# Grameenphone Krishi Sheba

## A mobile agriculture service in Bangladesh

CASE STUDY JULY 2017

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## ABBREVIATIONS

| | |
|---|---|
| ARPU | Average revenue per user |
| Agri VAS | Agricultural value-added service(s) |
| BDT | Bangladesh Taka – local currency |
| BI | Business intelligence – using data generated by service users to make decisions about product/service design |
| IVR | Interactive voice response – a dial-in menu which allows users to interact with automated messages by pressing the keypad |
| NGO | Non-governmental organisation |
| OBD | Outbound dialling, also called voice SMS or 'robo-calling'. A pre-recorded message sent over the GSM network. |
| PIW | Product iteration workshop – quarterly workshops which aim to review data collected over the quarter from BI, user feedback from phone surveys, and UX-led research to inform the evolution of the service |
| SMS | Short messaging service – written messages sent to phones with limited character length |
| UX | User experience – how the user engages with the product, practically and emotionally |

# Executive Summary

## Krishi Sheba aims to improve farmers' access to information and increase customer loyalty

Grameenphone Krishi Sheba (Grameenphone Agriculture Service, henceforth Krishi Sheba) is an agricultural value-added service (Agri VAS) run by Grameenphone Bangladesh with VAS partner, Win Miaki. The product rollout was supported by a matched funding agreement between Grameenphone Bangladesh and the GSMA through the mNutrition Initiative, which is funded by UK aid from the UK government (DFID). Under the agreement, the GSMA mAgri programme provided consultancy throughout the product development cycle. The service launched in December 2015 and over 750,000 users were reported by December 2016.

Outbound dialling (OBD) campaigns to targeted groups of Grameenphone users have been key to capturing a large audience. All channels were offered free of charge during Q3 and Q4 2016 when the service scaled up. Non-governmental organisation (NGO) partners have since come on board to promote the product to their farmer groups — it was an initial struggle to forge these relationships.

Users signed up for access to seasonal agricultural content from planting to post-harvest, choosing from three of 16 crops and livestock. Users initially struggled to register key crops themselves, so they are now assigned a default profile (including broad nutritional content as a standard 'fourth crop') based on their location after a one-click registration process. Users can change their preferences through the interactive voice response (IVR) menu. The service, now charged at BDT 3 (USD 0.04) per week, advertises one OBD per week per crop with one additional nutrition message. More information is available by dialling 27676; users can dial 1 to speak to a call centre agent directly about agricultural issues (charged at BDT 1 per minute), or 2 to enter the IVR menu.


Krishi Sheba marketing materials

## Key findings

- **Explicit agricultural knowledge was found to be low among Bangladeshi farmers.** Early design research found that farmers have no objective way to assess their agricultural knowledge other than comparing themselves to others in their community. When advice seems risky, farmers may ignore it and follow their own instinct and experience. Gender issues also influence how agricultural information is accessed. Although women in Bangladesh increasingly perform a lot of farming activities, cultural norms may prevent them from using mobile phones and the internet and, in some cases, farming in the fields.

- **After a slow start, user numbers and engagement improved from Q3 2016.** Engagement of both active and power users (repeat users who were active during the month) rose sharply in May 2016, when the service flow was altered to port users to the IVR menu immediately after registration. This service improvement led to a 270% increase in repeat usage of the pull content. Early on-the-ground marketing produced high-quality users who understood the product offering, but not in large enough numbers to scale the service. A traditional VAS campaign, using SMS and OBD marketing, allowed the product to reach a wider audience.

- **Most power users are men living below the poverty line.** Only 21% of power users surveyed are female. An estimated 78% of Krishi Sheba subscribers are living below the poverty line, compared to 86% nationally.

- **Power users are significantly more likely to change their planting habits than non-users.** After a difficult season in Bangladesh, with monsoon rains heavily affecting agricultural regions, no significant differences were found between a group of power users and non-users in terms of production or income.

- **Commercial objectives for GP Krishi Sheba included increased stickiness and revenue from rural segments.** Bangladesh is a multi-SIM market with an estimated average of 1.5 SIMs in the market per subscriber.[1] The added value of this service was intended to encourage use of the Grameenphone SIM. Grameenphone analysis suggests that Krishi Sheba users are less likely to have 'silent status' (no activity on the SIM): 5% of the Krishi Sheba base had been silent for more than 90 days in February 2017, compared to 14% in a random sample of the Grameenphone base who do not use the service.

- **Power users see their mobile phones as a trusted source of agricultural information.** While Krishi Sheba is not the only source of information for most users, 66% of users reported their mobile as one of the two main sources of information leading them to make changes in their practices, compared to 42% of non-users.

