mAgri Programme Case Study
IKSL, India

KEY FACTS - India

Population: 1.19bn (of which rural: c.70%)
GDP Total: $4tn (of which Agri: $1.12tn)
GDP Per Capita: $3290 (<$10 per day)

70% of labour working in agriculture
Mobile Penetration: 66.16% (Dec 2010)
Projected 84% teledensity (1bn users) by 2012

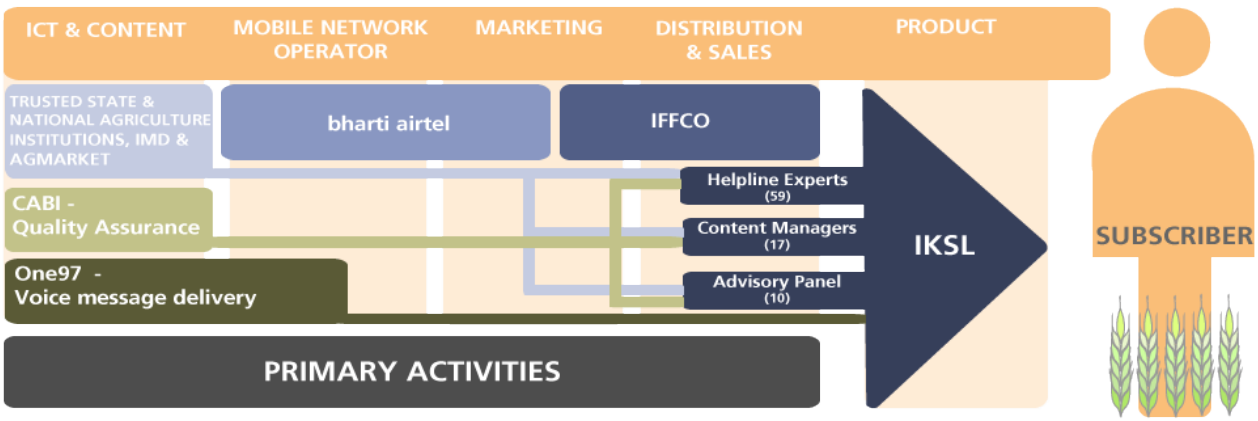
IKSL - Overview

IFFCO Kisan Sanchar Limited (IKSL) is a tri-lateral joint venture between the Indian Farmers Fertiliser Cooperative Ltd (IFFCO), the largest farmers' cooperative in India and airtel, the largest mobile network operator, along with Star Global Resources Limited, rural telephony experts who acquired 25% shares. IKSL provides voice-based agricultural information to empower rural farmers and reinforce the cooperative through the mobile network. After a successful pilot, the service launched in 2008.

IKSL distributes airtel SIM cards branded 'Green SIM' to its IFFCO members and other farmers. The Green SIM functions as a normal SIM as well as providing the agricultural valued added services (Agri VAS). The user receives 5 recorded voice messages, free of charge, each day covering both local and national agricultural topics. Green SIM users access an Agri Helpline where they can get answers from agri-experts to any farming question they care to raise.

The GSMA mAgri Programme provided a grant and technical assistance to IKSL. Our work aimed to strengthen the service and improve the ICT content systems to ensure efficacy and relevance for the end user - and to leave the project ready for further scaling. Today, the IKSL Green SIM service has 3 million users.

Business Model - Overview

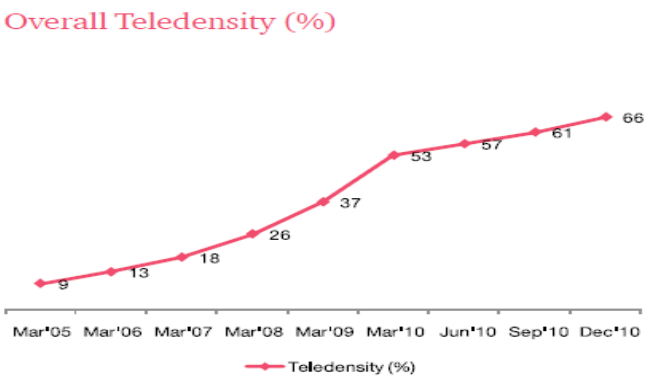


The Arena - India

Of the 1.2 billion people living in India, 72% live in rural areas. These people represent an enormous market opportunity.

A similar percentage of the Indian labour force is employed by the agricultural industry (c. 70%). As a contribution to Indian GDP, rural activities account for some 43%. By 2020, estimates suggest that the Indian rural market will be bigger than South Korea and Canada and worth $577 Billion annually.

