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# Mobile Phones:
# A TOOL FOR SOCIAL & Behavioural Change

**A White Paper**

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# A TOOL FOR SOCIAL & Behavioural Change



**This paper has been written by Syed S. Kazi & Ritu Srivastava and reviewed by Osama Manzar, Alka Malhotra & Rachana Sharma**

Contact us
Alka Malhotra
amalhotra@unicef.org

Osama Manzar
*osama@defindia.net*

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Digital Empowerment Foundation
House No. 44, 3rd Floor (Next to Naraina IIT Academy)
Kalu Sarai, (Near IIT Flyover)
New Delhi – 110016
Tel: 91-11-26532786 / Fax: 91-11-26532787
URL: www.defindia.net

# Content

# Acknowledgement

With more than 850 million subscriptions and the mobile density at 70 per 100, the humble mobile has emerged as the single most powerful technology enabler and equalizer tool in addressing traditional information and communication bottlenecks in India. With this, the connectivity and access landscape has been redefined with significant impact in social and economic processes. If the increasing mobile network, access and services have transformed the way we transact, trade and exchange in-commerce and business, the mobile has also turned into a "social object" raising social and behavioural change trends among underserved groups like youth, women, scheduled castes, tribals and others including below poverty line population.

In the process, mobile has increased convenience, better access to information and streamlined access to social and economic entitlements. The increasing mobile density has provided an unprecedented opportunity to bring desired change impact in critical areas of education, health, and livelihood and disaster management through specific methods in *information dissemination, training and interpersonal communication, and monitoring and tracking of programmes.*

This research titled, *"Mobile Phones: A Tool for Social & Behavioural Change,"* is developed by Digital Empowerment Foundation with the support of UNICEF in India, is a work in holistic approach 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 through desired social and behavioural changes (SBC). UNICEF and DEF also conducted a two-day multi-stakeholder consultation on "Use of Mobile Phones for Social & Behaviour Change on May 9-10, 2013) in New Delhi, where 12 relevant cases were brought in and all aspects of SBC discussed, including the draft research report of this final report in your hand. With the recommendation of consultation, we have finally divided the entire research report into three parts, one with case studies discussion, second with complete compendium that includes full research paper, cases and the excerpts from the consultation; and the third part is the executive summary of the full report.

The undersigned seeks to acknowledge the wholehearted support of UNICEF in India to undertake this assignment on mobiles for SBC and accomplish key tasks in given time. My sincere thanks and gratitude to the UNICEF Team in India led by Paolo Mefalopulos and supported by invaluable colleagues including Alka Malhotra, and Rachana Sharma in completing the research compendium. The support of UNICEF station team in Madhya Pradesh, Bihar, Jharkhand and Andhra Pradesh are sincerely acknowledged for their valuable contribution.

Sincere acknowledgement goes to the entire 12 case study presenters during consultation from different parts of India for sharing valuable mobile for SBC experiences and thereby enriching the consultation process and outcome. Thanks and gratitude to the distinguished speakers, delegates and attendees whose valuable participation added the much required value addition to this research paper.

At DEF, I sincerely acknowledge the valuable support and contribution of the core team in Ritu Shrivastava, Chitra Chauhan, and Syed S. Kazi in completing the consultation and research with due diligence and sincerity.

Readers kindly note that the outcome of the consultation is shared in 3 documents – A White Paper, A Working Paper and A Case Studies Review Paper, all pertaining to wider 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.

Wish you a happy reading!

