able to read and write in French? (Yes/No/Unsure)
- Receive iska weather forecasts (Yes/No)
    - If yes, how did you first hear about iska weather forecasts? (Notification from Orange BF, friend/family told you about it, radio, received before as part of a project, Other)
- Primary activity they use the weather forecasts for (farming, selling/trading, transportation, construction/masonry, other)
    - If not farming, do you use the forecasts for farming (Yes/No)
    - If farming, which farming activities have the forecasts helped with? (General planning, land preparation, sowing, Fertilizer application, pesticide application, harvesting, drying, selling, Other, None)
- How many days in a normal week do you receive iska weather forecasts? (0-7)
- How often are the forecasts accurate? (Always, Often, Sometimes, Rarely, Never)
- How happy are you with iska weather forecasts? (Very Happy, Happy, Neutral, Unhappy, Very Unhappy)
- What do you like about iska weather forecasts?
- What do you dislike about iska weather forecasts?
- How likely are you to recommend the use of iska weather forecasts to friends or family members? (Very Likely, Likely, Unsure, Unlikely, Very Unlikely)
    - Why did you say you would be (Very Likely, Likely, Unsure, Unlikely, Very Unlikely) to recommend the use of the weather forecasts to friends or family members?
- Is there any information that iska weather forecasts do not give you that you wish it would give you? (Yes/No)
    - If Yes, what information?
- Before receiving iska weather forecasts, have you used weather forecasts from other sources such as radio, TV, phone application, government source? (Yes/No)
    - If yes, from where? (Select all that apply - radio, TV, phone application, government, Other, Unsure)
    - If yes, do you prefer iska weather forecasts or the other weather forecasts? (Prefer iska, No preference, Prefer the other forecasts)
- How likely are you to continue subscribing to iska weather forecasts next year? (Very Likely, Likely, Unsure, Unlikely, Very Unlikely)
    - Why are you (Very Likely, Likely, Unsure, Unlikely, Very Unlikely) to continue subscribing next year?
- Do you use Orange Money? (Yes/No)
    - If Yes, would you be interested in paying for the forecasts through Orange Money? (Yes, No, Unsure)
- Would you also be interested in receiving agricultural advice through SMS? (Yes, No, Unsure)
    - If yes, would you be willing to pay for this? (Yes, No, Unsure)
- Do you use a smartphone? (Yes/No)
    - If yes, do you access any of the following (Select all that apply: WhatsApp, Facebook, Instagram, Twitter, Weather applications, Games, internet browser, None, Other)
    - If yes, would you be interested in an iska application that provides additional and more detailed weather information? (Yes/No)
- Do you have any comments about the survey or about iska weather forecasts in general?
- Date and time (there will be an option to get this directly from the date and time on the phone itself)
- Enumerator Name
- Subscriber Phone Number Called

Appendix B: Survey Provision Guide

Step	Description	Information to fill out in ODK Collect
1	Place phone call. If subscriber does not pick the call, call again immediately. If the call is not picked, record the date and time of the call and be sure to call again at a different day/time. If subscriber does pick the call, proceed to step 2.	N/A
2	Greet the subscriber and introduce yourself. You should mention the following information: • Confirm the language that will be best for communication • Your name and that you are calling to ask about their experience with iska weather forecasts • Ask if they have about 10 minutes to answer some questions about iska weather forecasts. If they are willing to answer the questions, proceed to step 3. If not, thank them, record the required information in ODK Collect from Step 15, and end the call.	For all results: • Language used for survey • Willingness to answer survey questions • Gender If subscriber was not willing to answer questions: • Date and time • Enumerator Name • Subscriber Phone Number
3	Thank the subscriber for being willing to answer the questions. Inform them that they can end the call at any time if they would like and that they are not required to answer any of the questions asked to them. If they end the call at any time, be sure to fill out the information in Step 15. Let them know you will start with some general information about them. Ask about their: • Name, Age, Ability to speak French, Ability to read and write in French • If they receive iska weather forecasts If they respond that they do receive iska weather forecasts, proceed to step 4. If they respond that they do not receive iska weather forecasts, thank them for their time and ask if they would like more information about iska weather forecasts. Use the provided frequently asked questions document to give them general information.	• Name • Age • Ability to speak French • Ability to read/write in French • If they receive iska weather forecasts
4	Ask the subscriber if they remember how they learned about iska weather forecasts. Provide them with the listed options. Next, ask how well the subscriber understands the forecasts. Select from the list of options their response. Additionally, ask if they know the location for which they are receiving the forecasts. Write down the response. If the subscriber does not know, write down "Unsure"	• How did you first hear about iska weather forecasts? • How well does the subscriber understand the weather forecasts? • For which location are you receiving weather forecasts?
5	Inform the subscriber that you will now ask them some questions about their use of the weather forecasts. Ask of their primary use of the forecasts and select their response from the list of options. If it does not fit among the list, select "Other" and type in their response. If their primary use was not farming, ask if they use the forecasts at all for farming. If they do not use for farming, proceed to step 6. If they do use for farming, ask if the forecasts have helped in any steps of the farming process. Select all that may apply. There are options for "Other" and "None"	• Primary use of iska weather forecasts • If primary use is not farming, do they use for farming? • If used for farming at all, during which steps of the farming process?

