



# Case Study

## Airtel Kilimo, Kenya

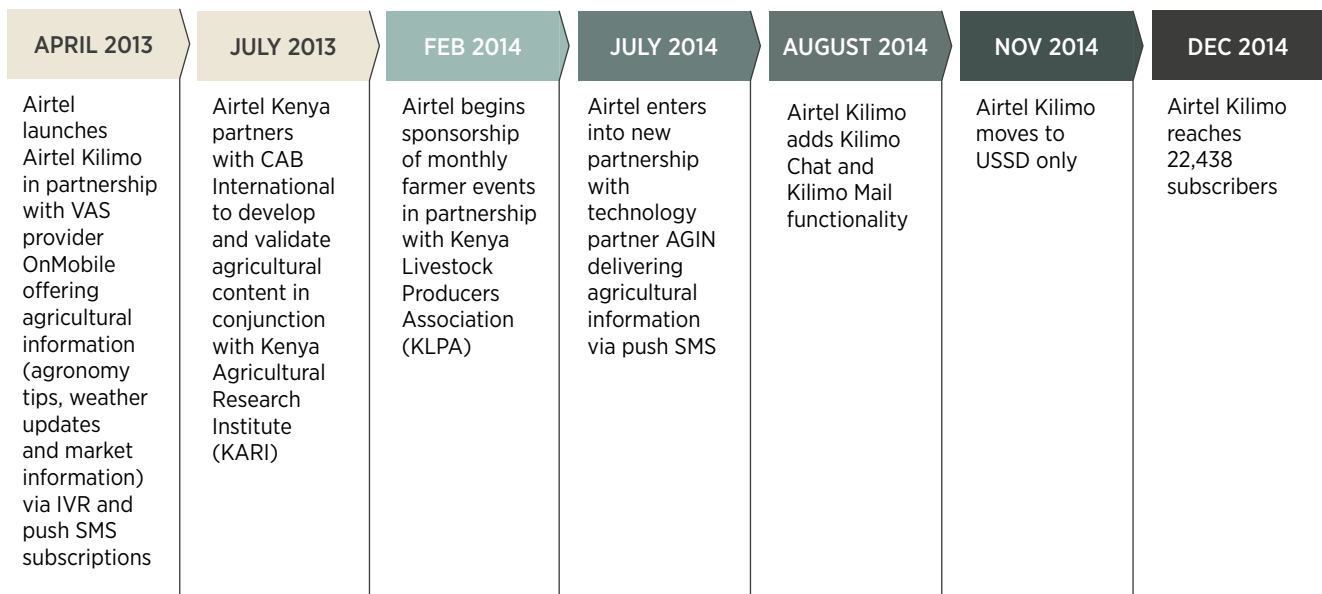
FEBRUARY 2015

# I. Introduction

Airtel Kilimo is a mobile agricultural value-added service (Agri VAS) developed by mobile network operator, Airtel Kenya. Airtel Kilimo offers an advisory service for smallholder farmers in Kenya related to crops, weather and market price information via mobile phones. Customers access the service via the USSD<sup>1</sup> channel which is available on any mobile phone. The service also enables peer-to-peer communications between farmers via a chat function.

Airtel Kenya received support from GSMA to develop the Airtel Kilimo service: 400,000 USD of matched grant funding and technical support for 24 months of project implementation. The Airtel Kilimo service has undergone multiple product phases; initially offering customers access to voice content on an IVR<sup>2</sup> channel as well as via push SMS subscriptions. In its current form, customers access content via USSD, and the service is available in two languages: English and Kiswahili. The service offers information on maize, amaranth, banana, beans, cabbage coffee, mango, rice, passion fruit, and tomato.

## PRODUCT TIMELINE



1. Unstructured Supplementary Service Data

2. Integrated Voice Response

## PRODUCT SUMMARY DECEMBER 2014

YEAR LAUNCHED	April 2013
BUSINESS MODEL	Consumer pays
TARGETED DEVICE	Basic phone
PRIMARY DELIVERY TECHNOLOGY	USSD
PRODUCTS & SERVICES	Agronomy & livestock advice Weather forecast Market prices
MARKETS DEPLOYED IN	Kenya
NUMBER OF REGISTERED USERS	22,438
NUMBER OF ACTIVE USERS (USERS WHO RECEIVED CONTENT DURING DECEMBER 2014)	6,428
AIRTEL MARKET SHARE <sup>3</sup>	16%
ARPU <sup>4</sup> (USD)	0.42

