MOBILE PHONES
A TOOL FOR SOCIAL AND BEHAVIOURAL CHANGE

A REVIEW OF CASE STUDIES

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June 2013

This review of case studies on, "Mobile Phones: A Tool for Social & Behavioural Change," is a collaborative effort of UNICEF India with Digital Empowerment Foundation (DEF) as the core implementing partner to execute the project. This project has sought to understand the scope, magnitude and learn from experiences of how mobiles are emerging as viable tools, devices and platforms to meet vital development and governance objectives including social and behaviour change (SBC).

ACKNOWLEDGEMENT

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The presence and contribution of resource persons representing civil society and other public and private institutions with their best practices using mobiles has been tremendous. The presence of Mr. N. A. Shah Ansari, Director, Radio Namaskar; Mr. Chetan Sharma, CEO, Datamation Foundation; Mr. Kamal Jeet, CEO, Kisan Sanchar; Mr. Sudhanshu Tripathi (Mid-Day Meal Authority, Govt. of Uttar Pradesh); Mr. Nishith Dholakia representing e-Mamta (Govt. of Gujarat); Mr. Santosh Ostwal, CEO & Founder Director, Ossian Agro Automation Pvt. Ltd.; Madan Mohan Rao, Research Director, Mobile Monday; Ms. Zubeeda B. Quraishy, EZ Vidya Private Ltd; Mr. Murari M. Choudhury, Executive Director, NEEDS; Dr. Sandhya Ramalingam, Head, Program Evaluation from Nokia-Arogya mDiabetes; Ms. Priyanka Dutt, Project Director, BBC Media Action; Mr. Nand Wadhwani, Founding Trustee, The Mother and Child Health and Education Trust; Ms. Preeti Soni from Kutch Mahila Vikas Sangathan, Gujarat; and Mr. Sudhanshu Jain of AIDS Awareness Group (AAG), is sincerely thanked and acknowledged.

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Readers, kindly note that this white paper compendium is shared in 3 documents – A White Paper, A Working Paper and A Case Studies Review Paper, all pertaining to widen mobiles for social and behavioural change status, scope and challenges. Readers may ignore the errors and mistakes, if any, as human error and as unintentional.

New Delhi, 2013

CONTENTS

1 INTRODUCTION

With more than 850 million mobile subscriptions and still counting India has emerged as one of the largest mobile phone 'test bed'. This is not without significant social, cultural and economic ramifications. The size of a subcontinent together with the status of the second most populous nation in the world has led to this technological advantage. With this, there is the promise of enormous opportunity for growth and development riding on the ever expanding horizontal mobile network.

The social advantage from mobile phones has been manifold. The invisible social 'revolution' is happening and still churning transformations yet silently. The power of mobile as the new "social object" has determined big and small impacts in the lives of millions. This new mode of social connectivity and mobility has redefined and reworked new forms of social-political and economic processes with the spread of "anywhere, anytime" communication infrastructures. Today, there are new modes and linkages to seek for social and economic entitlements as augmented by the mobile technology. The broad consensus is around mobile's power to trigger new form of social identity, including cultural, political and economic identities. Sociologically speaking, mobiles have dismantled traditional information hierarchies The mobile led social empowerment has been inclusive. Mobile culture has led to a 'culture of uniformity'; this culture is 'egalitarian culture'.

The expanding social space of mobile has invited keen attention on the new thematic area of social and behavioural change (SBC) having essential link with communications for development. There are new trends in looking at personal behavioural change over a period of time as reflected in attitude, level of confidence building, opinion creation, articulation in expression, and so on around subjects and issues. This is further linked to interpersonal behavioural led changes due to mobile connecting two groups of people, two individuals, and so on overcoming physical and distance barriers. The new found opportunity to share information and communicate in shortest possible time through mobiles has pushed towards a 'communication revolution'. The

sharing of content, knowledge and experiences has found a new window of opportunity which was unimaginable a decade back. With a 'personalised' device, there is new freedom and liberty to inform and communicate and new method to strengthen personal, familial, social and economic relationship.

The widening social relevance of mobile has inspired mobile innovations and ideas into project experiments using mobile technology in the form of medium, platform, device and carrier. More mobile projects in pilot forms have been launched with focus on education, health, livelihood, and environment. The experiments have been largely driven by social and development needs spearheaded by civil society and bilateral agencies supported by public and private partners in many instances. These projects have been identified to focus on key mechanisms to deliver needs and services using mobile platform – information dissemination, interpersonal communication, training of frontline workers, monitoring and tracking of projects.

The pilot case studies have raised key questions that emerge in the background of mobile revolution in India. How real is the mobile emergence in India and how inclusive? Is profit motive determining social drives in mobile? How egalitarian has been this expansion providing a level playing field for all? How the policy gaps are perceived and attempted to be raised and addressed? Does the pilot programmes gives sufficient learning to address issues in improvisation and scaling up projects? How to define and understand the increasing opportunity in mobile space in terms of partnerships and collaborations to bring in desired social and behavioural gains? Is the country ready for a new social change through widespread mobile enabled social transitions?

Irrespective of the contemporary challenges in the mobile space, the scope and opportunities outweighs the limitations which are not insurmountable. There is tremendous space for everyone to work together and serve their constituents. The critical challenge perhaps is to understand the social, cultural and economic contexts of mobile applicability. What is promising is that mobile phones can accelerate desired social and behavioural changes amongst millions which in turn provides much needed social stability for sustainable economic activities.

2 REVIEW OF CASE STUDIES

Mobile innovations are delivering home-grown solutions worldwide. They have shown promising results in India by transforming connectivity and access scenario, social and development processes and driving inclusive development and growth. Mobile access is quickly changing lives, driving governance and service delivery, fuelled in part by collaborative efforts, and delivering innovation and localisations in solutions. Together with Internet, mobile phones are transforming the development landscape, injecting a new dynamism in key sectors as exemplified by various pilot efforts.

A review of 12 mobile case studies for this paper indicates that the most common sectors for social investment are education, health, socio-economic development, and disaster management. The pilot initiative has highlighted two essential points. One, mobile phones have emerged as effective mechanism to derive project impacts in – information dissemination, training of frontline workers, interpersonal communication practices, and project monitoring / tracking. Second, mobile projects calls for inclusive agenda among stakeholders in multi-stakeholder partnership mode.

A. Mobiles for Information Dissemination

Information dissemination is a proactive information service designed to educate and inform focused groups of users on social, economic and educational issues and problems, and opportunities of interest to them[1]. It requires systematic planning, collection, organization, and storage of information for its delivery to the target audience using different media and communication means[2]. The importance of information dissemination is in raising the social and economic status of focused groups including their survival and self-development through need based technical skills and educational programmes.

With more than 800 million mobile subscribers in India, mobile phones are certainly emerging as utility tool for information dissemination. The efforts towards information dissemination finds greater resonance in mobiles as instrument of information decentralisation and most democratic information channel that capture mobility-specific requirements cutting across cultures and geographies.

A review of select case studies of mobile applications in information dissemination as described below brings out key essential areas for consideration and follow ups:

[1] Basics of Information Dissemination, http://www.unesco.org/education/aladin/paldin/pdf/course02/unit_05.pdf
[2] Ibid.,

Case Study 1

Project Name	"Chala Skul Ku Jiba" (Let us go to School)
Organisation	Radio Namaskar
Project Location	Puri District, Odisha
Project since	2010
Project URL	http://radionamaskar.org

Description

"Chala Skul Ku Jiba" (Let us go to school) is an initiative of Radio Namaskar, a community radio FM station. The project, initiated in 4 blocks and surrounding areas in Puri District, Odisha, seeks to enrol school dropouts back to school. During situation analysis and listeners survey Radio Namaskar got regular feedbacks on massive dropout of school students especially girl students. To stop this trend, Radio Namaskar decided to start a new radio programme covering 72 listeners group. The first initiative was taken in July, 2010.