1. GSMA Intelligence, Q4 2016

# Country context

## Bangladesh's large agricultural sector provides an opportunity for Grameenphone to increase customer loyalty in rural areas

Grameenphone (Telenor group) is the largest operator in Bangladesh. Grameenphone launched Krishi Sheba with the objective to reach out to rural users and increase customer loyalty in these areas where, despite rapid urbanisation in recent years, most people in this densely populated country still reside.

Agriculture employs almost half of Bangladesh's citizens and over a third (60 million people) are involved in smallholder subsistence farming.[2] The agricultural sector in Bangladesh is dominated by rice production, averaging 44 million tonnes per year.[3] This is split into three seasons: Aman, Aus, and Boro. Harvests of Aman rice represent much of Bangladesh's rice production, around 40% of annual rice output.[4]

Sugar crops and potatoes are the next most commonly grown crops by weight. Recognising the importance of nutrition for its citizens, the Bangladesh government is aiming for self-sufficiency in food grains by 2021.[5]

The impact of climate change is considered a significant emerging issue in the country. Heavy monsoon rains had a serious impact on Northern and Central Bangladesh in July 2016. The most affected divisions were Rangpur and Dhaka,[4] where a large proportion of Krishi Sheba users live.[6]

Beyond this, gender inequality is a significant concern in the Bangladesh agricultural sector. Women are believed to play a crucial, but often 'invisible' role.[7]

2. Food and Agriculture Organization of the United Nations (FAO), 2015, "The economic lives of smallholder farmers", http://www.fao.org/3/a-i5251e.pdf.
3. Average from 2000–2014, from the model for GSMA, 2016, "Market size and opportunity in digitising payments in agricultural value chains", http://www.gsma.com/mobilefordevelopment/programme/magri/market-size-and-opportunity-in-digitising-payments-in-agricultural-value-chains.Please contact the mAgri@gsma.com for the full methodology.
4. FAO, 2016, "GIEWS - Global Information and Early Warning System - Country Briefs - Bangladesh", http://www.fao.org/giews/countrybrief/country.jsp?code=BGD.
5. FAO, 2016, "Country Fact Sheet on Food and Agriculture Policy Trends", http://www.fao.org/3/a-i5890e.pdf
6. Outcomes phone survey, 451 users, January 2017
7. USAID and IFPRI, 2013, "The Women's Empowerment in Agriculture Index: Results from the 2011-2012 Bangladesh Integrated Household Survey", http://www.a4nh.cgiar.org/files/2013/04/IFPRI-PRSSP_Bangladesh-WEAI-Report_Final_14-April-2013.pdf.



TABLE 1

### Bangladesh country context at a glance

| | |
|---|---|
| Number of active Agri VAS (2016)[8] | 10 |
| Mobile penetration (Q4 2016)[9] | 53% |
| % of population living in rural areas (2010)[10] | 66% |
| % of GDP contributed by agriculture (2013)[10] | 16% |
| % of the labour force employed in agriculture (2005)[10] | 48% |
| % of female labour force employed in agriculture (2005)[10] | 68% |
| Country population (millions, 2016)[10] | 160 |
| Target market (millions, 2016)[11] | 1.77 |

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8. mAgri Deployment Tracker (currently offline). Please contact mAgri@gsma.com to receive the full list.
9. Unique mobile subscribers in Bangladesh at the end of 2016 as a percentage of the total market population. GSMA Intelligence.
10. The World Bank DataBank , http://databank.worldbank.org/data/home.aspx
11. The number of agricultural workers in Bangladesh with mobile phones who are likely to pick up VAS. For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added services (Agri VAS)", http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-value-added-services-Agri-VAS.pdf

# Partnership model

## Krishi Sheba scaled despite initial challenges

Krishi Sheba is positioned as a special project under the commercial team at Grameenphone, giving it a larger dedicated team during development than traditional VAS. More marketing and business intelligence (BI) resources at an earlier stage would have enabled the service to scale faster. Staff turnover at the C-level led to internal changes which reduced momentum in product development, but was later recovered.

From the project's inception, Grameenphone indicated a preference for strategic partnerships with outside organisations to drive product development. Win Miaki was a key partner in product creation, hosting the product manager and user experience (UX) lead, as well as providing and uploading content to the IVR/OBD platform. The UX work stream was supported by frog design, the global user-centric design partner,[12] and content creation was supported by global content partner, Oxfam.[13] Win Miaki's sister company, Miaki, houses the call centre staffed by agricultural experts.

SSD Tech has a long-standing contract to host all Grameenphone VAS, which often made it difficult to ensure this product was a priority. Turnover in the resources allocated to the project delayed the implementation of change requests.

The development and scaling up of the product was supported by a matched funding agreement with the GSMA mAgri programme. The GSMA mAgri programme also provided ongoing support throughout the product development cycle, from implementation to iteration, BI, monitoring and evaluation, and content support.

