

Case Study
mKisan, India

FEBRUARY 2015

I. Introduction

mKisan is a mobile agricultural value added service (Agri VAS) operated by the mobile VAS provider Handygo. The service offers farmers in India practical, up-to-date advice and information on crop agronomy, livestock management, weather forecasts and market prices for major crops. Content can be accessed through push SMS subscriptions and a pull interactive voice response (IVR) channel.

VAS provider Handygo received support from the GSMA to develop mKisan: 400,000 USD of matched grant funding and technical support for 24 months of project implementation. mKisan was developed by a consortium of development sector partners: International Livestock Research Institute (ILRI), CABI and Digital Green, who produced the agriculture and livestock-related content for the service.

During the mFarmer grant period, Handygo transitioned its *Behtar Zindagi* service (a similar mobile service that had been operated by Handygo since 2009) to mKisan in six states. The transition went live in December 2012 in the states of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra and Uttar Pradesh. Handygo transitioned mKisan back to the original Behtar Zindagi service at the conclusion of the mFarmer grant period.

PRODUCT TIMELINE

DEC 2012	MARCH 2013	JULY 2013	APRIL 2014	AUGUST 2014
mKisan launches, replacing Behtar Zindagi in 6 states	mKisan reaches over 300,000 registered users	Telecom Regulatory Authority of India (TRAI) introduces double-confirmation regulations	mKisan surpasses 800,000 registered users	Handygo turns off the helpline, and transitions mKisan back to Behtar Zindagi

PRODUCT SUMMARY OCTOBER 2014

YEAR LAUNCHED	2012
BUSINESS MODEL	Consumer pays
TARGETED DEVICE	Basic phone, feature phone with video capability
PRIMARY DELIVERY TECHNOLOGY	SMS (push), IVR (pull) and mobile web (video)
PRODUCTS & SERVICES	Market prices, weather forecasts, agronomy/livestock advice, agricultural news and alerts
MARKETS DEPLOYED IN	India
NUMBER OF USERS (BOUGHT AT LEAST ONE SUBSCRIPTION PACKAGE)	852,922
NUMBER OF IVR USERS (USERS WHO ACCESSED THE IVR SERVICE)	335,575
ARPU (USD)	0.89

II. Market overview

Of the 1.2 billion people living in India, 72% of the population lives in rural areas and about 65% the workforce depends directly on agriculture - a sector that contributes to approximately 22% of national GDP. Yet, the lack of access to agricultural information and availability of appropriate farming inputs are major constraints to the growth of the agricultural sector in India. In addition, the shortage of rural extension services in India affects the millions of smallholder farmers who constitute a majority of India's farming population. With the increasing penetration of mobile networks and devices in the country, even within rural communities, agricultural information services like mKisan can play a key role in reducing barriers to relevant agro-advisory information for marginalized farmers.[1]

KEY CHALLENGES FOR mKISAN

Handygo estimated a target market of 13.8 million rural customers using mKisan at the time of its launch, but the service had only reached 6% of their target market by December 2014. mKisan competes with 22 alternative providers of mobile agricultural services in India[2]. Though limited in scope of information and advisory services; alternative sources of agricultural information, including existing mobile and landline services, person-to-person services and traditional media sources, may be preferred sources of information by farmers in India than mKisan as many of them are free[3] and well-trusted.

Affordability and distinct value proposition becomes a key factor necessary for consumer adoption of paid agro-advisory services. As the Indian market is extremely price sensitive, farmers are not willing to pay for a service if they are not convinced of its immediate value.

1. Market penetration was at 27% at mKisan's baseline, with growth projections of up to 39% by Q4 2017
2. GMSA mAgri Deployment Tracker
3. Agricultural extension is largely perceived by farmers as a free service from the Government.

III. Service Design

PRODUCT TIMELINE

Once the customer has become aware of the service, he/she can register to access content on mKisan. Users choose a pack of 10, 20 or 30 days and can subscribe to the service in one of two ways:

1. Call short-code "556780" – Potential customers are directed to this number through a promotional 'blast' SMS. After listening to and selecting one of three package options, customers must confirm their package selection by pressing '1' to activate their registration. The activation must then be reconfirmed through a third party, consistent with the recent 'double confirmation' guidelines of the Telecoms Regulator Authority of India (TRAI).