With sincere regards

Osama Manzar

New Delhi, 2013

# Introduction

India has more than 850 million mobile subscriptions. This is up from 300 million in 2002 and it is expected to reach 1.35 billion subscribers by 2016 [1]. The mobile penetration rate[2] is 51 % and there is room for further growth. The reach of mobiles has been almost universal and inclusive covering the BoP segment as well. The wave of liberalisation and privatization of the telecom sector since 1990s has transformed the mobile communication scenario. Competition among mobile operators has resulted in the rapid extension of mobile networks, falling prices of services and mobile devices, more of innovative services and overall access and connectivity expansion. The social and development impact has seen transformation. There is rising demand for communication network, access and services, especially in rural India. It is estimated that by 2015, more than 90% of the total population will come under the "coverage gap". This will enhance services and access networks including demand for 2G, 3 G services and beyond. Common themes of focus among stakeholders include network extension into rural areas, network upgrading, innovative applications, content, and services, alongside convergence. The intra and interdepartmental focus under the National Mobile Governance Framework is expected to spur service delivery. The onus has shifted to public agencies like Universal Service Obligation Fund (USOF) to step up mobile networks and coverage.

Rising mobile reach has a new meaning in social empowerment, in social and behavioural changes through digital inclusion. It has raised the social position of underserved groups and population like women. Mobile-based initiatives by the government, bilateral agencies, private sector players, and the civil society have provided local solutions in local context and problem areas. With this, the social space of mobile in social and behavioural change has gained ground. A review of 12 practices for this paper indicates that the mobiles have emerged as effective mechanism to derive project impacts in – information dissemination, training of frontline workers and interpersonal communication, and project monitoring / tracking. Yet, these pilot projects pose the challenges in improvisation and scaling up. Other challenges include social and behavioural adjustment with age old cul-

*[1] India to have 1.35 billion mobile subscriber connections in 2016, http://www.reuters.com/article/2012/09/11/idUS178164+11-Sep-2012+BW20120911, (July 10, 2013)*
*[1] Number of active mobile phone numbers within a specific population.*

tural practices, supply overtaking the demand curve for services. There is required policy support in grant and subsidies, and investment in priority areas like rural based projects. Collaborative support is sought in low cost devices and content, research and action. Their is need and relevance to consider mobile tool as an essential utility device as well as considering mobile based services as utility driven. The need for a centralized corpus fund to support mobile projects by the NGOs / CSOs must be explored.

The white paper presents the key areas of emphasis in the growing mobile for development space in India especially how mobiles are contributing to social and behavioural changes, the limitations as well as the scope to expand the social space with rising mobile density. Substance of the paper has been derived from research and field inputs as well as from two days of consultation process. The paper is hoped to emerge as a knowledge guide for stakeholders as to why and how mobiles find increasing presence and relevance to support development efforts.

# 2. Mobile Status Overview: Reach & Access

India is an emerging 'mobile' country. The country has the second-largest mobile phone user in the world with nearly 900 million subscriptions (see Table 1). In 2011 alone, 142 million mobile-cellular subscriptions were added in India, twice as many as in the whole of Africa, and more than in the Arab States, Commonwealth of Independent States (CIS) and Europe put together[3]. Total mobile subscription stood at 862 million as on 31st January, 2013[4]. The natural advantage of geography (size) and population has contributed to this emergence. The total mobile penetration in India is expected to increase from 51 per cent in 2012 to 72 per cent by the end of 2016[5].

### Table 1: Highlights on Telecom Subscription Data as on 31st January 2013

| PARTICULARS | WIRELESS | WIRELINE | TOTAL Wireless + Wireline |
|---|---|---|---|
| Total Subscribers (Millions) | 862.62 | 30.52 | 893.15 |
| Total Net Monthly Additions (Millions) | -2.10 | -0.27 | -2.36 |
| Monthly Growth (%) | -0.24% | -0.86% | -0.26% |
| Urban Subscribers (Millions) | 528.88 | 23.66 | 552.55 |
| Urban Subscribers Net Monthly Additions (Millions) | -4.24 | -0.17 | -4.41 |
| Monthly Growth (%) | -0.80% | -0.73% | -0.79% |
| Rural Subscribers (Millions) | 333.74 | 6.86 | 340.60 |
| Rural Subscribers Net Monthly Additions (Millions) | 2.14 | -0.09 | 2.05 |
| Monthly Growth (%) | 0.65% | -1.33% | 0.61% |
| Overall Teledensity* | 70.57 | 2.50 | 73.07 |
| Urban Teledensity* | 142.10 | 6.36 | 148.46 |
| Rural Teledensity* | 39.26 | 0.81 | 40.07 |
| Share of Urban Subscribers | 61.31% | 77.54% | 61.87% |
| Share of Rural Subscribers | 38.69% | 22.46% | 38.13% |