In terms of mobile connectivity, India has witnessed quite staggering growth rates over recent years.

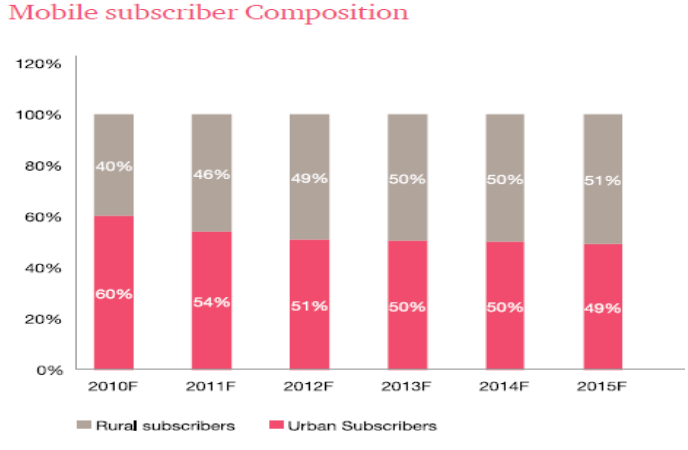


Source: TRAI

Rural India accounted for around 38-40% of the total Indian mobile handset sales by 2010. Indeed the, proliferation of phone ownership in remote and rural India means that most households now have access to a mobile, making it the pre-eminent technology platform.

16 mobile network operators (MNO) are at play in the Indian market with the race to 100% teledensity being hotly contested. VAS services are increasingly key to success in this space.


Mobile networks have penetrated even remote areas.



Source: PwC Mobile Broadband Outlook 2015

The Challenge - Food Security

Three quarters of the world's poorest people, those on less than $1 per day work in, or depend upon, agricultural activities for their survival. Of these, many cannot grow enough to eat. Those who do manage a modest surplus often cannot sell it.

The reasons for low yield are complex and many. One of the core problems is that poor farmers lack access to vital agricultural information; training and advice on topics such as pests and diseases, weather, proven farming practices, climate, machinery, infrastructure, soil ecology, entomology, seed preparation, fertilizer and pesticide selection. All have an impact upon a farmer's yield. The good news is that the mobile phone offers a new opportunity to bridge this gap and is ideally placed to connect the farmer on the ground with cutting edge agricultural knowledge. Large parts of the Indian agrarian economy fall under this broad brush description. 71.4% of IKSL subscribers survive on less than $1 per day. 87.5% receive less than $2 per day.

However, India is so vast in area, so disparate in terms of wealth dispersion and so multi-ethnic that it throws up its own unique challenges. How do we align the fact that 87% of IKSL subscribers earn less than $2 a day with another astonishing fact: the highest wheat yield per hectare anywhere in the world happens in the Punjab?

On a country-wide level, there are enormous variances in soil ecology, entomological issues, weather patterns and market forces. A farmer growing wheat in Maharashtra will encounter very different problems than one growing wheat in Uttar Pradesh.

Overarching all these criteria is a further complication that is, perhaps, not unique to India but one that is exacerbated by the unavoidable problems of size and scale that India brings upon herself; that of language. In the 18 states in which IKSL operates there are 13 separate languages and dialectic variances within most of these. Therefore the information given to users must be customised, localised, and translated.

At the centre of IKSL's philosophy is a simple idea: if you give a farmer the correct information, they will then make an informed decision for the betterment of their farm and livelihood. The rest boils down to business management and ICT issues.

However, in order to build a service that addresses all of these concerns, IKSL faced a formidable raft of obstacles in India that singly, or in unison, were possessed of the power to derail the project. On top of this, IKSL had to overcome the more traditional quandries faced by all mobile VAS offerings: whom to partner with, how to market, how to secure high quality content, how to scale.

If one sees the core activity of IKSL as linking a farmer on the ground with the requisite knowledge he needs to make a better farming decision, then it is clear that the greatest challenge for IKSL lay in making these messages both *timely* and *relevant*. The service design of the product was built to address these two questions.

IKSL - Service Design - The Push Bit

The service uses a Push/Pull model, tailored to the farmer's location. Voice messages constitute the 'Push'. The farmer receives 5 one minute recordings each day, free of charge. These are recorded in the local dialect and pertain to crop calendar acitvities (ie when to weed, plant and hoe), localised weather forecasts, yield increase tips, entomology information, Government schemes and disease alerts.