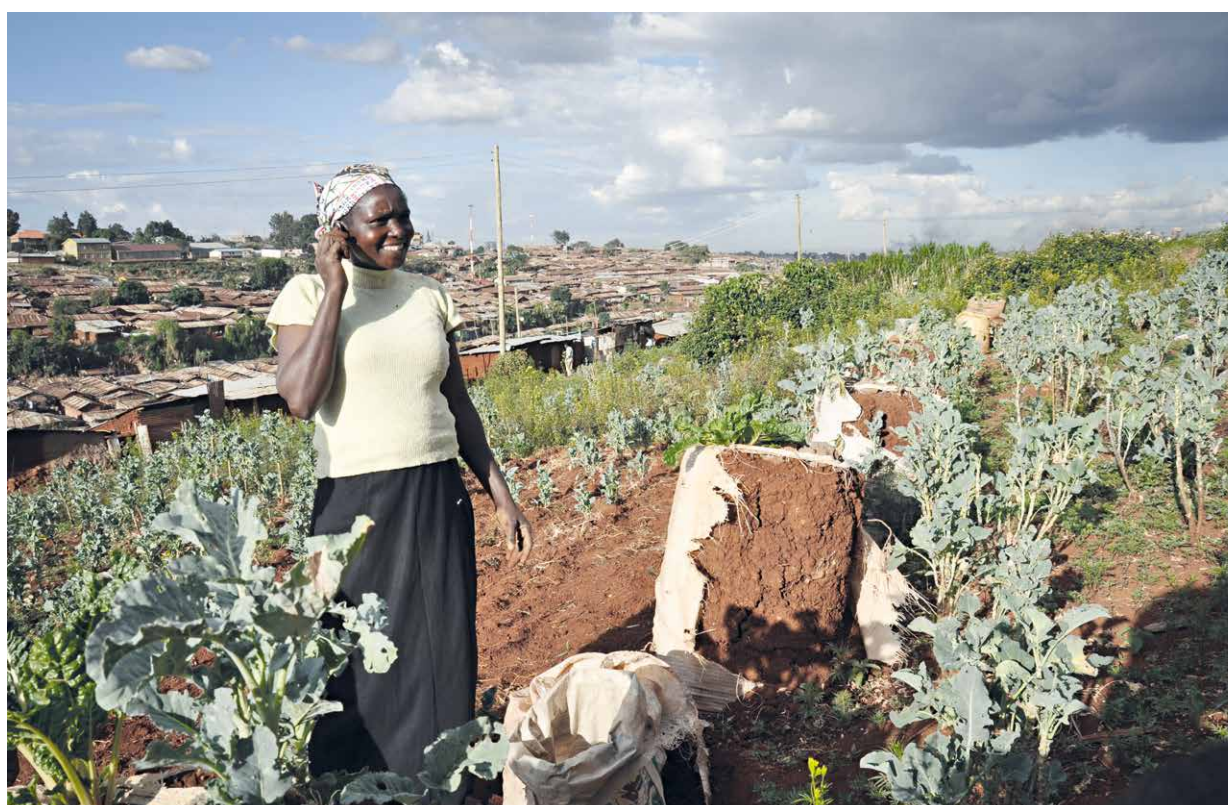


IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

3. GSMA Intelligence, Q4 2014

4. January – December 2014 average

## II. Market overview

75% of Kenya's population of 44.4 million people live in rural areas and directly depend on farming for their incomes.<sup>5</sup> The rural population consists mainly of smallholder farmers who produce a majority of the country's total agricultural output.<sup>6</sup> Yet these farmers lack access to relevant, actionable and timely agricultural information needed to inform better farming practices and facilitate greater productivity. To help reduce rural poverty and ensure long-term agriculture-led growth, Agri VAS can serve vulnerable smallholder farmers by providing relevant and timely agricultural information to encourage a boost in farm productivity and incomes.

Airtel Kenya estimates the total addressable market at 5.15 million for Airtel Kilimo. Kenya's unique mobile subscription rate is higher than that of the rest of sub-Saharan Africa at 19 million users<sup>7</sup> and continues to increase each year. The mAgri industry in Kenya is gaining traction, with entrepreneurs turning attention to the rural market and almost 20 alternative mobile agricultural services already live in Kenya.<sup>8</sup> In addition, Kenya has become the focal point of the African mobile boom due to the unprecedented growth of Safaricom's leading M-PESA mobile money service, and rising competition in the mobile money market with innovators like Equity Bank. Still, the predominance of M-PESA in Kenya has cemented Safaricom as the market leader in Kenya with 66% market share today.<sup>9</sup>

### KEY CHALLENGES FOR AIRTEL KILIMO

As an operator, Airtel faces the challenge of gaining customers and loyalty in a market that is dominated by Safaricom who still hold the predominant market share in Kenya. Building a strong brand has also been challenging as a result of numerous buy outs – the network was originally owned by Kencell, then Celtel, then Zain and finally Airtel in 2010. Some participants in a focus group discussion in Kenya in 2014 felt that Airtel's brand was 'unstable' stating that it had changed its name several times since its inception.