*Source: TRAI*

[3]*Key statistical highlights: ITU data release June 2012, http://www.itu.int/ITUD/ict/statistics/material/pdf/ 2011%20 Statistical%20highlights_June_2012.pdf*
[4]*Highlights on Telecom Subscription Data as on 31st January 2013 , http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/PR-TSD-Jan2013.pdf*
[5]*http://www.cxotoday.com/story/south-asia-to-witness-massive-mobile-broadband-growth/*

While almost half of all urban Indians are mobile, only 1 in 10 rural Indians are mobile[6]. The 25-35 years age group is the single largest mobile user group. However, 19-24 years ones show the highest 'penetration' as well as the highest 'propensity' to own mobile phones. Only 1 in 5 mobile Indian is a woman. While 1 in 3 Indian men are mobile, only 1 in 10 Indian women are mobile. The North zone is the single largest mobile region, though mobile penetration is highest in East zone. Students form the largest occupational group of mobile users, followed by self-employed. 1 in 5 uses internet on mobile (WAP/GPRS/EDGE). Over half of all 'mobile internet users' go online daily. In majority there is 'male' skew in the user base. Half of the cellular operators have relatively more 'mature' user profiles in age. Half of the operators have relatively higher proportion of their users coming from smaller 'tier 4' districts. The rest half have relatively more coming from biggest 'tier 1' districts.

The mobile (wireless) tele-density has seen an increasing trend in recent times. The overall wireless Tele-density in India as of January 2013 is 70.5 [7](TRAI). Rural Tele-density is at 39.26 as of January, 2013 (TRAI) while the urban density stood at 142.10. As of January 2013, the rural subscribers' base grew by 6.64 million with monthly growth rate of 1.99% [8]. The total rural subscribers' base stood at 333.74 million. During the same period, the urban subscribers base grew at (- 4.24 Millions) with monthly growth at (- 0.80%). Total mobile urban subscribers stood at 528.88 million. The overall share of urban mobile subscribers to the total mobile subscription stood at 61.31%, while the share of rural subscribers 38.69% as in January 2013. As in 2011, there were 225 million subscribers of mobile among women, a jump of 40% from 2009.

The mobile market has been increasing at a rapid pace reflecting surge in demand at a geometrical proportion. While this rise reflects the growing customer base, the factors that led to this expansion has played its contributory role. The mobile tariffs in India are among the lowest in the world. A new mobile connection can be activated with a monthly commitment of 15 cents only! Average price of mobile device in India among users who access Internet using mobile devices is Rs. 8,250. The increase in Mobile Value Added Services (MVAS) has contributed in increasing the mobile base. The changing dynamics of mobiles including features that are user friendly have led to surge in demand for the hand phone and services.

## 2.1. What it indicates

The mobile 'culture' in India has arrived. With rising mobile subscribers and users of mobiles, India provides a wider scope to expand connectivity, access, usage and impact. With substantive number of operators, service providers, the mobile space today more competitive and is benefiting the end users. With continuous innovative subscription plan, service innovations, the density and inclusivity of mobile users is

[6]*Mobile Internet in India, 2012, Internet & Mobile Association of India (IAMAI), New Delhi*
[7]*TRAI*
[8]*Highlights on Telecom Subscription Data as on 31st January 2013, TRAI*

expanding. The promising nature of mobiles to provide innovative services in mEducation, mHealth and mFinance is expected to spur this demand curve. The exploding numbers of mobiles provides stakeholders in India an unprecedented opportunity to intervene and serve the social and behavioural space having medium and long term impact in development and governance.