To this effect a jingle was produced, broadcasted to motivate the parents to send their children to school. In the first month, the response was poor and not encouraging. Subsequently, a dedicated mobile number was announced to solve the purpose. Interestingly, the response of listeners started growing every day. But it was one way communication. Respondents were informing the studio regarding dropout of students in their locality which was broadcasted through the community radio. Subsequently, software was integrated with radio programme through which a listener can ring anytime to the dedicated mobile number and tell their view. Through this software and GSM gateway, the dedicated mobile number (9040904904) for the listeners was spread. Now, when any listener rings the mobile number an automatic voice command goes to the dialler with a request to inform regarding dropout students in their village or locality.

In this process, the initiative took shape of a campaign and Radio Namaskar started broadcasting a special radio programme package of 30 minutes, twice a week. Listeners started giving out information regarding dropout students fromtheir mobile phones to the dedicated mobile number (through call and SMS). The recorded information as well SMS as SMS information were broadcasted through Radio Namaskar in special episodes. Further, live teleconference was conducted with listeners, local school teachers, headmasters, school authorities, local Panchayati Raj Institution (PRI) representatives, school management committee members/leaders, etc. When the dropout student(s) returned to school thanks giving SMS was dispatched to all the mobile numbers in the database of the Radio. The reason behind is to share this the good news with other listeners and citizens regarding the impact of a phone call/ SMS and how it gives life to a child.

Result

So far with the above processes 165 schools in 4 blocks (Gop, Nimapara, Astarang and Kakatpur blocks) in Puri District have been declared as ZERO DROPOUT SCHOOL by the local administration.

Project Strength, Weakness, Improvisation & Scalability

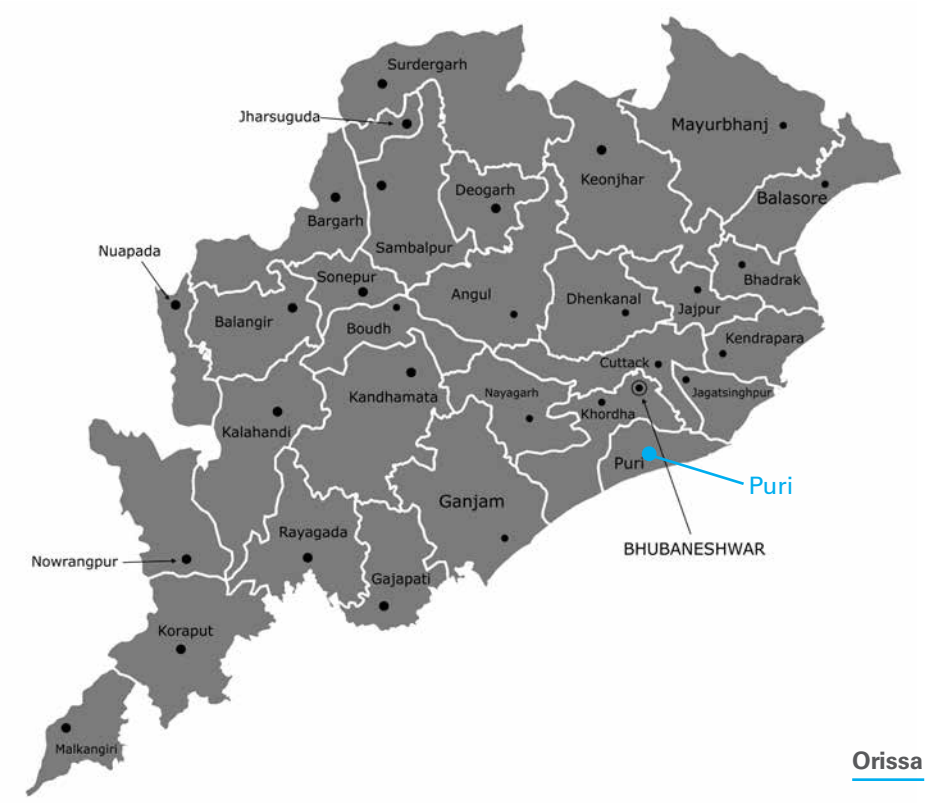
1. The project 'Let us go to School' involves the participation of the community to a great extent especially the listening community of Radio Namaskar Community Radio. There are 72 listeners groups that aided the project. The project is decentralized in nature and has wide space of community participation, inputs, response, feedback and engagement.

2. The project has already been implemented in 165 schools, which suggests it is a scalable project.

3. Project like this is about hyper locality (serving local community in dedicated manner) that needs scalability

4. The project has scope and relevance in partnership with other localized zones. Partnership with government departments like education will be a value addition and of help in scalability.

5. There should be incorporation of offline follow-ups. Community ownership needs to be moderated.



Case Study 2

Project Name	MHSM SMS Toolkit
Organisation	Datamation Foundation
Project Location	Kanpur Dehat (Rural) District, Uttar Pradesh
Project since	2010 – 2012
Project URL	http://www.datamationfoundation.org/

Description

The project Maternal Health Services on Mobile (SMS Toolkit) – MHSM, aims at providing critical Reproductive and Child Health related information services to pregnant and lactating women apart from their families and health workers through mobile phones, using localized SMSs in Hindi. Two messages per week have been created for 40 weeks of the pregnancy (norms as per government programmes). Along with more general, reinforcement messages on nutrition, specific messages pertaining to the week of pregnancy like ante natal check-up; vaccines, Iron folic supplements and movement of baby are sent to the registered women.

The SMS toolkit allows direct sending and receiving of SMS from an ordinary PC or laptop at a very low cost. Unlike standard SMS projects which rely on an automated registration process, or standard SMS projects which have generic messages here the registration of women has been done manually preceded by a strong community mobilization, linking with existing health workers like Accredited Social Health Activist (ASHA), Auxiliary Nurse Midwives (ANM) and Dai. This process of manual registration has allowed the project to: involve the community at large, including important stakeholders like husbands and other family members of the pregnant women and gain their acceptance for the project; build links with existing health infrastructure and workers; and promote the project and create a buzz.

The project was implemented in 4 primary locations and 5 other neighbouring villages. These are some of the most backward villages of the Katari cluster in the Ghatampur block of Kanpur Dehat (Rural) District of Uttar Pradesh. The project is implemented by Datamation Foundation Trust, a Community Organization working in the domains of healthcare, livelihoods, and education. One World South Asia (OWSA) and Microsoft are technical partners in this project. The content was provided by ZMQ technologies.

Result

Over 1000 pregnant and lactating women apart from their families and health care workers are impacted so far. A total of 3171 pregnant women were registered for the SMS service during project period. Further, 2206 after child birth registration were registered for post natal SMS services.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'MHSM Toolkit' has enabled circulation of critical health information resources regarding reproductive and child health directly to the pregnant and lactating women through mobile phones, using

localized SMS in Hindi. Information service in local language has added value to the project and facilitated direct impact upon the focused group.