Any content partner for an Agri VAS also faces the challenge of compiling information that is suitably customized and locally relevant across a range of crops, different farming seasons and multiple agro-ecological zones. As one of the early service providers to enter the mAgri space in Kenya, Airtel had to adapt and was required to invest in content development as there were few content providers who had digitized and mobile-ready content available.

Airtel Kilimo's target market of smallholder farmers is a challenging sector to reach owing to their dispersed locations, price-sensitivity and seasonal incomes. Airtel estimated an addressable market of 5.15 million for Airtel Kilimo and aimed to reach 200,000 users by July 2014. By December 2014, Airtel Kilimo was reaching just over 1% of the addressable market and the service was not yet breaking even. Airtel Kilimo will therefore need to reach significantly more customers by demonstrating its value for money and continuing to invest in a robust marketing plan in order to become a viable business proposition.

5. World Bank, 2013

6. IFAD, 2011. *Enabling rural people to overcome poverty in Kenya*.

7. GSMA Intelligence, Q4 2014

8. GSMA's mAgri deployment tracker: <http://www.gsma.com/mobilefordevelopment/programmes/magri/tracker>

9. GSMA Intelligence, Q4 2014

## III. Service Design

### REQUESTING CONTENT FROM AIRTEL KILIMO

Airtel subscribers (both prepaid and post-paid) can register for the service via USSD on their mobile phones by dialing '\*760#'. During registration, customers are asked to provide the details of their gender, location (county level), crop of interest, and preferred language (as the service is available in Kiswahili and English). Once successfully registered, users receive an SMS confirmation and are able to navigate the USSD menu to subscribe to the content categories of choice. For example, a user could select to receive tips on maize and passion fruit, as well as weather updates. The user receives an SMS reminder to notify them that new content is available and can be accessed by dialing '\*760#' and viewing 'messages' in the chat menu.

After completing the steps of registration once, a customer can unsubscribe and re-subscribe whenever they choose.

FIGURE 1

### REGISTRATION STEPS FOR AIRTEL KILIMO, DECEMBER 2014



## SERVICE OFFERING

The service offers agronomy, weather and market price information via USSD. Livestock information will be added in early 2015:

- 1. Agronomy information:** Agronomy content is designed as a set of tips for a range of crops.<sup>10</sup> Tips cover the full agricultural cycle (see table below) and provide advice on how to increase yields and prevent pest and diseases.

YEAR LAUNCHED	APRIL 2013
SOIL MANAGEMENT	Soil requirements, soil testing
PRE-PLANTING	Seed information; seed varieties; inter-cropping
PLANTING	Spacing; water management; pests & diseases
GROWING	Plant nutrition; pests & diseases; mulching
PRE-HARVEST	Pests & diseases
HARVEST	Pruning; maturity indicators
POST-HARVEST	Storage; pests & diseases

- 2. Market prices:** Commodity price information provided for major markets in Kenya

- 3. Weather forecasts:** 7-day weather forecast for the selected county.

PREVIOUS OFFERING (APRIL 2013-JULY 2014)		CURRENT OFFERING (FROM AUG 2014)	
CHANNEL	CONTENT	CHANNEL	CONTENT
Push SMS Subscription	<ul style="list-style-type: none"> <li>• Agronomy information</li> <li>• Market price information</li> <li>• Weather forecasts</li> </ul>	USSD	<ul style="list-style-type: none"> <li>• Agronomy information</li> <li>• Market price information</li> <li>• Weather forecasts</li> <li>• Personal emails</li> <li>• Farmer to Farmer chat</li> </ul>
IVR	Agronomy information		

10. maize, amaranth, banana, beans, cabbage coffee, mango, rice, passion fruit, and tomato.

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## IV. Backend: Overview of systems and technology providers

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CABI is Airtel Kilimo's lead partner responsible for development of customized content that aims to be relevant, actionable and timely for customers. CABI has created factsheets for each crop category and stores the factsheets in CABI's existing 'Direct to Farm (D2F)' database. Using these factsheets, CABI creates mobile-ready content by formatting the factsheets into short tips that were previously sent as push SMS and are currently accessed via USSD. While the IVR channel was live, Kilimo Media International (KiMI) created voice tips, as well as SMS tips.