Typically, in any given day's messages, the subscriber would receive 2 about crops, 1 on a general horticultural topic, 1 on animal husbandry and 1 reactive message that may be generated by local news alerts or in response to a preponderance of incoming calls on the topic to the helpline. This recording into the local tongue therefore bypasses the language barrier.

The messages are a minute in length and are recorded daily by one of the experts in the local Agri Helpline call centre. The contents are a mix of general tips and highly localised information (eg weather and pest alerts). In the case of weather forecasts, IKSL developed strong links with the Indian Meteorological Department (IMD) who provide localised agri-specific forecasts twice weekly.

▪ The Pull Bit

The 'Pull' part of the service occurs when the Farmer dials the Agri Helpline to speak directly to an agri expert. Alongside the Push' aspect of the service, the Helpline deals with the problem of timeliness: a user can access information whenever they like. Farmers call a short code number (534351) that diverts to their local call centre.The Helpline call is charged at the same price as a local call. The farmer can ask any question they like and their query will be dealt with immediately. Complicated questions may require a return phonecall being made (FoC) from the Helpline to the farmer.

There are 15 Agri Helpline call centres, serving 18 states, open from 08:30 -20:00hrs.

▪ The Human Bit

Since the experts that staff the Helpline also decide the content of the push messages, the quality of personnel is absolutely critical. In IKSL, all experts hold a minimum of a degree level qualification in agriculture or a related discipline and have field experience. These experts constitute the first line of IKSL support.

The second line is formed by a network of highly experienced academics and specialists in the fields of entomology, agronomy, phytopathology and animal husbandry.

The third line is provided by a panel of 10 specialists who convene regularly in Delhi. This panel resolves unanswered questions that the helpline is unable to close. It also validates the content on the Content System, subjects the answers provided by the Helpline to a quality assurance processes and legislates on wider protocols such as which chemical to endorse.

ICT - The Agricultural Content Database

▪ Localisation

A fundamental challenge faced when building the content for the database was that it had never been done before. There was no model to follow. Likewise, there was not a single source of information to which to refer in order to build the database. The problems of geography, ecology, topology, entomology and phytopathology meant that IKSL and GSMA had to look to local agricultural institutions and universities from whom to harvest the knowledge. Only in this way could local data could be guaranteed.

▪ Trust & Quality Assurance

The fact that state (and national) institutions were used to provide the content addressed the crucial topic of trustworthiness. IKSL enjoyed a staggering level of trust among users with 98.3% indicating that they saw the information as accurate: a vital boon for all business partners in the IKSL equation. CABI International play a vital role in this process by subjecting the content database to regular and rigorous quality assurance processes. CABI also devised the protocols that cover the standardisation of data, content sourcing and editing which are unique to IKSL.

▪ Immediacy

Another challenge was to obtain dynamic information feeds such as up-to-date market pricing that would enable farmers to make informed choices as to where and when to sell their crops. This dynamic data feed will mitigate the problems of rotting surplus and improve cash margins on the sale of crops. Partnerships were forged with national institutes such as IMD and AGMARKET to enable the provision of topical, frequently updated feeds.

▪ Formatting

The next issue, having built and curated this database of agri-information was reformatting it into searchable, interrogable fact sheets that could be loaded onto the computer systems used by the content managers and call centres. The system had to operate faultlessly and at speed for the operatives.

President Obama visiting Agri Innovation Expo.

"*This is a great idea. Do it across the world. Great work. Keep it up.*"

November 7th, 2010.

The ICT System - The IIMS

▪ Integrated Information Management System

The agricultural content has to exist within a wider IT framework that enables its management, update and disbursement. To this end, a bespoke Integrated Information Management System (IIMS) was built by IT consultants as part of the GSMA grant to IKSL. The IIMS would deliver a Customer Relationship Management (CRM) tool alongside a Content Management System (CMS) and reporting and analytics functions.

▪ Customer Relationship Management

Initial data captured by the IFFCO agents who sold the Green SIM to the farmer are uploaded into the CRM tool and appear on-screen when that farmer's mobile makes an inbound call. This enables the system to see exact location and various details of the farm-holding, all things that govern the type of advice offered. Efforts are now underway to increase the scope of the farmer factfile by calling users and asking a series of detailed questions about the farm and areas of specific interest. This allows further refining of the daily push messages to farmers. Each inbound call is logged and tagged to enable content managers and Helpline experts to familiarise themselves with a farmer's call history when next they speak.