2. Respond positively to outbound dialed (OBD) message (i.e. listen and press "1"). After user's consent is received through OBD, mKisan service is subscribed on the MSISDN without the user required to dial the subscription short-code again.



TRANSLATION OF MARKETING ADVERTISEMENT:
BETTER LIFE 556780. ONE CALL TO A BETTER LIFE. A RURAL SERVICE FOR A BETTER LIFE WITH ABUNDANT USEFUL INFORMATION.
SOURCE: HANDYGO



IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

Upon purchase of one of the subscription packages, the customer receives daily push SMS messages that include a combination of agricultural information across five topics. Due to the 160-character limitations of SMS content, users are directed to the IVR channel to listen to further details. Any of the subscription packs entitles the customer access to advisory services through an IVR channel for the respective number of days (10, 20 or 30). Users can also access the IVR channel by dialing "556780" and choosing through a menu of options to access the prerecorded agricultural information they desire.

Handygo had offered access to a helpline channel for a period of time, but has temporarily suspended the service while it seeks more sustainable and long-term partnerships. The helpline channel allowed users to speak directly to an agronomy, plant pathology, entomology or veterinary specialist if they were unable to find the information they were looking for on the IVR channel. If the specialist was not available, the user could record a query and receive a response from the specialist when they logged-in through their mobile phone.

To unsubscribe from the service, customers can either:

1. Select the option to unsubscribe from the mKisan HELP option on IVR menu or
2. Dial a toll-free short-code "155223" and select the service to unsubscribe.

SERVICE OFFERING

Users can access voice and receive text-based information across five subject areas:

1. **Agriculture-related news and alerts:** News and up-to-date information on government or cooperative schemes in rural areas
2. **Agriculture:** Agronomic advice on over 50 different crops[4] covering different phases of the crop cycle
3. **Livestock:** Information on feeding, housing, hygiene and disease management for five livestock types[5]
4. **Market price:** Up-to-date information on market prices for selected crops
5. **Weather:** 1-5 day weather forecasts

mKISAN SERVICE OFFERING

METHOD	CHANNEL	CONTENT AVAILABLE
PUSH	SMS	• Agronomy and livestock advice • 1-5 Day Weather forecasts • Market price information • Agricultural news and alerts
PULL	IVR	
	Helpline (offline - August 2014)	• Agronomy and livestock advice

4. Including Cotton, gram, groundnut, lemon, lime, mandarin, maize, mango, onion, oranges, paddy rice, pearl millet, potato, sorghum, soybean, sugarcane, tomato and wheat
5. Buffalo, cows, goats, sheep and poultry

IV. Backend: Overview of systems and technology providers

Handygo partnered with CABI and ILRI to develop content for its agronomy and livestock advisory services, respectively. Following the end of a two-year contract with GSMA under the mFarmer program, Handygo discontinued their partnership with CABI and dissolved the mKisan consortium. Handygo continues to produce their up-to-date agronomy tips in-house, as they had done previously for Behtar Zindagi. The in-house team at Handygo repurposes the content for mobile delivery and translates it from English to the various state languages. Handygo sources its content for agricultural specific weather advice from the Agricultural Meteorology Department (Agromet), market price information from Agmarknet portal, and information for news and alerts from a public online government portal.

mKisan also provides links to instructional videos on agriculture and livestock developed by Digital Green. Video content is not widely adopted by mKisan customer base because of data cost concerns, low penetration of smartphones, and lack of understanding of how to access videos. In an early survey, less than half (41%) of respondents reported to have access to video on their phone.[6]

All voice and SMS content, as well as the helpline is uploaded and available on the mKisan platform, and is offered on three network operators in India: IDEA Cellular, Airtel and Vodafone. The content is delivered to the user via three main channels: push SMS, IVR and helpline.