6	Ask the following questions: • How many days in a week do you receive the weather forecasts? • How often are the forecasts accurate (provide the list of options in ODK Collect) • How happy they are with the forecasts (provide the list of options in ODK Collect) • What do they like about iska? • What do they dislike about iska? The last two questions may take some time to record. Take your time and paraphrase if necessary. Make sure to record this in French. Once finished proceed to Step 7	• Number of forecasts per week • How often iska forecasts are accurate • Happiness with iska • What they like about iska • What they dislike about iska
7	Ask the subscriber how likely they would be to recommend the forecasts to friends or family (provide the list of options in ODK Collect) Follow up the question by asking the reason for the response they provided (ex. Why did you say you were not likely to recommend the use of the forecasts?) Once again, take your time to record their response in French, paraphrasing if necessary to capture the main idea. Once finished, proceed to Step 8.	• Likeliness to recommend the use of iska to others • Subscriber's reason for their response to recommending use of iska
8	Next, ask if there is any information that iska forecasts do not provide that they wish it would. If yes, ask what information they wish iska provided. If no, proceed to Step 9	• If subscriber wished iska provided more information • Which information they wish iska provided
9	Next, ask if they used weather forecasts from another source such as radio, TV, government, phone app either before they received iska weather forecasts or while they received iska forecasts. If no, proceed to Step 10. If yes, ask from where they received weather forecast information and select all options that apply. Additionally, ask if they prefer iska, the other source of weather information, or if they are unsure about their preference.	• Use of forecasts from another source (Yes/No) If Yes: • Source of forecasts • Preference of forecast source
10	Inform them that you are almost done and that you now would like to ask them some questions about possible opportunities related to improving iska. Ask if they expect to continue their subscription to iska weather forecasts for next year and select the most applicable response (Very Likely, Likely, Unsure, Unlikely, Very Unlikely) Next, ask why they gave that response. Take your time to record their response in French, paraphrasing if necessary to capture the main idea. Once finished, proceed to Step 11.	• Expect to continue subscription to iska next year? • Why they are, are not, or are unsure about extending their subscription?
11	Next, ask if they use Orange Money. If no, proceed to Step 12. If yes, ask if they would be interested in paying for iska weather forecasts through Orange Money and select the most applicable response.	• If they use Orange Money (Yes/No) • If they would be willing to use Orange Money to pay for iska
12	Now ask if they would be interested in receiving agricultural advice through SMS. If no, proceed to Step 13. If yes, ask if they would be willing to pay for the messages (Yes, No, or Unsure)	• Interest in receiving agricultural advice • Willingness to pay for agricultural advice

13	Ask the subscriber if they use a smartphone. If not, proceed to Step 14. If yes, ask the follow-up questions below: • Do you access any of the following applications? (Read the list of options and select any that the subscriber indicates using) • Would you be interested in an iska application that provides more detailed weather information?	• Use of smartphone (Yes/No) If yes: • Smartphone Applications Used • Interest in an iska application
14	Ask the subscriber if they have any final comments about iska or about the survey in general. Record their response and thank them for their time and let them know that their responses will be valuable for the improvement of iska. Thank them for subscribing before ending the call.	• General comments about iska and/or the survey.
15	Record the date and time on ODK Collect. This information can be taken automatically from your phone. Record your name (enumerator name) Record the phone number of the subscriber that you just spoke with. Save the survey on ODK Collect.	• Date and time • Enumerator Name • Subscriber Phone Number