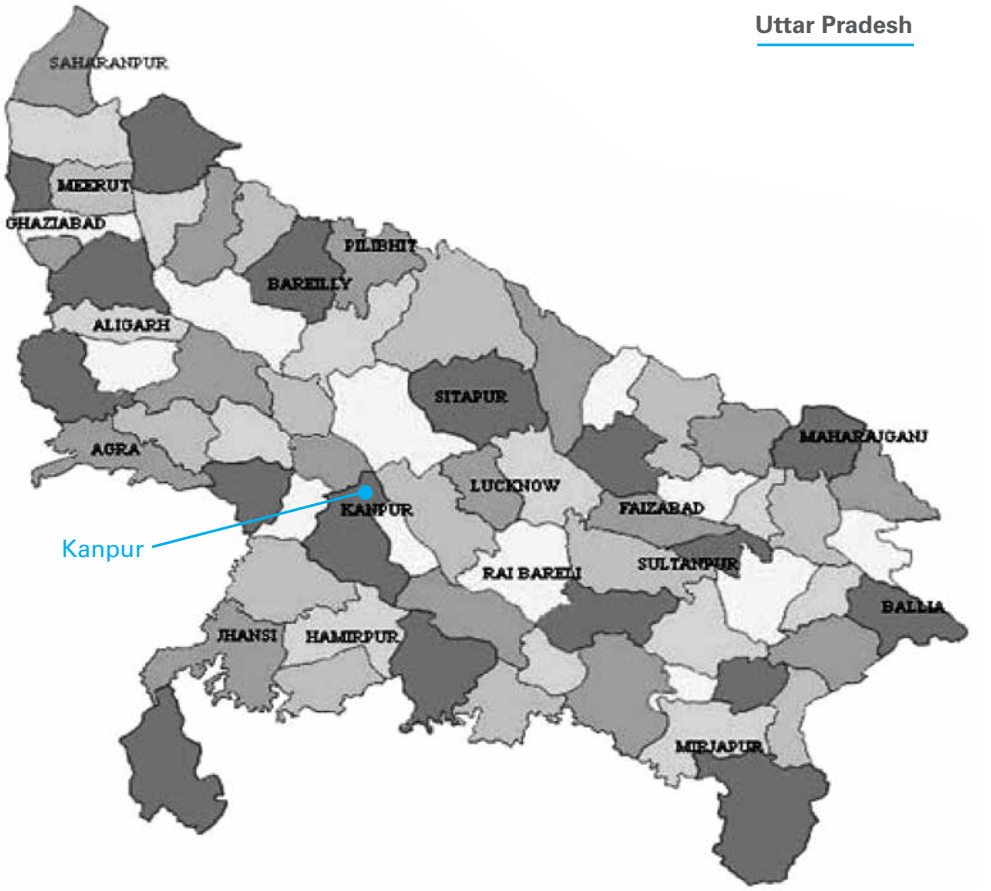
2. The project is community centric in design and involves participation of focused groups.

3. The project has scope for collaboration. Collaboration with government will be beneficial; Scale up can be done through government funding or sources like Member of Parliament or Member of Legislative Assembly local funds.

4. Regarding improvisation, this project should be supported by automated IVRS system. There should be a means of direct registration for SMS service by the family or pregnant woman rather than waiting for the ASHA worker as intermediary.

5. Project pre-and-post research is necessary to find out attributes from the impact of SMS services upon focused groups.

Uttar Pradesh



Case Study 3

Project Name	Kisan Sanchar
Organisation	Srishti Gyan Kendra
Project Location	Rohtak, Haryana
Project since	2010
Project URL	http://www.kisansanchar.com/

Description

Kisan Sanchar is an interactive platform for scientists, agricultural experts and institutions for sharing their technology and knowledge with registered subscribers i.e. farmers who have willingly opted for the mobile information service. Knowledge is shared in Hindi language in text as well as voice format. It is an enterprise based communication platform to broadcast text and voice messages on the mobile phones of individual farmers. It enables its users (which are mainly agricultural

experts and institutions) to send personalized and interactive outbound text and voice messages through the touch technology.

Farmers register themselves voluntarily to Kisan Sanchar by contacting project volunteers and by giving a missed call on a dedicated mobile number (9812430006). The call is automatically disconnected after one ring and the number is registered in the database. Confirmation of the membership is received by the farmer in the form of a text message.

Kisan Sanchar delivers free of cost knowledge content developed by Krishi Vigyan Kendras and various Agricultural Universities in the form of text & voice messages to the member farmers registered with Kisan Sanchar through Krishi Vigyan Kendras. Approximately 33066 farmers from seven states of India (J&K, Himachal Pradesh, Punjab, Haryana, Delhi, and Rajasthan & Gujarat) have voluntarily opted for the services of Kisan Sanchar through various Krishi Vigyan Kendras and are being benefitted from free of cost the services.

Result

Launched with full effect on 1st September, 2010, the project since then has broadcasted around 1500 messages to approximately 33066 farmers in 7 states (J&K, Himachal Pradesh, Haryana, Punjab, Delhi, Rajasthan & Gujarat).

Kisan Sanchar launched its Voice Messaging on 19-2-2011 in Gujarat. It has covered 140 districts in North India.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'Kisan Sanchar' through mobile phones bring agri-extension information services to farmers for better agriculture practices and also promotes environment friendly impact through organic practices. It is a cluster based approach focused on the farmers' community exclusively.

2. The project is considered to have potential, as it has already covered 140 districts in North India. Technology and programme are both scalable.

3. It needs to improvise on larger database management and number of people to be served. As of now volume of data is not manageable centrally. Local language support and reply options on mobile are not available. Helpline facility in each state is a need area.

4. The means of scaling up would be collaborating with diverse set of agencies. Also the project is required to collaborate with research institutes to generate knowledge resources for further dissemination.

5. The project sustainability is an area of concern in medium and long term. The free of cost delivery of information to farmers involves sending SMSs which has a cost implication for Kisan Sanchar to purchase SMS service from service provider.

B. MOBILES FOR SUPPORT TO FRONTLINE WORKERS & INTERPERSONAL COMMUNICATION

Frontline workers are an important part of the bottom-line, in project delivery outcome and impacting beneficiaries in desired way. Training of workers is an important strategy for improving workers' productivity in allocated work field. Use of mobile technology has emerged as a relevant and efficient tool to train the work force and achieve desirable project impact. For instance, through activities like mobile phones capturing complex data on pregnant women and children, and women receiving text reminders before their 'due' dates, and mobile phone based training for health workers can streamline and enhance the quality of maternal and child health services[3].

Interpersonal communication involves one on one conversation or individuals interacting with many people within a group, community or society that helps to construct, negotiate and address a social reality or problem. Mobiles as one of the most personalized tool has emerged as an effective medium for interpersonal communication assisting in sending and receiving messages, listening, asserting, sharing feedbacks and reactions. This has transformed both individual and group centric interaction and behavioural and social change.

A review of selected case studies of mobile applications in training of frontline workers and interpersonal communication as described below brings out key essential areas for consideration and follow ups:

[3] ICTs in maternal and child health poised for scale up in Uttar Pradesh, India, http://frontlinehealthworkers.org/ictsin-maternal-and-child-health-poised-for-scale-up-in-uttar-pradesh-india/

Case Study 1

Project Name	BridgeIT India
Organisation	EZ Vidya Private. Ltd.
Project Location	Tamil Nadu
Project since	2011
Project URL	http://www.bridgeit.in

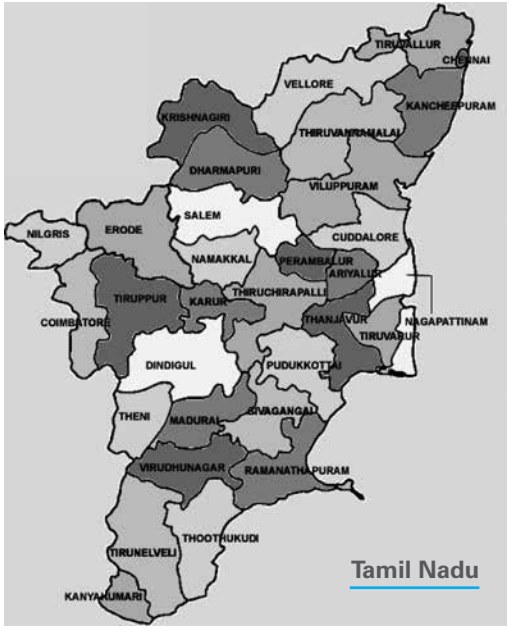
Description

BridgeIT India uses a standard mobile phone to improve the quality of teaching. The project is a partnership between Indian schools, NOKIA, The Pearson Foundation, and EZ Vidya. It was started in March 2011. The objectives of BridgeIT India were: DIGITAL TEACHERS: To integrate mobile platform into teaching and evaluating its effectiveness through teachers experience of using it in the classroom; ENGAGED STUDENTS: To evaluate learning improvements due to the integration of mobile technology, content, and methodologies into the teaching processes and; SCALABLE MODELS: To broaden impact of mobile technology in education, evaluating sustainable models, and identify how to scale at low increment cost.