FIGURE 1

Krishi Sheba contracted partners


12. The mNutrition global UX partner, contracted by GSMA to ensure user needs and experience was prioritised. https://www.frogdesign.com/
13. For more on the global partners, see GSMA, 2017, "Creating scalable, engaging mobile solutions for agriculture", https://www.gsma.com/magri/creating-scalable-mobile-solutions


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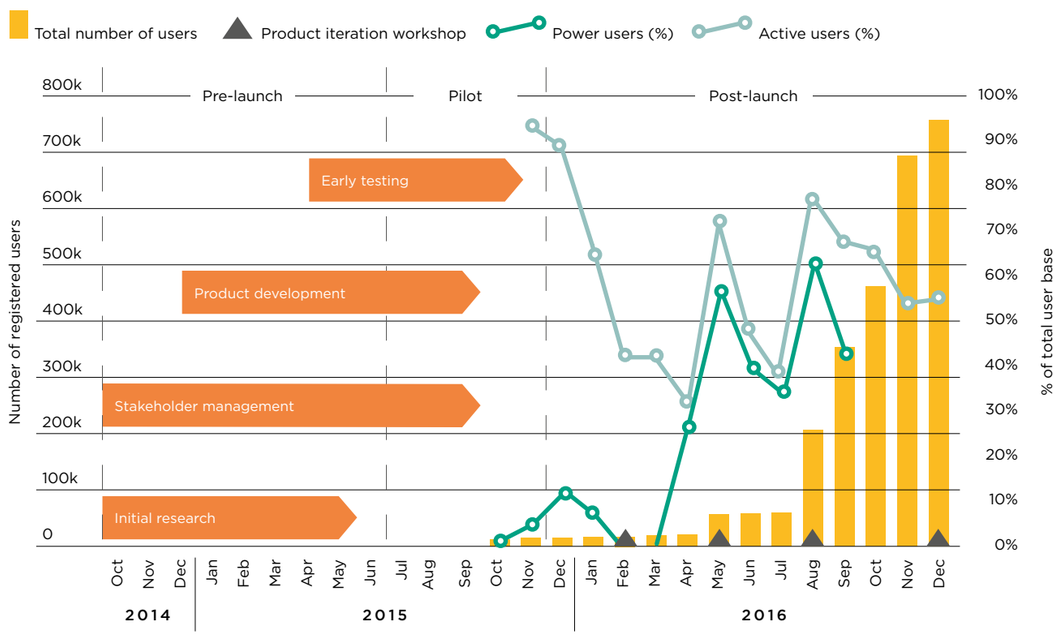
# Product timeline

## After a slow start, user numbers and engagement improved from Q3 2016

Engagement of both active and power users (repeat users who were active during the month) rose sharply in May 2016, when service flow was altered to port users to the IVR menu immediately after registration. By taking users to the content immediately, Grameenphone improved user understanding of the service as well as customer loyalty. Early on-the-ground marketing produced high-quality users who understood the service offering, but not in large enough numbers to reach scale. A traditional VAS campaign, using SMS and OBD marketing, allowed the service to reach a wider audience.

FIGURE 2

### GP Krishi Sheba product timeline




**Total number of users:** count of all users who have ever been on the platform
**Active users:** users who answered OBD or accessed the IVR channel during the month
**Power users:** active users who have accessed IVR or OBD content multiple time on the service
**Product iteration workshops:** quarterly workshops where service data is reviewed and changes planned

**Design firm, frog design, accompanied VAS partner Win Miaki and the GSMA into the field for research in Q4 2014.** Together, they spoke with 35 farmers, as well as agricultural experts, middlemen and extension officers, and mapped out the archetypes they met and their trusted information channels to understand firsthand the needs of the customers they aimed to serve. The initial development stage also required multiple tests of product prototypes with potential users.

**Key insights from the field:**

- **The family is the most trusted source of advice and information.** The community is seen as an extension of the family. When advice seems risky and not validated, farmers ignore it and follow their own instincts and experience, validating information with their trusted sources.
- **Some women face significant barriers to gaining personal autonomy.** Although women increasingly perform a lot of farming activities, cultural norms may prevent them from using mobile phones and the internet and, in some cases, farming in the fields.
- **Explicit agricultural knowledge is low among Bangladeshi farmers.** Farmers have no objective way to assess their agricultural knowledge other than comparing themselves to others in their community.
- **Farmers are unwilling to pay for mobile information services or to pay for access to the mobile Internet if they can obtain reliable information from their own community.**

**Following the pilot phase, four product iteration workshops (PIWs) were held with Grameenphone, WinMiaki, GSMA and other partners.** PIWs aimed to review data collected over the quarter from user feedback, phone surveys, and UX-led research. Detailed usage data could not be captured by the platform provider, which contributed to an incomplete understanding of how the product was received by users through BI analysis. This, in turn, affected whether the underlying issues could be identified and product refinements implemented.