▪ Content Management System

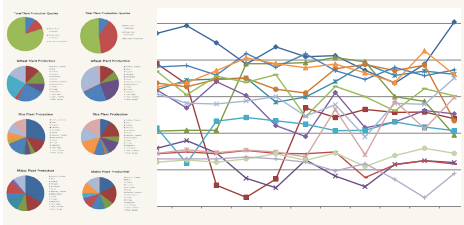
This aspect of the IIMS handles the agricultural content gleaned from state institutions and IFFCO's existing database. Crop, disease and pesticide information is collated into individual factsheets which could then be accessed by operatives and consulted during the call. These would then be tagged appropriately in order to expedite the search process and ensure good levels of customer service when dealing with in-coming queries.

▪ Integration

The IIMS is fully integrated with the call centre IT systems and with the VAS Provider, One97, who look after the delivery of the outbound voice messages to subscribers. Consequently an holistic view of the system is available to business owners.

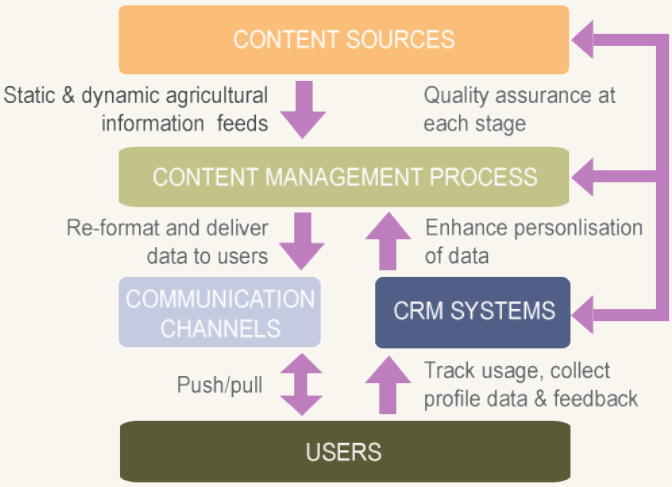
▪ Reporting & Analytics

In order to satisfy M&E requirements and therefore assess whether the service is meeting market needs, a comprehensive reporting and analytical function was designed into the system.



Left: Screengrabs from the VAS Analytics Reporting Toolkit.
nb: data has been altered/aggregated.

Left:
A farmer from Uttar Pradesh under an IKSL banner in the local IFFCO offices outside Meerut. Typically, the IFFCO Societies, of which there are 40,000, are where customer acquisition occurs
Below:
Diagram of content provision.



▪ Gender

Studies were conducted to understand women's information needs, information was then tagged as women-centric and delivered through the voice messages. IKSL also run a successful partnership with a women's self-help group in Tamil Nadu, delivering customised information to the group.

Marketing IKSL

▪ Responsibility & Ownership

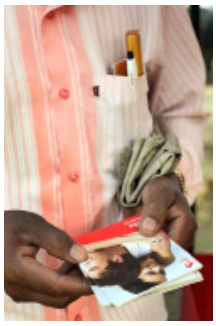
The marketing campaign for IKSL was largely handled by airtel staff who worked exclusively on the IKSL product in collaboration with IFFCO. The distribution channels for the campaign were provided by IFFCO's 40,000 societies across India which had unrivalled access to the small-holder farmer market and enjoyed an extremely high-level of trust with this audience. IFFCO's understanding of this segment was a major benefit when it came to launching the service.

Left:

Original advertising collateral for IKSL showing the short code to dial and semi-aspirational imagery of farmers using the service.

▪ Approach

IKSL realised that a typical marketing campaign designed to sell airtime would not be appropriate for their product. Consequently, some adjustments were made to the Telco marketing model. There was an above-the-line campaign to raise awareness of the product which focused on simple, evocative images of typical farmers using mobile telephony in their working environment. But the majority of efforts were poured into experiential marketing activities which proved to be much more effective. These were designed to educate the consumer about the benefits of the product and to demonstrate it in action, thus advancing the audience from unawareness of the service to an understanding of what it offers and how it works.



Far Left: The IKSL Green SIM pack.
Left: Canopy marketing activity in an IFFCO society.

In order to make this happen, IKSL used 580 'marketing associates' across 18 states to perform what was called 'Canopy Marketing'. Here, often in the forecourts of IFFCO societies, a portable, branded canopy frame would be erected from which the Marketing Associate would distribute collateral, answer questions, explain the product and conduct customer acquisition activity.