In BridgeIT, teachers receive a TV-out cable and C7 mobile phone pre-loaded with NOKIA Education Delivery (NED). Teachers get training, suggested lesson plans, classroom visits and remote support. The school provides a TV or LCD projector. The teachers use NED and the TV- out cable to display content in classroom.

Result

Post-tests showed a sharp increase in learning compared with control (Control: Pre-test avg. 58% to Post-test avg. 60% vs. NED: Pre-test avg. 49%, Post-test 64%). Teachers have changed the way they teach, away from lecture style and towards more studentcentred, hands-on methods. 57% of lessons were "High" quality post-NED vs. 24% pre-NED, using objective criteria. NED classrooms had less teacher talk time and more student collaboration than non-NED classes. Teachers and students were enthusiastic to participate in the second year. Most importantly, schools have increased their financial support towards technology based learning and teaching.



Project Strength, Weakness, Improvisation & Scalability

1. The project 'BridgeIT' has reached out to 108 schools and 176 teachers. The objective is to bridge the gap between teachers and technology and improve teaching and

learning practices and make it suitable for 21st century. The uniqueness of the project is its inexpensive setup, as the handsets are provided to the teachers in collaboration with Nokia.

2. The project has helped to deliver content and training for teachers with provisions for offline follow-up with teachers on their outcomes. One outcome highlighted is students are more enthusiastic about the new approach and are encouraging teachers to incorporate more mobile video learning in the class. Smart phones have also made the teachers eager to learn and adapt.

3. Challenges faced in the project was that the content was produced in different accent (American) which was later modified to Indian accent. The availability of connectivity and power was a challenge initially but the videos were pre downloaded to combat the issue.

4. The project it is highly scalable as there is only one time cost for content creation and that it can be played on offline mode as well. The lack of availability of TV sets can be a challenge, as also how can it be made compatible on ordinary phones. The PICO projector can be procured which is quite cheap and can be run through the light of mobile phones.

5. There should be integration with government agencies in order to promote conversion of the content to local languages and implement in all government schools.

Case Study 2

Project Name	Mobile Kunji
Organisation	BBC Media Action
Project Location	Bihar
Project since	2012
Project URL	http://www.bbc.co.uk/mediaaction/where_we_work/asia/india/india_sdp_mass_media.html

Description:

The community health worker is a crucial human resource to promote maternal health and reduce maternal and infant mortality in a state like Bihar, India. The basic problems faced by the workers across the state in their functions until now included lack of proper tools through which they could convince the rural families on health prevention and treatment issues. In order to help frontline health workers function better in the state in health care services delivery, they are now provided with an innovative job aid called 'Mobile Kunji'.

Mobile Kunji is an audio visual job aid for community health workers (ASHAs and AWWs) to use with families that provides information about 9 life-saving maternal and child health behaviour. The project is considered as first-of-its kind initiative in the country and is being taken up in eight districts of Bihar, including Patna, under a partnership forged between the Bihar government, Bill and Melinda Gates Foundation (BMGF) and BBC Media Action (India). Through Mobile Kunji,

workers with adequate training use mobile tools to effectively disperse health messages and increases the demand of health services provided by service delivery partners under the newly launched Ananya programme since 2012.

'Mobile Kunji' is a pack of 40 well illustrated cards on a ring that communicates important health messages to rural families with the help of graffiti and text. Each card has a unique toll free short code that when dialled by the health worker from his/her mobile phone, takes the listener (or the audience) to free audio recording that further elaborates the health message that the particular card carries. Each card has its own unique code. The audio message is delivered by a fictional doctor character, Dr Anita.

The 'Kunji' can be carried at all times and doesn't require reams of paper or very advanced technology. It needs a normal mobile handset that has a speaker. This is seen as a low-end technology for high-end gains. The major challenge in the project has been to train about two lakh health workers with the least possible cost involved. A 'Mobile Academy' was designed for this. From 2013, the projects will be implemented in all 38 districts of the state.

Result

Between May 2012 when Mobile Kunji was launched till March 2013, 21,32,420 minutes of Mobile Kunji content have been played by 89,171 unique users. More than 44,000 community health workers are already using it. Health workers have accessed over 1 lakh minutes of audio content. About two lakh health workers have been trained on the mobile application. The project is being implemented across all 38 districts in Bihar in the next phase.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'Mobile Kunji' by BBC Media Action has been implemented in 8 districts of Bihar. This project is aimed at imparting integrated knowledge, self-efficacy, and health practices to counter the growing demands of health sector. The project covers a wide spectrum of health issues. It has enhanced the interpersonal communication to improve the quality of home visits of frontline workers.
2. The project is being scaled up to other districts by 2015. Towards this, the State government has already drafted the programme layout for implementation in all districts from 2013.
3. The two key gaps identified were that the frontline workers did not receive any formal training on how to build strong communication with beneficiaries; and there was no material to aid the training.
4. For the project rather than scalability there should be more focus on sustainability and cost.
5. There should be resourcing from community for IVRS and there is a need for collaboration with different government schemes especially in health sector.

Case Study 3

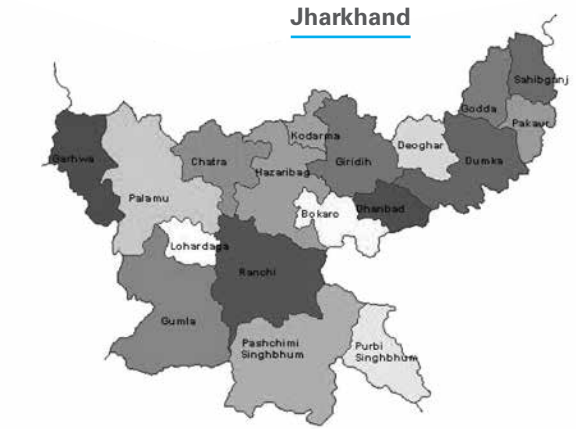
Project Name	CommCare
Organisation	Dimagi Health Solutions & NEEDS
Project Location	Jharkhand
Project since	2010
Project URL	www.needsngo.in

Description

CommCare is a job aid tool. This application contains mobile illustrations and audio messages covering need-toknow topics in antenatal care which an ASHA/ Sahiya can use to educated pregnant women in her village, regardless of their level of literacy. A client management interface provides the ASHA/ Sahiya with a list of her clients and the ability to review previously discussed topics, ensuring that nothing is missed. Real-time data submission to a central server allows close monitoring and supervision of the ASHA's / Sahiya's work.

CommCare begins with the illiterate user. It leverages multimedia capabilities of common phones to deliver educational information to anyone, regardless of their level of literacy or education. Audio messages can be recorded in any dialect and easily integrated into the existing application. Multimedia draws attention and is easily understood. Corresponding with loading and sharing of music and videos for entertainment via mobile phones is prevalent even in rural areas. CommCare follows this trend and uses mobile technology in a familiar and positively accepted way for normal mobile users.

The initiative is a case management solution for community health workers (CHWs) - for Jharkhand Sahiyya workers. Each Sahiyya is equipped with an inexpensive mobile phone running one a mobile based software that contains registration forms, checklists, danger sign monitoring, and educational prompts for pregnant women & women who have delivered or have neonatal babies. The software itself helps to manage enrolment, support, and tracking of all of the CHW's clients and their activities.