On the Vodafone network, Handygo uses a location-based service to provide users relevant agricultural content. Through a pin-code feedback system, Handygo is able to provide customers more tailored information on crops, weather, and market prices based on their location. If the customer is unable to provide their pin-code, the Handygo will provide users with generic agricultural information on an IVR menu based on the selection of their state and district.

For all other operators, Handygo uses the content management system, which provides access to user databases from each operator for the dissemination of agricultural content.

6. 975 surveyed customers

V. Business model

Subscription to the service costs 1 INR per day, purchasable in packs of 10 INR, 20 INR or 30 INR. The package includes regular push SMS messages with agronomy advice and market price information, in addition to access to advisory services through IVR. After informing the user, the subscription service is automatically renewed at the end of the subscription period, unless the customer decides to completely deactivate the service.

Consortium partners ILRI and CABI were remunerated for the content provided every quarter by the matching funds provided by GSMA's mFarmer grant. Following the project, Handygo hired three in-house agricultural experts to maintain the provision of up-to-date agricultural content and increase the value of its service for users.

As the period of GSMA's mFarmer project has concluded, mKisan will be reintegrated into Handygo's broader Behtar Zindagi platform which offers an array of services including information on health and education. Handygo has increased its user base by 146% in the six states since the launch of mKisan and have extended their service to a significant number of smallholder farmers.

Handygo maintains revenue share agreements with Mobile Network Operators (MNOs), which have not changed since the launch of the service. Handygo relies on its share of revenues from mKisan subscriber fees to cover the costs of airtime, SMS/voice bandwidth, marketing costs, general overhead expenses, and salaries for in-house agricultural experts.

VI. Early results

WHO ARE THE EARLY ADOPTERS OF MKISAN?

- The early adopters of mKisan (those who have accessed IVR on multiple occasions) made up 8% of the customer base[7] in October 2014.
- Their **main reason** for joining mKisan is to learn about new farming practices, inputs and ways to improve their farms.
- Around of 42% of these users identify themselves as **farmers or herders**, and a significant proportion of those (9%) are **students**.
- A vast majority of early adopters (over 90%) are **male**—the highest proportion of male users among all mFarmer supported services.
- Most (70%) have access to alternative sources of agricultural information, mainly from fellow farmers and other 'information suppliers' like village elders (31%), likely referring to mKisan as a **complementary source** of information.
- These users are **sharing information** from mKisan with others (48%) and would **recommend** the service to friends (94%).
- The profile of early adopters are likely to fit into that of the general customer base, who are mostly **youth** (67% below the age of 29) and mainly grow crops for domestic consumption, **selling only their surplus** (54%).

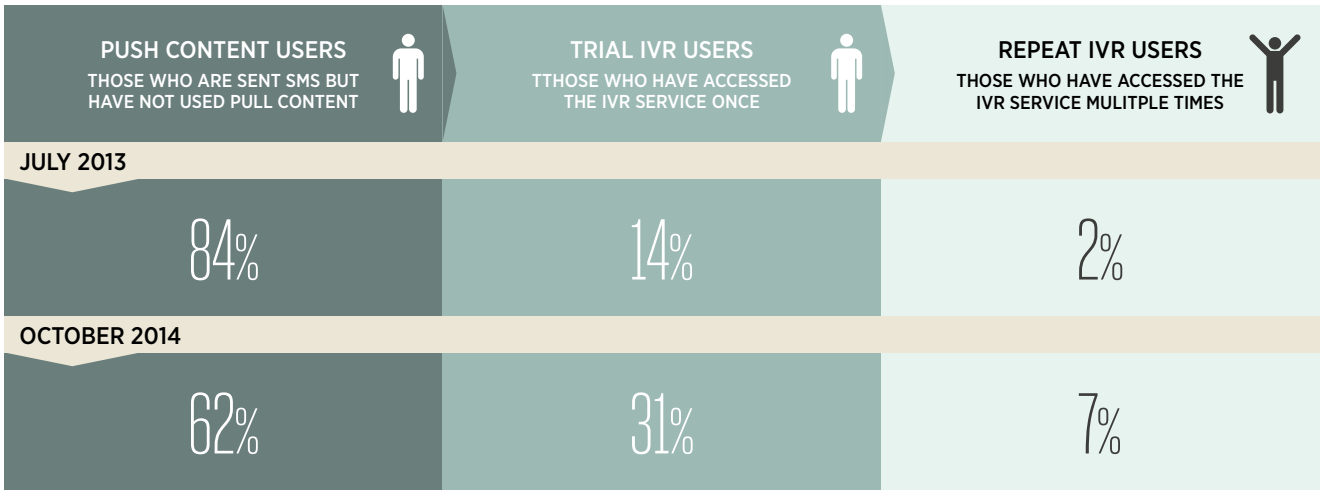
7. Referred to as 'repeat' users in other mAgri reports



IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

FIGURE 1

PERCENTAGE OF USERS AT EACH STAGE OF THE CUSTOMER JOURNEY



MOST USERS HAVE NOT ACCESSED THE IVR SERVICE, ALTHOUGH THE PROPORTION OF THE USER BASE ACCESSING PULL CONTENT HAS INCREASED OVER THE PERIOD. MOST OF THESE USERS ARE STILL ACCESSING THE IVR SERVICE ONLY ONCE, WITH AROUND 60,000 USERS RETURNING TO THE SERVICE ON MULTIPLE OCCASIONS.

IMPACT AND BEHAVIOR CHANGE

- The service has not only resulted in behavior change among users, it has also positively impacted the farming and marketing practices of early adopters. 31% of repeat users reported changing their farming or marketing practices based on advice received from mKisan. Of these users, 23% of farmers have used the information to try new methods for controlling crop pests/disease. A small number reported using new inputs or crops, new livestock care methods, or changing the timing of their farming practices.

- Of those customers who reported making changes based on advice from mKisan, 33% reported seeing a better yield, 2% felt they could better predict the weather, and 8% felt that they had more knowledge.

TESTIMONIALS

WEATHER FORECASTS

"I was going to dig some channels along my fields. But the SMS alert said that it was going to rain the next day. So, I decided to cancel the digging. So, it was a timely alert, otherwise, all my efforts and hard work would have been washed away by the rains."

Anil, West Champeran, Bihar

CROPS ADVISORY

"Yes, I have benefitted from this service. I learned how to manage the irrigation of the potato crop. I also learned about the pesticides/ fungicides to be used in case of any problem. I have already harvested the crop. I have got good potato production."

Sandeep, Mujaffarpur, Bihar

MARKET PRICE INFORMATION

"Now, I can check the rates and show the same to the merchants/middlemen also. So, they are not able to deceive us anymore... It has been possible only through this service. We had no other way of knowing these things, except making a visit to the market. Now, I check all the market prices before selling anything."

Arun, Osmanabad District, Maharashtra

BARRIERS TO UPTAKE

- **Awareness:** Users often do not remember how they have subscribed to the service, and may not be requesting further information because they are unaware that other channels are available.
- **Cost-related concerns:** Affordability can deter many users from becoming active users of mKisan. 30% of surveyed trial users did not return to the service due to concerns around costs, and only a small percentage (8%) were willing to pay the current package prices to access the service.
- **Unsatisfactory content:** Users turn away from the service if the content is not locally relevant or is perceived as common knowledge. IVR users may also turn away from the service if the pre-recorded answers are too generic and unable to address a specific concern (see testimonial below).
- **Problems with service design:** Some users find the IVR menu confusing and have difficulty navigating to find answers to specific questions. Half of IVR users (45%) discontinue use of the service due to a poor understanding of how to use the channel and because they cannot find the information they need.
- **Connectivity:** Almost a third of calls made by users to the helpline channel during early 2014 were missed due to network issues. The limited capacity of the helpline is also a significant problem; mKisan had four call centre agents who were unable to handle more than 60% of demand.

TESTIMONIALS

CONTENT

"When I looked for information, I only listened to some pre-recorded information, which was very general in nature. If I had a specific query, I could not get it resolved."