Before being sent out to farmers, all content is validated by Kenya Agriculture Research Institute (KARI) to ensure a high quality of content. KARI also translates the tips into Kiswahili.

Other content partners include the Ministry of Agriculture for market price information and the Kenya Meteorological Department (KMD) for weather information.

The mobile-ready content provided by the partners is uploaded and hosted on VAS partner, AGIN's platform. AGIN has a customer relationship management (CRM) system which enables daily reporting on customer uptake and usage of the service.



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## V. Business model

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Airtel Kilimo has undergone two changes in its pricing model since the launch of its service. Initially customers were charged KSH 5 per SMS and this was reduced to KSH 3 based on customer feedback gathered during user testing. In July 2014, Airtel entered into a partnership with a new VAS provider, AGIN, and altered the product offering from push SMS subscription model to USSD as the access channel. Prior to this, customers with SMS subscriptions were charged for three messages per crop category per week, market prices twice a week and daily weather updates, with each SMS at KSH 3 (0.03 USD). Browsing the IVR menu was free of charge; however, on reaching content, customers were charged KSH 3 per minute.

Towards the end of 2014, Airtel Kilimo customers access content only via USSD and are charged a flat fee of KSH 20 per week to access the content they have subscribed for. Airtel trialed a promotional offer for target customers where they were able to take advantage of a two week free trial period and the outcomes of this promotion are being assessed. Airtel may consider trialing a 'freemium' model, which has proven to be effective in other mAgri services. For example, Airtel could consider having some information (e.g. weather information, which is currently underused) available at no cost, whilst continuing to charge a premium for other content.

During user testing and customer surveys, Airtel learned that some farmers felt frustrated by the automatic deduction of credit and this could lead to a complete removal of SIM cards by farmers to prevent any further deduction of credit. The change to a simpler pricing model of KSH 20 per week that can be easily communicated to farmers should reduce this frustration amongst users.



## VI. Early results

- The profile of regular users may be reflective of the majority of Airtel Kilimo's customer base, which is largely comprised of **subsistence smallholder farmers**. Only 5% of Airtel Kilimo's customers are below the national poverty line compared to a national average of 42-49%.
- Women comprised 37% of the user base in December 2014 – one of the **highest ratios of women** in the GSMA supported mFarmer services.
- The crop with highest subscription rate is banana; 44% of all subscriptions cover this content. Users interviewed in Muranga County in December 2014 found most value in information about planting.
- Market prices and pest and disease advice were also highly valued.

“ The most valuable message was how to plant bananas-in terms of information on hole size and how to mix manure ”

### THE CUSTOMER JOURNEY

The customer journey highlights areas where users are hitting barriers while accessing the service, and more specifically the content. The vast majority of Airtel Kilimo users have now received content on multiple occasions, becoming repeat benefactors of the Airtel Kilimo content.

FIGURE 2

### PERCENTAGE OF USERS AT EACH STAGE OF THE CUSTOMER JOURNEY



### IMPACT AND BEHAVIOR CHANGE

Among 30 early adopters interviewed in December 2014, around half had used information from Airtel Kilimo to make changes on their farm. These users reported benefits from using the information including increased efficiency on the farm, increased income, increased confidence, and increased yield.



IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

## AIRTEL KILIMO USER TESTIMONIALS

Yes, I have already made some few changes like how to space maize. I applied it and I can see that the crops are better than the ones I had before.

Farmer F, Machakos County, May 2014

I have changed how I used to dry my grain produce to avoid aflatoxin contamination as a result of information I was sent from Airtel Kilimo service.

Farmer C, Machakos County, May 2014

After using spraying a fertilizer that I was informed by Airtel Kilimo my beans are doing great and I am projecting a big harvest. The information we are receiving is increasing and improving on our farm produce which will result into higher income and food security.

Farmer E, Machakos County, May 2014

The yield and earnings have multiplied as the bananas have grown very huge; earlier this banana bunches used to cost as much as 250 shillings but now they cost about 1000 shillings.

Farmer J, Muranga County, December 2014

My newly rearranged banana farm looks more appealing plus the crop of bananas is much healthier.