The project provides users with one button access to CommCare, allowing the ASHA / Sahiya access to health information in seconds. The low-literate user interface design requires a minimal amount of buttons to be pressed (in some cases only two buttons, one to play audio and one to move to the next question). Additional forms and features like data entry and client management are accessible to those ASHAs / Sahiyas who are more technically capable.

Result

100% pregnant women and neonatal babies in 2 blocks, Sarwan and Sonaraithadi blocks in Deogarh District in Jharkhand have been served by CommCare service. More than 440 ASHA workers have been trained and involved in the project.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'CommCare' with a mobile application helped to counter the problems of maternal deaths in Jharkhand. Maternal death rate is quite high in the area, This is caused by delay at home, transport, and at institutional level.

2. Challenge faced was to train the illiterate Asha workers to use mobile phones in order to send messages. The changes seen were early registration, increase in the level of nutrition, increase in use of mosquito nets and adhering to healthy practices.

3. The project has the potential of scalability. The application is available on basic handset and that they collaborate with agencies like Digital Empowerment Foundation (DEF) to create an android-based app as well.

4. Policy advocacy is required. The government should intervene at both state and national level in such programmes. More corporate agencies should be contacted with to provide low cost and subsidized handsets.

5. Collaboration with Universities for carrying out research on the outcome and creating procedures to replicate the idea is necessary.

Case Study 4

Project Name	HealthPhone
Organisation	The Mother and Child Health and Education Trust
Project Location	Maharashtra
Project since	2011
Project URL	http://motherchildtrust.org

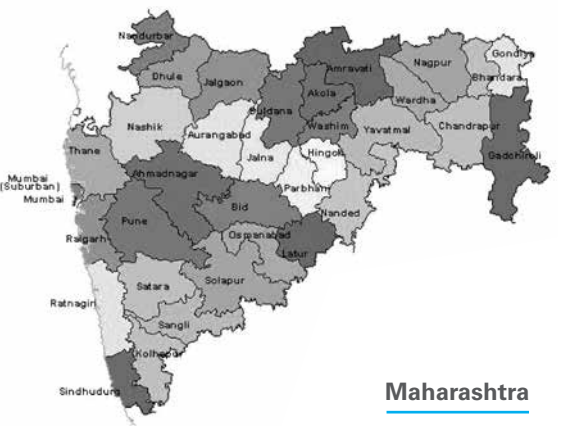
Description

Health Phone was launched by the Mother and Child Health and Education Trust, a not-for-profit initiative. It provides families with their own personal reference library and guide to better health practices. It is available in real time, right to those who need it, when they need it and when a health problem is about to strike, where they are.

HealthPhone uses communication processes to improve life chances for poor and vulnerable populations. It involves a mobile phone, with basic health information embedded on the phone; provide families in rural villages and slums with essential health information, in their hands, when they need it, in a language they understand and with visual information that works for those with low literacy levels.

HealthPhone's health and nutrition content is scripted on knowledge prepared jointly by UNICEF, WHO, UNESCO, UNFPA, UNDP, UNAIDS, WFP and The World Bank.

It addresses the main areas of concern; Timing Births, Safe Motherhood and New-born Health, Child Development and Early Learning, Breastfeeding, Nutrition and Growth, Immunization, Diarrhoea, Coughs Colds and more serious illnesses, hygiene, Malaria, HIV, Child Protection, Injury Prevention, and Emergencies (preparedness and response). This content is pre-loaded on popular low-cost models of mobile phones – no signal is required, nor cost and knowledge to download videos and other media. Users choose what and when to watch, wherever they happen to be.



Maharashtra

Result

In information dissemination, among beneficiary group / front workers, 1800 mothers, 60 frontline workers and 5000 children in schools and 2000 young people through frontline workers have been covered. In training and capacity building of frontline workers 60 workers have been engaged. In monitoring and tracking of progress 5 frontline

workers have been trained and engaged. The content has been already translated into 215 languages, over 15 million copies are already in circulation. Illiterate friendly video, audio and image files highlighting over 125 key health messages in English and 15 Indian languages have been issued as well.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'HealthPhone' is considered as an innovation forward. It provides families with their own personal reference library and guide to better health practices. It has provision for preloaded content on low-cost mobile phones and on the Cloud! This project is implemented in collaboration with Maharashtra Government through providing a chip or a micro SD card that is pre-loaded with information for Rs 200 only.

2. The HealthPhone project is a scalable model. Especially its audiovisual component is highly scalable. This model is horizontally replicable.

3. There are areas that require improvement like recording of data. Women intervention should be direct rather than mediated through frontline workers. There can be crowd sourcing. It can be customized for virtualization to make it portable on basic types of devices.

4. The content should be made mandatory for providers. There is need for subtitling in audio-visual content.

5. The challenge is that it requires huge capital investment in order to provide for handsets and the chip. Sustainability and cost management is a challenge.

Case Study 5

Project Name	mDiabetes
Organisation	Arogya World
Project Location	All India
Project since	2012
Project URL	http://www.arogyaworld.org/

Description

mDiabetes was launched by Arogya World in partnership with Nokia Life across India in January 2012. The objective of this initiative was to disseminate vital information about Type 2 Diabetes and what lifestyle changes should one make to prevent diabetes through alerts in 12 languages to 1 million consumers throughout India. Nokia phone users, who subscribed to Nokia Life services, were sent these carefully designed alerts which would be useful reminders for adults about healthy living as a way to prevent diabetes. Users receive content twice a week on their Nokia Phones. mDiabetes is an ongoing Clinton Global Initiative from Arogya World.

The diabetes awareness and prevention content has been developed with strong emphasis on science and behaviour change. These have been reviewed for cultural relevancy, technical accuracy, translated and transmitted to mobile phone consumers throughout India. The programme effectiveness in increasing the adoption of healthy lifestyles, known to prevent diabetes and is being periodically measured. The user subscribes to the service by browsing the Health menu on Nokia Life or opting in to a service offer alert that they have received.

mDiabetes is considered as the largest mobile-based programme in an emerging market till-date for diabetes prevention. The uniqueness of this programme also lies in the ecosystem of partners built for the initiative. This effort is new and is one of the first nationwide diabetes education mHealth initiatives in a large developing country and can provide much data of interest to the public health world. The effort includes several public-private partnerships in which every partner has a valuable role.

- Nokia provides an innovative device and technical platform - Nokia Life - to reach consumers throughout India.
- Arogya World's Behavior Change Task Force of medical, health promotion and consumer experts from the US, UK and India have reviewed the content and shaped evaluation.

India

- Emory University has provided behavior change and diabetes expertise for content development.

- The programme market research partner is Ipsos (formerly Synovate).

- Private sector partners Biocon, Lifescan Inc., and Aetna are providing support for various aspects of this initiative.

Result

The mDiabetes programme is already operating at a national scale since Jan 9, 2012 and 1 million consumers have received the diabetes content till date, so the sustainability is high. The content of the application is available in English and 11 other Indian languages.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'Nokia-Arogyam mDiabetes' is creates awareness about diabetes. The content of the application aims at creating awareness among people about diabetes and motivating them to follow better health practices.

2. The sustainability of the project is high because of the relevance of the subject it focuses on and the mobility to reach out to citizens.

3. The project is inherently scalable due to low cost model and simplicity. Further the subject it addresses has wider need and acceptance amongst potential user segments.

4. The content plan needs to be updated. There should be addition of interactive voice component along with a mechanism to record the performance of every user.

5. There should be an incorporation of other array of lifestyle diseases as well as linkages with local medical practitioners.