FIGURE 3

### Key insights from PIWs

| PIW | Date | Selection of key issues identified | Suggested solution | Implemented |
|---|---|---|---|---|
| 1 | Feb 2016 | Many users are not fully aware of all the service functions and offerings. | Revise IVR menu and send follow-up OBD messaging reminding users about different functionality. | No |
| | | Many users are unaware of what to do after registration. | Immediately after registration, send user directly to the IVR to listen to navigate through content. | Yes |
| 2 | May 2016 | Many users found registration too complicated. | Shorten the registration process and offer a default profile for users rather than require registration. | Yes |
| 3 | Aug 2016 | Users received messages at odd hours. | Schedule content delivery for 4 pm–8 pm. | Yes |
| | | OBD delivery rates were too low. | Escalate with SSD-Tech to fix the technology problem and distribute the messages per the schedule. | Yes |

# Commercial sustainability

**By December 2016, GP Krishi Sheba had acquired over 750,000 registered users, 24% of the target market in Bangladesh.**[14] Initial on-ground marketing efforts by Win-Miaki and partner NGOs had a very high success rate (~90%), but very limited reach. This generated high-quality users with excellent education and understanding of the service, but was prohibitively expensive (up to BDT 800 [USD 10] per customer). Win-Miaki switched to a telemarketing model, calling potential users from the call centre. These calls had a 50% success rate and much lower costs (BDT 14 [USD 0.17] per user), however, they still had insufficient reach to scale the service. Eventually, an SMS and OBD campaign and a free trial period for new users allowed the service to reach larger audiences.

**A strong first experience was key to increasing customer engagement.** The proportion of power users on the service (those who had used the IVR menu to pull content multiple times) was initially very low. After changes to the registration process, which allowed 'one-click' registration and then ported users straight to the IVR menu, the proportion of power users in the base increased to around 50%. User experience and engagement was quickly improved by helping them to experience content immediately.

**Commercial objectives for GP Krishi Sheba included increased stickiness and revenue from rural segments.** Bangladesh is a multi-SIM market with an estimated average of 1.5 SIMs in the market per subscriber.[15] The added value of this service was intended to encourage use of the Grameenphone SIM. Grameenphone analysis suggests that Krishi Sheba users are less likely to have 'silent status' (no activity on the SIM): 5% of the Krishi Sheba base had been silent for more than 90 days in February 2017, compared to 14% in a random sample of the Grameenphone base who do not use the service.

**Offering the service free of charge increased acquisition, but was not sustainable.** In Q1 2017, a weekly tariff of BDT 3 (USD 0.04) was introduced, a reduction of the original price of BDT 5 (USD 0.06) per week, which users were unable to pay. Charges to the call centre are now BDT 1 (USD 0.01) and the rate cutter, which dropped call costs to half the typical network rate, has been dropped (as users were not aware they were benefitting from the offer in the first place). Approximately 20% of the user base remains active after the new tariff was introduced. Assuming a charging success rate of 30% (in line with findings from the earlier charged service) and 10% monthly growth, Grameenphone should recoup their original investment within two years.

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14. Target market is defined as the number of agricultural workers in Bangladesh with mobile phones who are likely to pick up VAS. For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added services (VAS)", http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-value-added-services-Agri-VAS.pdf

15. GSMA Intelligence, Q4 2016

# Who uses Krishi Sheba?

## The service is penetrating the identified market of early adopters

Farming archetypes in Bangladesh were identified through design research supported by frog design during Q4 2014. The 'Opportunist' and 'Shifter' archetypes were identified as the likely early adopters of the service. Fieldwork identified that most power users (23 out of 33) were Opportunists or Shifters, with eight 'Stuck' farmers and only two identified as 'Traditionalists'.[16] Opportunists, followed by Shifters, reported the most benefits from the service. Opportunists were also more likely to attribute these changes to a range of sources, due to their broader access to information.

FIGURE 4

### Farming archetypes in Bangladesh

| | Mobile literacy (1 = very low ▮ 5 = very high) | Business sense (1 = very low ▮ 5 = very high) | Attitudes and behaviours | Access to information |
|---|---|---|---|---|
|  Opportunist | ○ ○ ● ● ● | ○ ● ● ● ● | Trying to improve their standard of living by planting crops that will sell for more and are proud of the business established so far. Flexible with a high risk appetite. | Actively reach out to information sources like extension officers. Receptive to training and are seen as lead farmers in the community. |
|  Shifter | ○ ○ ○ ○ ● | ○ ○ ● ● ● | Trying to grow their income by farming cash crops, supplemented with other jobs. Open to advice and looking for training, lacking up-to-date technology. Time and money poor with low risk appetite. | Attends community events when possible, but needs one-on-one coaching to overcome barriers to trying new things. Seeks out friends to gossip and share advice. |
|  Traditionalist | ○ ○ ○ ● ● | ● ● ● ● ● | Well respected in the community; a confident authority due to experience, but not always up to date. Farming is one of several revenue streams. Relatively risk averse. | Very active in the community. Seen as a leader when it comes to crop selection and pricing. Has access to the internet through family. |
|  Stuck | ○ ○ ○ ○ ● | ○ ○ ○ ○ ● | Reactive to outer circumstances; not empowered to make changes. Struggles to make ends meet. Constantly thinking about feeding the family. | Main information sources are family and other community members. Often feel cheated because they have to sell their goods for whatever price is offered. |