Farmer K, Muranga County, December 2014



## BARRIERS TO UPTAKE

- **Cost-related concerns:** In May 2014, 75% of the customers participating in a focus group discussion stated that the previous service cost of KSH 3 per SMS could be a hindrance to some farmers. The price point has now changed to KSH 20 a week; a flat fee that is easier to communicate to users and allows them to access all content types and functionality rather than being charged for individual content categories.
- **Service design:** Difficulties with registration, subscription processes and technical errors may deter users from requesting content. The two-step process of registering and then subscribing to the content category of choice, caused some confusion with users and Airtel had to create clear marketing messages that emphasized the need to complete both steps in order to access the content. SIM cards with Airtel Kilimo already 'live' were distributed to farmers at field events which partially solved the barrier around registration. However, without clear explanation to these farmers, some were surprised to find they were already registered and paying for the service.
- **User capability:** low literacy amongst the target market presents a barrier to uptake as Airtel Kilimo's USSD channel requires users to navigate through the menu interface and comprehend text-based information.
- **Marketing:** Below the line marketing activities used by Airtel, such as promotion at regional farmer events, have limited reach and the delay in using complimentary marketing channels such as community radio which have a wider reach, means that many of Airtel Kilimo's target customers are not yet aware of the service. Furthermore, marketing materials such as flyers and posters should be made available to all target customers in Airtel outlets around the country and should be designed with the farmer in mind.

## VII. Marketing & Distribution

Airtel and partners have developed a service from which farmers derive concrete benefits. The next step will be to market the service more widely, increasing scale and reaching more customers. Airtel's marketing strategy has focused on below the line (BTL) activities, with limited above the line (ATL) strategies such as TV or radio campaigns.

To secure new customers, Airtel Kenya contracted a dedicated external marketing agency for one month in May 2014 to promote the service through regional teams in rural areas. Airtel has also engaged in face-to-face marketing through a strategic partnership with a farmer organization called Kenya Livestock Producers Association (KLPA). Airtel sponsors KLPA agricultural trade fairs across the country and markets the Airtel Kilimo service as well as other core services like Airtel Money, allowing Airtel to establish a presence among local farmer communities.



IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

Although face-to-face marketing is effective in educating farmers about the service offering and assisting with registration, it has limits in terms of geographical reach and is costly due to the high investments required to educate each user. Combining this with other marketing strategies such as promotion on community radio stations, will increase the reach of Airtel's marketing efforts.

By leveraging their existing distribution network and regional sales teams, and ensuring the Airtel Kilimo brand is communicated strongly through posters and flyers, Airtel will continue to increase awareness of the service and drive up adoption. Keeping these customers active on the service and reducing churn will require focused marketing efforts from Airtel.

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## VIII. Looking ahead

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To increase the value of its service and to ensure long-term financial viability, Airtel intends to expand the service offering to include new functionality that addresses the needs of target customers. Airtel aims to include financial services and market facilitation services and to add information on more crops and livestock. Usage of the service will be continually monitored to understand how customers are engaging with the service, and where improvements can be made.

Airtel and AGIN will continue to form strategic partnerships in the agriculture sector to increase the uptake of the service. To further provide value to its existing customers and to attract new users, Airtel could improve the quality of its content by performing frequent user testing and working with content partners to ensure information is meeting farmers' needs. A comprehensive marketing campaign and testing of more appealing pricing models can also encourage users to trial the service before making an investment to realize the value of Airtel Kilimo. As affordability is a key challenge to service uptake, especially in rural areas vulnerable to poverty, the value of the service must be understood in order for rural consumers to invest in Airtel Kilimo.

Airtel Kenya is in a good position to share the lessons learned so far with other Airtel markets that are interested in the significant market opportunity to develop and launch Agri VAS. With a more comprehensive service offering that meets multiple needs of the target customer and a robust marketing strategy, Airtel Kilimo can generate a larger user base and sustainable revenues. The indirect benefits realized by Airtel, such as new acquisitions, reduced churn and greater brand loyalty in rural areas, are likely to increase as Airtel Kilimo gains traction.





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The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

For more information, please visit the GSMA corporate website at [www.gsma.com](http://www.gsma.com). Follow the GSMA on Twitter: @GSMA.



## Mobile for Development

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Mobile for Development brings together our mobile operator members, the wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets. We identify opportunities for social, economic impact and stimulate the development of scalable, life-enhancing mobile services.



## mAgri

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mAgri catalyses scalable, commercial mobile services that improve the productivity and incomes of smallholder farmers and benefit the agriculture sector in emerging markets. The GSMA mAgri Programme is in a unique position to bring together mobile operators, the agricultural organisations and the development community to foster sustainable and scalable mobile services that improve the livelihoods of smallholder farmers. This report is part of the mFarmer Initiative, launched by the GSMA mAgri Programme in 2011 in partnership with USAID and the Bill & Melinda Gates Foundation.

For more information about GSMA mAgri Programme visit our website at:

[www.gsma.com/mobilefordevelopment/programmes/magri](http://www.gsma.com/mobilefordevelopment/programmes/magri)

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