Case Study 6

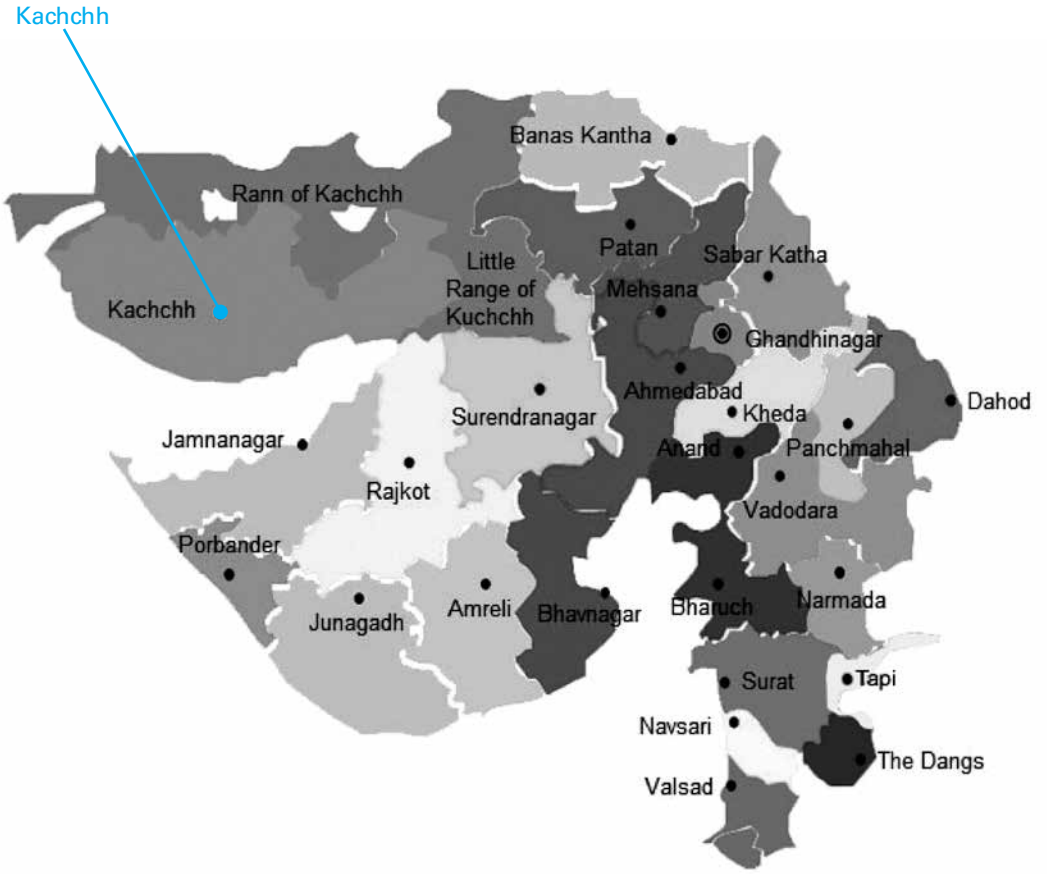
Project Name	'Hello Sakhi'
Organisation	Kutch Mahila Vikas Sangathan
Project Location	Gujarat
Project since	2010
Project URL	www.kmvs.in

Description:

The project "Hello Sakhi" (Hello Friend) is a helpline, located in a women police station in Bhuj city of Kutch district in Gujarat. The helpline has been initiated as a joint effort between Kutch Mahila Vikas Sangathan (KMVS) and Kutch police department, conceived and launched in the year 2010.

The project aims at responding directly to the victims at 3 levels:

1. Listening to their problems and try to provide counselling



Gujarat

2. Refer them to nearest counselling centre run by KMVS for meeting with counsellors

3. Advise the callers on legal matters surrounding their issues

4. Facilitate the callers for filing FIRs, court cases and further legal action.

The project uses mobile applications like portals, voice SMSes, and conference facilities to connect with the callers to send information and receive feedbacks.

This is a first time initiative, where the helpline goes beyond conventional helplines – which usually counsels the callers "Hello Sakhi" provides immediate services to the police stations and counselling centres spread across the district. The helpline has been launched for more than 1.5 years, back and has transformed into a unique platform that connects women members instantly to the legal awareness and education. The project aims at addressing important issues surrounding life of women- awareness on their entitlement and educating them about their human rights.

Result

The helpline has so far covered 10 blocks and 940 villages of Kutch district of Gujarat. It is spread among more than 11,000 women members of KMVS and other women of entire region. Since the launch in 2010, more than 800 women have availed help directly through calling and another 300 women have visited the counselling centres through helpline.

Project Strength, Weakness, Improvisation & Scalability

1. The project 'Hello Sakhi' is a helpline that aims to provide legal education to women who are victims to physical, mental stress and are facing abusive conditions. The helpline, with a mobile dialing facility, is situated at police station, which in turn connects the victims to counselors spread across the district. This ensures immediate counseling, help and rehabilitation efforts towards the victims.

2. The behavioural change impacted is that it has made the police more accountable as the number of cases registered towards violence against women has increased 3 times in only one year.

3. The project is a scalable model, as it does not involve any high-end technology. The current scenario of violence against women in the country can be articulated to make the model widespread. The project owner ought to collaborate with other women organization.

4. The project is very economical as the fixed cost for one-time training is Rs. 35,000 and other recurring cost is Rs.65000 for one district. There should be partnership with the government departments especially Department of Women & Child Development.

5. There is a requirement to look into the need for making the mobile number of Hello Sakhi toll-free to solicit more demand and participation. Project sustainability aspect cannot be overlooked and is an ongoing challenge. Addition of service component can be looked into.

C. MOBILES FOR PROGRAMME MONITORING / TRACKING

Mobile-based technology, and its associated benefits of real-time data sharing and data analysis including SMS based system have enabled organisations and agencies to use monitoring and evaluation (M&E) data for better project implementation, output and outcomes[4]. There are instances wherein mobile based monitoring and data collection tools have helped to manage projects better with pre-loading of data, skips, validations and locations (Graphic Information Systems – GIS), media (photos)[5].

The mobile based data collection service providers have rolled out software and systems to support M&E instruments. This has benefitted in better control of field staff in M&E, access to the surveys and data and access of collected-data in realtime. The choice of using a normal phone or using smart mobile devices has allowed for Mobile Apps with 'form-based interfaces' for data entry, location (GPS) tracking, media (photos) and biometric data capture[6]. It is found that data collected through this process helps in better audit control of programmes due to location and visual evidence electronically provided by mobiles.

Mobile-based monitoring solutions have helped to collecting data and feedback from beneficiaries directly. Having access to real time data and inputs from mobiles helps in better understanding of project impact on ground real time instead of relying on timely reports. Also, by requesting 'anytime and anywhere' access to project monitoring data, one can introduce a higher degree of transparency and accountability, at each level[7]. For citizen engagement and facilitating participation of the beneficiaries, provisions like integration of toll-free IVRS (Voice) or SMS services are being integrated. Such value added elements certainly calls for technically qualified workers / staff.

A review of select case studies of mobile applications in project monitoring & tracking as described below brings out key essential areas for consideration and follow ups:

[4] Mobile based technology for monitoring and evaluation, http://www.theclearinitiative.org/Mobile-Based%20Technology.pdf (July 8, 2013)
[5] Ibid.,
[6] Ibid.,
[7] Ibid.,

Case Study 1

Project Name	IVRS – Daily Monitoring System of Mid-Day Meal Scheme
Organisation	Mid-Day Meal Authority, Uttar Pradesh
Project Location	Uttar Pradesh
Project since	2010
Project URL	http://www.upmdm.in/

Description

The IVRS (Interactive Voice Response System) based Daily Monitoring System (DMS) of the Mid-Day Meal Scheme is an initiative of the Mid-Day Meal Authority of Government of Uttar Pradesh. The IVRS based DMS system envisages an automated Management Information System (MIS) where data of children availing mid-day meal would be available on daily basis. In view of the developments in the field of internet based technologies and onrush of mobile telephony in the rural area, the system is conceived on the basis of an interface between computer and mobile phone.