Ishan, Bihar

SERVICE DESIGN

"I had some difficulty in finding the information I was looking for, especially in the case of garlic and onions. I wanted some general information on seed varieties, fertilisers, irrigation, etc. but I could not locate this information. You should tell how to use the system. You should help us in finding the information. This is what I felt.[8]"

Nithin, Pakur district, Jharkland

CONTENT

"There was nothing that prevented me from using the information. But, on this service, I never got an opportunity to have a direct conversation with the experts. It never happened."

Anil, West Champeran, Bihar

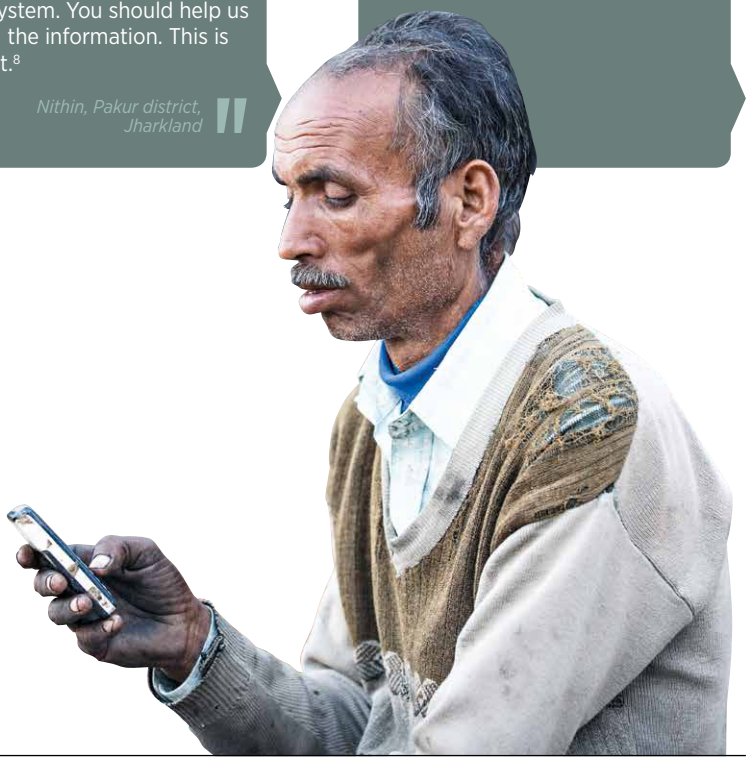


IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

8. mKisan midline study

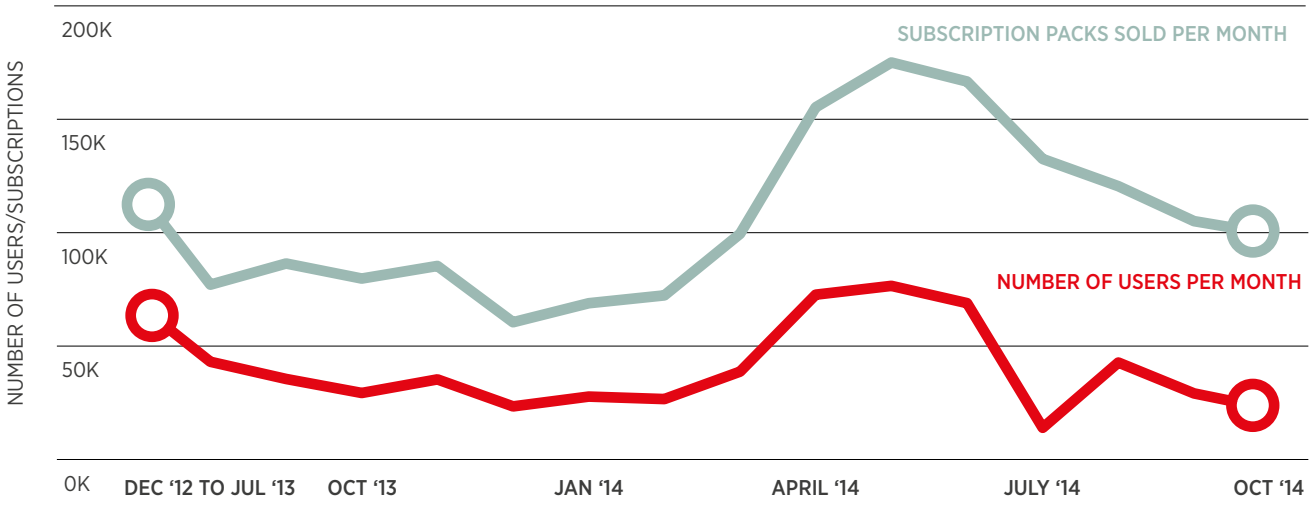
VII. Marketing & Distribution

Shortly after mKisan had launched, Handygo had limited marketing outreach and was struggling to reach the target market, achieving only 0.9% market penetration[9] in the six states in which the service operates. Marketing was limited to ground acquisitions[10], such as subscriptions at agricultural fairs, and outbound dialed (OBD) and SMS "blast messaging".

Handygo has continued to promote mKisan through below the line (BTL) marketing campaigns in varied geographical regions via SMS blast messages. However, regulatory changes have limited the way customers can be acquired. In July 2013, the TRAI introduced 'double confirmation' guidelines with the aim of protecting consumers from being wrongfully charged for content. Customers have to agree twice to be signed up for VAS, once on the platform itself, and once through a third party channel. This has led to a drop in promotions sold per month since July 2013 (Figure 3), with a gradual increase in recent months.

FIGURE 2

NUMBER OF USERS AND SUBSCRIPTIONS SOLD PER MONTH



According to a recent survey, a third of all customers report to have heard about mKisan via face-to-face promotion through fellow farmers. But unlike in the cases of other Agri VAS services, ground acquisitions contributed to the registration of only a very small proportion (4%) of repeat users, leading more to inactive and trial users[11] . Promotional OBD and SMS were likely to have influenced repeat users more than other segments[12] .

If customers who signed up through ground acquisition – at agricultural fairs or through distribution agents – are not going on to become regular users, this could suggest that they are not receiving enough instruction at these points and how to use the service as it relates to their specific needs. It is thus important to demonstrate the service to ensure that customers understand mKisan's value proposition and how to effectively use the service. [13]