16. Based on a qualitative assessment of the in-field researcher.





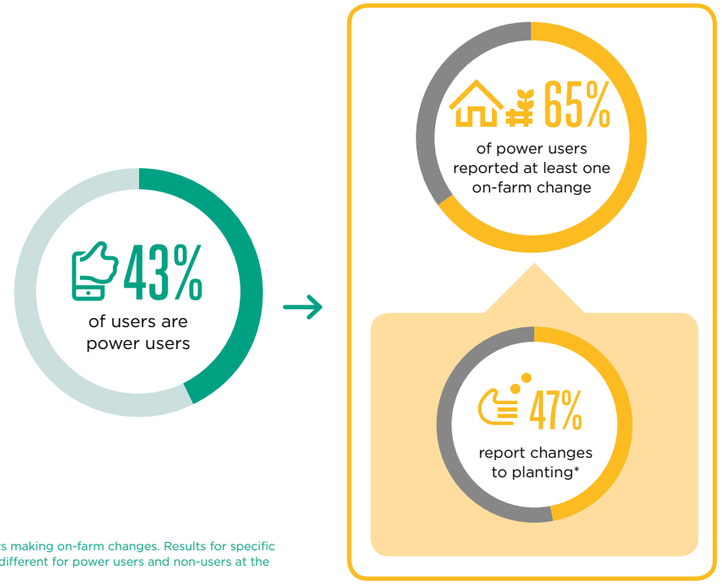
# Benefits for users

Phone surveys and field work to understand the benefits of Krishi Sheba for end users were conducted in December 2016 and January 2017. This was an interim study performed only 14 months after the soft launch of the service, so changes to farming behaviour are tracked (as indicators of possible future benefits) alongside improvements to on-farm production.

A third-party call centre surveyed 451 power users and 160 non-users.[17] The non-user group was selected based on the likelihood they would have similar profiles to the user group, but would not have benefitted from the service during the previous farming season. Unfortunately, delays with the phone survey meant that the non-user group were accessing the service for some time before the survey was conducted which may have affected the results of the comparison. The 35 respondents interviewed for the qualitative study were selected to provide a broad set of insights into the experiences of power users.

FIGURE 5

### Krishi Sheba outcomes pathway




Percentage of power users making on-farm changes. Results for specific changes are significantly different for power users and non-users at the *90% confidence interval.

17. Power users are those who picked up at least one OBD, and/or have pulled information via IVR each month between May and October 2016. Non-users are those who registered for Krishi Sheba in the last two weeks of October 2016.

## Power users were significantly more likely to change the way they planted crops compared to last season.

**The likelihood of power users changing their planting habits is nearly twice that of non-users.** A comparative analysis of a matched subset of users and non-users found that a power user is 1.8 times more likely to report changes to their planting methods since the previous season than a non-user.

*"...When the seedling is about this high, then it is time to apply fertiliser, and when it will produce — These are the types of information [...] I have learned. [...] by following their guidelines, [I] just made a sound profit on pumpkin cultivation."*
Krishi Sheba user, male, 40, Opportunist, Keshobpur district

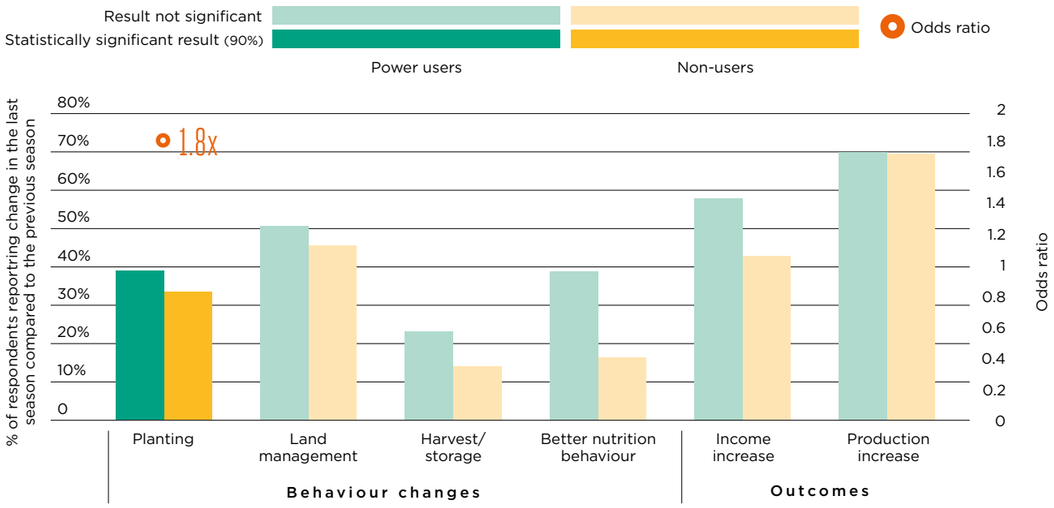
**Changes in land management and changes in harvest/post-harvest practices did not have statistically significant effects.** The link between the service and behaviour changes is evidenced through the field interviews. Power users report using the service to inform a variety of behaviour changes.