There are two major main challenges in getting real time data from almost 1.5 lac schools of the State firstly: getting data through 'pull' method and second, facilitating teachers for giving data without spending a single penny so that reimbursement/accounting/auditing exercise is not required. The system which came handy, in view of above, was IVRS based one. It gives school wise information access on real time basis through an outbound dialling solution wherein calls are placed to all the teachers from a virtual number using Primary Rate Interface (PRI) lines. The system generated compilation of the data of number of children who availed Mid-Day Meal (MDM) would be key in by the teachers and will be displayed on web the same day. Moreover, transmission of real time data does not leave scope for data manipulation/distortion and availability of exception reports would improve efficacy and transparency of the system.

Activities like convincing the teachers about the benefits of the System and making them so aware as to own the System, development of the data-base and purging it, devising mechanism of call system and call escalation, online verification of the mobile numbers of almost 4.5 lac teachers, devising mechanism for updating of database in case of change of teachers' place of posting or mobile numbers, establishing call centre for personalized attention to teachers' queries, etc. have been major landmarks of the system.

Result

The major objective was to make the DMS live since academic year beginning in July 05, 2010. The project was assigned in March 2010 and since then vital activities were undertaken - codification of about 1.5 lac schools, trainers-training, preparation, design and printing of about 6,00,000 operational manuals and its distribution before onsite demo, onsite/on-line demo/teachers' training in about 820 blocks and town areas of the State, collection of teachers' personal phone numbers (as neither phones nor SIM cards have been given by the Government to the teachers).

Project Strength, Weakness, Improvisation & Scalability

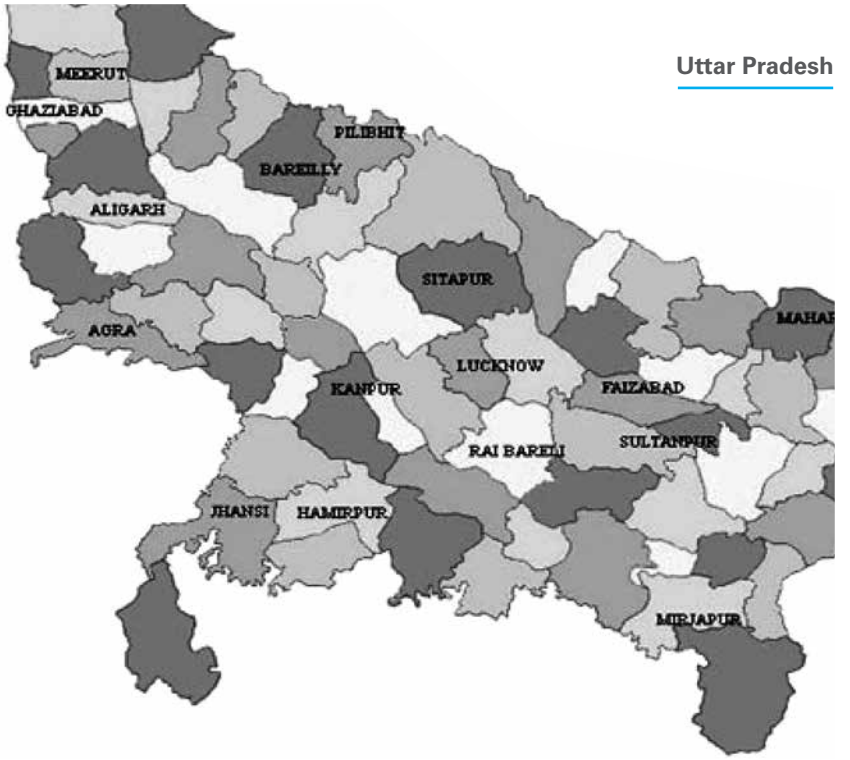
1. The project 'IVRS based Daily Monitoring System (DMS) of Mid-day Meal in Schools' in uses an automated mobilebased MIS where data of children availing mid-day meal is made available on a daily basis. This is to check malpractices and ensure proper implementation for retention of school children as well as check dropouts.

2. The project has been implemented in entire State of Uttar Pradesh covering all 75 districts, covering approximately 1.5 lac schools which reveals the strength of project design, implementation and strength.

3. The key to the success of the Mid- Day Meal project is its simplicity. Nothing is at stake due to low investment. The costing has been managed well. Hence the scalability is a wider possibility.

4. However, one area of improvisation is that there is lot of data generated in the project, which needs to be used in further project sustenance and strengthening and addressing gaps in the mid-day meal provisions.

5. The project has also called for caution as it was one-of-a kind and also first of its kind with no previous models to bank on.



Uttar Pradesh

Case Study 2

Project Name	E-Mamta – Mother & Child Tracking System (MCTS)
Organisation	State Rural Health Mission, Department of Health & FW
Project Location	Gujarat
Project since	2010
Project URL	http://e-mamta.gujarat.gov.in/

Description

Reduction of Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR) are important public health challenges. Tracking of pregnant mothers and children has been recognized as a priority area for providing effective Healthcare services to this group. This in turn can have a large impact on reducing IMR and MMR. As a major initiative in this regard, State Rural Health Mission, Gujarat, introduced a mother and child name based tracking information management system called 'E-Mamta'. E Mamta mother & child tracking web based application (http://e-mamta.gujarat. gov.in) is uniquely designed management tool being executed in Govt. health facilities across Gujarat to accommodate for gaps in ensuring comprehensive maternal and child health services in rural as well urban areas.

Rural health challenges such as high dropout rates, high left out rates, quality of services, inability to track beneficiary pregnant women and children leading to high MMR and IMR are targeted through the E-Mamta. Tracking of pregnant woman and children was made possible with 8 search categories (location, name, ration card number, mobile number, health id, family id, BPL, RSBY no., child date of birth). This process thus gives each Sub centre, Primary Health centre, Post-partum units correct denominator and an accurate list of left outs and drop outs. Daily around 100 auto-generated SMS are sent to pregnant woman and families of children to remind for due services. SMS facility for intradepartmental coordination through E-Mamta is such that the Chief district medical officer, block health officer and medical officer can communicate through SMS service to the field workers. Developed for quick communication in times of disasters and medical emergencies in state, a record 16,000 SMS were delivered to all nurses and doctors of Gujarat within minutes of infant deaths reported due to measles vaccine.

Customized SMS for each beneficiary according to their due dates of services is a new paradigm. Bilingual (Guajarati and English) SMS on uptake of ANC services, anaemia services, immunization, delivery, family planning, PNC are sent to target beneficiary or their families/relatives in each group before their due dates. "Apni Matru ane bal kalyan sewao mate najikna arogya kendra ni mulakat levi. Mulakat lidhel hoy to aabhar". The above regional SMS meaning –'kindly uptake ANC service from your nearest PHC on Mamta divas' reaches each pregnant women of Gujarat having a mobile phone before her due date of antenatal check up till she takes up the service.

E-Mamta is accessed through user id and password for in-department employees. Conceptualized by the State Rural Health Mission of the Health and Family Welfare Department of Gujarat, in January 2010, the programme was

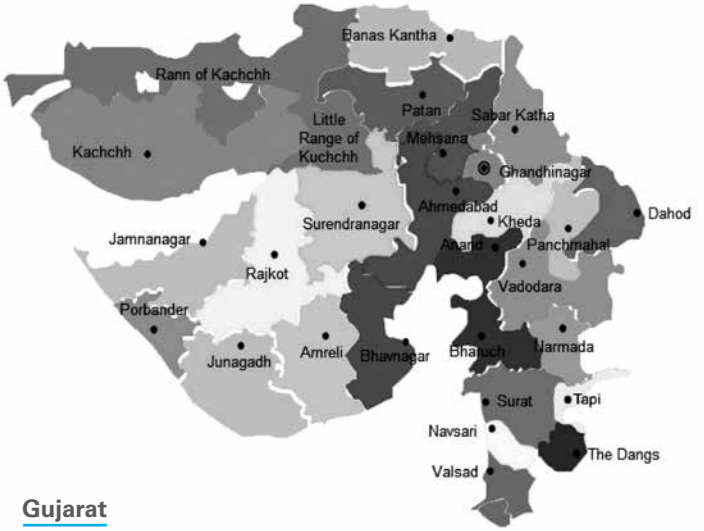
developed through National Informatics Centre (NIC) Gujarat.