9. Estimation based on Handygo estimates for total potential market
10. Ground acquisitions are a way of marketing mKisan services through on-the-ground, in person promotions at events and different venues.
11. 10% of trial users and 10% of registered non-users were likely to report signing up with the help of distribution agents; 12% of trial users reported hearing about the service from an agricultural fair and promotional van
12. 10% of regular users heard about mKisan via OBD SMS; 5% of trial users; 0% of registered non-users
13. ICRIER (2010). Socio-Economic Impact of Mobile Phones on Indian Agriculture. Available at: http://www.icrier.org/pdf/WorkingPaper246.pdf

VIII. Looking ahead

Considering the large barriers to uptake, mKisan has made progress since its launch, growing its subscriber base to over 800,000 registered users in India. However, less than half of these users have requested agricultural content on IVR or helpline channels and less than 30 percent have accessed these channels multiple times. As Handygo transitions mKisan back to the original service, Behtar Zindagi, they must consider improvements to its content, service design, marketing and pricing strategy to improve customer satisfaction and offer a more valuable service to farmers.

Agricultural content should be easy to access, highly actionable, frequently updated and hyper-localized in order to present compelling value to smallholder customers in India. Navigation of the IVR menu channel could be improved by simplifying the number of steps required for customers to reach their desired content. To alleviate cost-related concerns, especially among bottom of the pyramid (BOP) farmers, a limited free trial period can allow smallholder customers to realize the benefits of the service. In addition, more targeted SMS 'blasts' to rural users complemented with face-to-face demonstrations through distribution networks can increase uptake and encourage repeat use. With additional adjustments that consider factors such as usability, affordability and awareness, Handygo can encourage greater uptake and usage of its mobile agricultural services, and have a meaningful impact on the pan-Indian agriculture sector.



IMAGE COURTESY OF GSMA MOBILE FOR DEVELOPMENT

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. Follow the GSMA on Twitter: @GSMA.

Mobile for Development

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

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

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