*"I phoned them (27676) much earlier, like a year ago and asked them what I needed to do. [...] They suggested to use urea fertiliser in correct proportion. I followed their suggestions and it worked. I got almost 3 times more produce."*
Krishi Sheba user, male, 16, Opportunist, Jessore district

*"I didn't do anything in the field but I changed practices for pigeons, fish and cow. [...] my cow became pregnant and the fish production increased."*
Krishi Sheba user, male, 28, Opportunist, Rangpur district

FIGURE 6

### Behaviour changes and outcomes




*Behaviour changes and outcomes in the matched subset of power users (117) versus non-users (119). Results are highlighted and odds ratios (the odds that a change/outcome will occur given exposure to the service compared to the odds of the outcome occurring in the absence of that exposure) shown where a significant result (at the 90% confidence level) was found. Statistical significance is affected by the sample size and the magnitude of the difference between proportions.*

**Power users also report more changes to nutritional practices.** 39% of power users report consuming healthier foods in the current season than the previous one, compared to just 17% of non-users. The probability of users improving their nutrition behaviour was not significantly different than a matched subset of non-users, however, a positive odds ratio was found.

*"They sent information about banana. I think it said that they have potassium, but I can't remember what they said potassium was good for. It's a little difficult to remember. There was also information about lemons. We listened to that together, with my mother and older sister. [...] My mother nowadays feeds us more of these fruits that we have heard on the phone about."*
Krishi Sheba user, male, 16, Shifter, Nilphamari district

**Most power users made some kind of change to their on-farm practices.** Two-thirds (65%) of power users reported making at least one type of on-farm change across a number of on-farm areas compared to 62% of non-users.

## No significant effects of the service were found for increased production or income.

**The comparative analysis was unable to detect a significant positive effect of using the service on reporting an increase in production or income.** Heavy monsoon rains had a serious impact on production in northern and central Bangladesh in July 2016. The most affected divisions were Rangpur and Dhaka,[18] where a large proportion of power users live. Some increases in production and income were evident through the fieldwork.

*"I got advice of bitter gourd and pumpkin. I planted them on 5 katha field[19] according to the advice. Income increased from BDT 40,000 [USD 499] to BDT 50,000 [USD 624]."*
Krishi Sheba user, male, 30, Opportunist, Rangpur district

*"Yes, I cultivated in the way they [the service] mentioned - of placing fertiliser beneath soil, using phosphate and potash in the field. It was how they described it. And the production was good."*
Krishi Sheba user, male, 45, Traditionalist, Jessore district

**Power users see their mobile phones as a trusted source of agricultural information.** While Krishi Sheba is not the only source of information for most users, 66% of users reported their mobile as one of the two main sources of information leading them to make changes in their practices, compared to 42% of non-users.

**Overall, power users report a high level of appreciation for the service.** However, some users do not fully understand the service and are getting information they do not find useful. In terms of willingness to pay, while farmers reported valuing the information they receive, they felt the service had to be cheap for it to be successful. Sharing information with friends, family, and relatives is common.

18. FAO, July 2016, "Country Fact Sheet on Food and Agriculture Policy Trends - Socio-economic context and role of agriculture", http://www.fao.org/3/a-i5890e.pdf.
19. A katha is a unit of area, the size of which varies significantly from place to place.

## Most Krishi Sheba subscribers are young men living below the poverty line

**Most power users are men. 21% of power users surveyed were female.** Women were significantly less likely than men to report on-farm changes to planting and land management, and more likely to report making no changes at all (51% of women compared to 31% of men).

In total, 12 women farmers were interviewed during the fieldwork, which revealed some insights about women and their status as farmers in Bangladesh.

- Women in some areas do not work on the fields, therefore, much of the farming-related information provided through the service might not be the most useful for them.
- Female service users are more likely to implement nutrition-related changes than men.
- Certain programmes and groups are targeted at women only, for instance, loan and saving groups. Women may be the financial caretakers of the family.
- Women support each other. They are more likely to share access to the service and information with others.
- Some men have prejudices about the work and role of women.