Result

The project 'E-Mamta: Mother & Child Tracking System' has deployed mobile tools as a platform to monitor health services delivery to mother and child in all 26 districts of Gujarat, all 172 health blocks comprising of 1147 Primary Health Centres, 318 Community Health centres, 26 Sub District Hospitals and 26 District Hospitals. The application so far has stored family health records of more than 95 lakh families and health details of 4.5 Crore people (80%) of Gujarat's Population. E-mamta has registered 21,95,028 pregnant women and its total families reached out is 98,42,467, total number of children registered is 7,25,279 for MCH services.

Project Strength, Weakness, Improvisation & Scalability

1. The uniqueness of the project E-Mamta is that it has covered nearly 4 crore population in Gujarat.
2. There are areas that need improvisation. The traditional way of collecting data amounts to almost 30% data entry gap. Real time data collection method should be used. In Urban sector, government intervention is weak for data collection. There is no scope of interactive platform.
3. The National Informatics Centre (NIC) Gujarat can be engaged for scaling up the internal features like making the project more interactive with both web and mobile. There should be a planning to reduce field presence and increase service reach. Participation is missing and the other states, which emulated the model, have taken it to next level.



Gujarat

Case Study 3

Project Name	Nano Ganesh
Organisation	Ossian Agro Automation Pvt. Ltd.
Project Location	Maharashtra
Project since	2008
Project URL	http://www.nanoganesh.com/

Description:

Nano Ganesh, launched in 2008, is a mobile-based wireless remote control and alarm system for the water pumps, appropriately designed taking into consideration the unfavourable conditions in the irrigation zone. It seeks to provide appropriate wireless automation for efficient operations of irrigation systems.

The need of Nano-Ganesh arouses from the routine problems faced by the farmers or irrigation operators in operating the pumps viz. fluctuations in power supply, difficult terrain, fear of animals on the way to pumps, hazardous locations of the pumps along rivers or water storage beds, shock hazards, rains etc. Also, in the rural water supply schemes, there is no proper coordination in the water tank and water source. An irrigation operator needs to be physically present frequently for switching on/off and monitoring the water levels of the tank.

The project has multiple work flow and different systems used individually or in combination:

1. Remote control for the water pumps: Nano Ganesh (Pumps): A farmer or an irrigation operator can monitor and check availability of power at the pump, can switch the pump on/off, and acknowledge the on/off status of water pump from any place.

2. Wireless Alarm of tank water levels on the mobile phones: Nano Ganesh (Alarm): A wireless alarm of water level is being used by an irrigation operator where a message of "Water Tank Full" or "Water Tank Empty" is displayed on his mobile phone when he is busy at his work. This helps him instantly control the pumps as soon as the tanks are full and avoid a huge wastage of water and electricity.

Nano Ganesh is specially designed to be robust to perform efficiently in the rural atmosphere where problems like voltage fluctuations, shock hazards, open wiring and marshy terrain are common. To make this system more accessible to the farmer fraternity, Ossian Agro deploys basic phones. All that Nano Ganesh needs is a low-cost wireless connectivity with voice transmission and Dual Tone Multi Frequency (DTMF) transmission available in most handsets.

Using Nano Ganesh connected to the existing starter along with a low cost mobile phone,

- A farmer can switch on / off his pump with a mobile or landline phone from anywhere.
- He can check for availability of the power supply near the pump end.
- He can acknowledge the on / off status of the water pump.
- An operator can receive an sms alarm on his mobile phone as soon as a water tank is full or empty.

Result

So far, 10,000 remote controllers are in use and have improved the livelihoods of 40,000 people with 1,000 rural technicians getting an additional source of income; 180,000 m3 of water, 1080 MWh of electricity, 180 m3 of fuel, and 18 m3 of soil was saved in the year 2010 by installing 2,000 Nano Ganesh sets; $720,000 in saved labour costs in the year.

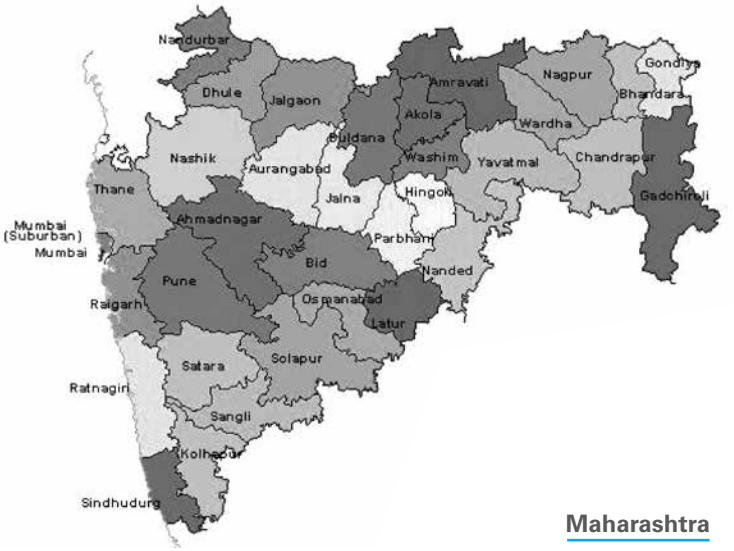
Project Strength, Weakness, Improvisation & Scalability

1. For the millions of inefficiently operated irrigation systems in agriculture and drinking water schemes, Nano Ganesh seeks to provide a timely control and monitoring of pumps via a mobile-based remote controller which is low cost, simple, easy to install and can be repaired by illiterate villagers. It is built for the local needs in rural areas with no user constraints such as age, language, education, technical experience or gender. The project is environmental friendly and safe.

2. In order to scale up the project requires advocacy and education programme. Also it needs sales and marketing to expand the social business. Government intervention is required to draw investment and policy change.

3. It needs to be researched and analysed as to why rural investments are missing in such mobile-based programmes. External research is required to know why the project is not being scaled up.

4. The cost aspect needs to be monitored: money spent, cost of model, cost of creation and recurring cost. This is surely to help in optimum project design and implementation with judicious resource allocation.



Maharashtra

3 SUMMING UP

The overview of case studies above provides a diverse experience and perspective of using the space of mobile for social and behavioural needs in varied contexts. The challenge is to scale up these innovations and success stories for greater social and economic impacts. The challenge going forward is to ensure that mobile practices and innovations benefit all Indians, including the poor and vulnerable and those living in inaccessible areas.

As it has been observed, there remain vital challenges towards sustaining the pilots and scaling up the same. Issues in improvisation of mobile projects included technology and platform feasibility, real time data collection, database management and data usage for course correction, local language support, two way communications and response system, community ownership and engagement, IVRS integration, project customisation and others.

Issues in scalability included collaborating with diverse set of agencies, business model with low investment, collaboration with government nodal agencies, flexible source of funding, wider advocacy and education programmes, effective sales and marketing, and project cost design and management. The sustainability of project is the overall concern in the medium and long term which requires policy support like priority grants and subsidises and investment in priority areas like rural based projects.

It is strongly felt that a robust and working multi-stakeholder partnership among parties will help to identify and replicate pilots with improvisation and better operation and sustainability model. With cautious approach and learning from the pilots and limitations therein, the scope to scale up the pilots is wide with higher success ratio. At policy and programme support level the ideas of – corpus fund to support civil society agencies on mobile for SBC projects, a consortium of mobile for SBCs, an incubation platform to support innovations must be considered on priority basis.

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