Marketing Associates are given a small, battery-powered media player which accepts material from USB sticks that is generated by IKSL Head Office. IKSL decided to record a two-handed, scripted conversation between farmers discussing the benefits of the service. These are rendered into local languages where necessary. The strength of this format is that it bypasses the literacy barrier and immediately focuses on peer-level recommendation to lend suasion to the messaging. Secondly, since they are held in and around IFFCO premises the material is guaranteed to reach the target audience of base of pyramid farmers. Typically, 10-15 canopy marketing activities occur, per state, each month.

The efficacy of these methods meant that IKSL signed up 3 million users since the launch of the pilot in 2008. Like many mobile VAS offerings IKSL has reached a new stage in its marketing. Instead of focusing on customer acquisition, it has now to focus on increasing the frequency of usage; how to ensure it has a 'sticky SIM'.

Left: The USB-enabled portable audio device used to replay the two-handed conversation about the benefits of IKSL.

▪ Usage Cases

Sanjay Mondal, a farmer from Ragunathpur was suffering from necrotic leaf lesions on his cucumber crop.

The disease was present on roughly half his crop and spreading. After discussion with Mr Mondal, IKSL remotely diagnosed the disease and proscribed a topical spray of Sectin fungicide in the ratio of 2mg per litre of water. The total cost of the treatment was 500 rupees.

The yield increased by 50%. Income also went up by 50%.

M. Ramasamy is a grain farmer from Nagavaram. Despite heavy usage of fertiliser he had consistently low yields. Having discussed his problems, IKSL advised him to follow an integrated nutrient management scheme that consisted of applying a green, leafy manure, top dressing the crop, applying zinc sulphate and a dose of Neem-blended urea.

The crop yielded 2,700kg per hectare, or a 50% increase

▪ Testimonials

Gulhmohar Pandey, a farmer in Faizabad

"I have 20 cows and they provide me with an income of about Rs 10,000 per month. A message from IKSL provided me with information to improve their health and increase their yield. They also gave me advice about how to take care of the cows in very hot conditions. By using these care practices, I have increased my income by more then Rs 3,000 per month; a 30% uplift.

▪ Comment from IKSL

The usage cases and the testimonials stand to prove that a mobile-based initiative can result in significant increase in farmers' productivity, resulting in increased availability of food and enhanced income generation for the farmers. Thid in turn can mitigate hunger and poverty in the rural population. The impact witnessed has motivated IKSL to further align its services in the broad framework of United Nation's Millennium Development Goals (MDGs).

Usage Survey Results

Farmers find information actionable and practical – 3rd party research has estimated that 74% of helpline callers and 64% of message listeners - have implemented or plan to implement the information received; 99% of users perceive the service as trustworthy 75% rated the service better compared to other sources and 25% rated the service as the same.

"Today, India is a leader in using technology to empower farmers, like those I met yesterday, who get free updates to market and weather conditions on their cellphones."

President Barack Obama addressing the Indian Parliament, November 8th, 2010

The Role of the GSMA Development Fund

The Development Fund exists to accelerate social, economic and environmental evolution through the use of mobile technology. The provision of relevant, scalable mobile services to those in the developing world tangibly improves lives.
We are proof that doing good is good business.

The mAgri Programme

The mAgri Programme focuses exclusively on the development of agricultural information services via the mobile channel that demonstrably increase yield and income.

mAgri Programme's Objectives

- to test and prove mAgri business models
- to encourage replication and scaling with MNOs
- to create high quality agricultural VAS products that change farmers' lives for the better
- to propagate the wider adoption of agricultural VAS products across the mobile ecosystem
- to share learnings and best practices with the mobile development ecosystem

The mAgri Programme's Involvement

A grant and technical assistance were provided to IKSL to strengthen the service. The mAgri Programme's inputs focused tightly on issues such as the requirements and design architecture of the ICT systems; training for these systems; content improvement and quality assurance; on issues such as requirements and design architecture of the ICT systems; the IT call centre infrastructure; training for these systems; content improvements and quality assurance; new local marketing approaches (with emphasis on gender equality and the targeting of female customers).

About the GSMA

The GSMA represents the interests of mobile operators worldwide. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, Internet companies, and media and entertainment organisations. The GSMA also produces industry-leading events such as the Mobile World Congress and Mobile Asia Congress. For more information, please visit the GSMA corporate website at http://www.gsmworld.com.

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