**Power users are younger than the national average.** Over 70% of power users are below 34 years old. A similar proportion of non-users fall into this category. This compares to less than 40% of the working population, suggesting that younger farmers are more likely to start using Agri VAS. Younger users interviewed looked at farming as something their fathers do and they help out with. They subscribed to the service even though they were not the main decision-makers in the family on farming-related issues. An open mind to technology puts them in an important position to educate their parents.

**Krishi Sheba is reaching people living below the poverty line.** Based on the Progress out of Poverty Index (PPI),[20] an estimated 78% of Krishi Sheba subscribers are living below the poverty line, compared to 86% nationally. No significant difference in poverty level was found between power users and non-users. However, power users have larger farms than non-users. Half as many power users as non-users had farms under two acres (76% and 36% respectively) and 31% of power users surveyed had farms larger than five acres, compared to none of the non-users.

**Most service users (58%) generate their income only from farming.** For most fieldwork respondents, farming was the only way to generate income and feed their families. Profits from farming are coupled with larger land sizes, skill, hard labour, and luck. As respondents put it, "if you are good at farming", if "we work hard", or if we "pray" for it. Accordingly, farming is considered a business if larger plots of land can be "managed". While this is the case for only a small minority of respondents, many of the smaller farmers feel trapped in farming. Small farm sizes can result from land getting split up among children into smaller and smaller parcels.

20. The PPI (Grameen Foundation, 2009) has been used to calculate the poverty outreach of the Grameenphone service. The definition of poverty used here is the international 2005 PPP USD 2.50/day line.






Spotlight

## How are women using Krishi Sheba?

Bangladesh has a patriarchal social system. Women are often subject to discrimination, which reinforces their dependence on men and lower social status. Their role in agriculture tends to be undervalued because of cultural and social norms which do not recognise female labour.[21] Although 68% of employed women in Bangladesh are directly involved in agriculture,[22] they are frequently excluded from extension support, have limited access to markets, and a negligible role in decision making.

Win Miaki and Grameenphone partnered with local NGOs[23] to deploy Krishi Sheba with activities aimed at empowering women farmers. Providing service training for NGO officers working with women's groups can help increase women's engagement with Krishi Sheba. Training ensures that women get the most value from the service and increases loyalty.

Women users interviewed said they listen to messages with other female family members together in their homes. Those without their own phones listen to messages with their husbands when they return from working in the fields. Women users mentioned that they discuss new agricultural information with other local women in the afternoons, after their household chores, and would openly share the information with other women who do not have access to the service.

*"Sometimes I put my phone on loudspeaker to listen to the calls with my co-workers and neighbours. When I get a call, I turn on the loudspeaker and let everyone around me to hear the message. People see that what I am doing in my fields is working, so they want to know more."*
Mosammat Farida Begum, Krishi Sheba user and CARE SHOUHARDO beneficiary, Nilphamari district

*"I advised my neighbours and relatives since we have the phone. We discussed in meetings and help each other. We always help those who do not have a phone, sometime we call in the call centre on behalf of others. I have shared with around 3 or 4 people and with my husband, relations and neighbours".*
Mst. Farzana Parvin, Krishi Sheba user and CARE SHOUHARDO beneficiary, Nilphamari district

21. Sraboni, Malapit, Quisumbing and Ahmed, September 2014, "Women's Empowerment in Agriculture: What Role for Food Security in Bangladesh?" in *World Development*, Vol. 61, pp. 11–52, http://www.sciencedirect.com/science/article/pii/S0305750X14000989
22. The World Bank Databank, 2005, http://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=BD
23. Women's groups were affiliated with the following NGOs: National Development Programme, Oxfam, CARE Bangladesh, and Polliree.

# The customer journey

Introducing mobile marketing and improving the first service experience have been key success factors. However, monetising the service for this audience remains challenging.

*"They told me to cover seedlings and eggplant trees when fog falls here. I did not know that before. I did accordingly and got good results. We learned a lot of new things."*

Krishi Sheba user, female, 35, Shifter, Nilphamari district

| | Marketing, sales, and distribution | On-boarding | Navigation and content | Payment |
|---|---|---|---|---|
| Product description | Large-scale OBD campaigns have brought in the bulk of users during Q3 and Q4 2016. 100,000 farmers were targeted using lists from NGO partners in November 2016. Radio campaigns support product awareness. | Users receive an OBD or dial 27676 to register. They press one button to register with a default content profile and are immediately transferred to the IVR channel. | Agricultural content developed and stylised by WinMiaki covers 23 vegetable and staple crops, livestock, and fishery topics throughout their life cycles. Seven-day weather forecasts, sourced from the Bangladesh Meteorological Department, are a recent addition. Users receive two voice SMS per registered crop every week. They can access IVR and the expert call centre by dialling 27676. | GP Krishi Sheba was free of charge throughout Q3 and Q4 2016. May to June 2016 was also a free period. Before this, the service was charged at BDT 5 (USD 0.06) per week with additional charges of BDT 3 (USD 0.04) per minute for the call centre. The service included a 'rate-cutter', which reduces call charges to half the normal rate across networks. In Q1 2017, Grameenphone reintroduced standard charges of BDT 3 per week without the rate cutter. |
| Customer journey[24] | **24%** of the target market **registered** | **89%** of registered users **accessed content** | **82%** of content accessing users became **repeat users** | **%** of users who paid for the service is **unknown** |
| Key findings | • **Getting the value proposition right for NGO partners is not straightforward.** Partners wish to be paid for distribution, rather than seeing the product as a value add. It's easier to bring them on board to push a free service, but they do not want to pay for users to benefit. However, a service without credible agricultural partners is harder for users to trust.<br>• **Agents trained specifically to drive service acquisitions generated high-quality users, but the cost of acquisitions was too high.**<br>• **Barriers to selling new SIMs with the service made targeted awareness campaigns on the ground logistically difficult.** Only existing Grameenphone customers could use the service, which limited the local target market.<br>• **Targeted OBD sent to the rural segment after July 2016 has brought on the most users.** Voice messages are stylised similarly to service content and discuss agricultural issues relevant to the time of broadcast.<br>• **SMS marketing to this market had a lower conversion rate.** Early UX-led research made it clear that SMS was not a good way to target this audience. Users interviewed also report that they receive SMS from other services which they are not able to read. | • **Service activation has to be very easy to remove the barrier of technical literacy.** There was an influx of users after one-touch activation replaced a four-step process.<br>• **Both field and call centre agents improved profiling accuracy and user quality, but costs were too high and acqusitions too low.** Automated profiling ensures a scalable approach to adding users.<br>• **Without face-to-face product education, porting users straight to IVR after registration gives them an immediate service experience and increases user engagement.** This service improvement led to a 270% increase in repeat usage of the pull content.<br>• **The target audience has not been able to make their own content selection, either at profiling or afterwards.** This has made it challenging to provide relevant content.<br>• **Men and women report very different changes in reponse to content.** Collecting gender information on registration may help to further target the information. | • **From service inception, it was clear that SMS would not be a relevant channel for this audience.** This is due to both relatively low literacy and the inability of some feature phones to display messages in Bangla script. However, IVR menus also pose challenges for the target audience.<br>• **The majority of call centre calls are for technical support.** The most requested agricultural topics are for emergency situations like disease in livestock and vegetables.<br>• **Dialogues were found to be more engaging than monologues.** Because modern approaches are sometimes at odds with local traditional knowledge, UX-led research found that dialogues with both a 'traditional' and a 'modern' voice, which make the potential difference in yield between the two methods explicit, were the most effective in driving change.<br>• **Due to other priorities of tech partners, proper content delivery is an ongoing issue.** This issue is confounded by the lack of detailed data collection for this service by the platform provider, which means it is not currently possible to understand where the delivery issue lies. | • **User response to the free service has been greatest by far.** However, lack of alternative revenue streams leave the sustainability of the service in question.<br>• **Activity levels dropped by around 30% when charges were reintroduced after June 2016.** This was a better retention level than expected.<br>• **The original price offering was too much for the target market.** Users interviewed as part of UX-led research consistently reported being unable to afford BDT 5 per week as standard and BDT 3 per minute to call the call centre. BI suggests that average revenue per user (ARPU) from the charged service was less than half the targeted amount of BDT 20 per month. In response to this insight, charging was reintroduced in Q1 2017 at a lower rate.<br>• **The rate cutter was not well understood by the target audience.** Research suggested that users did not realise they were benefitting from lower call rates. This market is used to a pay-as-you-go model. Because of this, the rate cutter was removed, which lowered operational costs. |

24. Based on last available data from September 2016. Target market is defined as the number of agricultural workers in Bangladesh with mobile phones who are likely to pick up VAS. For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added services (VAS)", http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-value-added-services-Agri-VAS.pdf.

# Future roadmap

To further monetise the service, there is a plan to offer a customisable service for content dissemination and digital marketing under a business to business (B2B) model. In a scenario where the service is used for content dissemination, agribusinesses (or NGOs) pay for farmers to access content that addresses inefficiencies in agricultural value chains. This type of service offers a platform for smallholder farmers and agribusinesses to engage more effectively. In addition, agribusinesses can promote their products and services to farmers through targeted marketing campaigns.

There are opportunities for new content, such as rooftop gardening and urban gardening, which Grameenphone can charge at a premium to subsidise the price of the rural service. Introduction of a direct landing layer for premium users with higher charges could allow them to access the call centre directly without registration.

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For case studies on five other services in the mAgri mNutrition portfolio and analysis across all six services please visit https://www.gsma.com/magri/creating-scalable-mobile-solutions

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