# 3. Mobile as a tool for SBC & Stakeholders Engagement: An Overview of Select Case Practices

## 3.1. Expanding Mobile Social Space

Increasingly the mobile phone has moved beyond being a mere technical device to becoming a key "social object" in every aspect of daily life in India. 'Always-on' connectivity and mobility is defining not only the technological landscape, but equally the socio-political-economic processes. With the spread of "anywhere, anytime" communication infrastructures, mobile have increased convenience, better access to information and streamlined access to social and economic entitlements. The expanded mobile networks have triggered a new sense of social identity for various groups of people, e.g. youth and women.

Mobile phones have flattened traditional hierarchical structures, including the information architecture, and enhanced the accessibility to social and political institutions. Having access to mobile platform have increased relevance in improved social and economic living conditions especially in rural areas by improving access to family, education, health and financial services and development of agricultural and non-agricultural economic activity. Small holder farmers in Uttar Pradesh and Haryana have been empowered financially through the timely use of mobile phones for providing information and advice on agriculture. Women victims in Kutch district of Gujarat are getting legal aid services to deal with physical, mental stress and abusive situations through a helpline 'Hello Sakhi' that provisions usage of mobile to enter grievance and receive legal guidance.

## 3.2. The Mobile Thrust

Rapid expansion in deployment, penetration and subscribers for mobiles and absence of other sustainable information and communication technology media have prompted the public, private and the social sector to exploit mobile communication in India. There are limited efforts of the government at two levels – Central and State levels. At central level, there are few pilot initiatives. The Mother and Child Tracking System (MCTS) programme launched by the Ministry of Health and Family Welfare in 2010 is one such specific intervention leveraging Information Technology for ensuring delivery of full spectrum of healthcare and immunization services to pregnant women and children up to 5 years of age. At specific level, few States in India has come up with innovative programmes. The Transparent Targeted Public Distribution System (TTPDS) initiative launched by the Department of Food and Civil Supplies in Uttar Pradesh in 2009-10

have provisions for mobile phone usage to deliver information services pertaining to food grains delivery via SMS services.

The m-Governance framework under National e-Governance Plan (NeGP) launched by Department of Electronics & IT (Ministry of Communications & IT) in 2012 intends to introduce provision for access of public services through mobiles. It provisions that the websites of all government departments and agencies be made mobile compliant. It has been proposed to integrate at least 125 Government Departments with Mobile Services Delivery Gateway (MSDG) for deployment and delivery of mobile-based services by end of FY 2012-13. With the government's e-governance plans making little headway, the shift towards mobile governance (m-governance) is expected to deliver results in view of larger penetration of mobiles across the country.

The role of the mobile operators, service providers and software developers has seen an increasing presence in India over the past one-decade and more. One singular role of the cellular operators in India has been its contribution to extend the network of mobile reach in all 640 districts in India reaching out to more than 800 million subscribers. Helped by rising penetration of handsets, India's Mobile Value Added Solution (MVAS) service providers have expanded the innovation basket to provide services catering to high and low income user segments. Equipment manufacturers are innovating with lost cost smartphones and mobile devices to drive penetration and demand for services in urban and rural India. The focus has shifted to mEducation, mEntertainment, mFinance and mHealth application areas. The contribution and role of the mobile software developers is seen towards specialisations in developing solutions in the areas including public health, education, environment, disaster management and agriculture. Of late, the social sector has seen increasing use of mobiles to deliver solutions and service.

## 3.3. Exploring Mobile as a tool for Social & Behavioural Change

Mobiles have been explored as a medium, tool, and platform in project implementation and outcome. The effective usage of mobiles in India has found specialisations in key intervention methods. Stakeholders have adopted these multiple ways either in single or multiple modes of interventions in chosen areas of experimentation – education, health, gender empowerment, and disaster management. The priority measures included – information dissemination, monitoring & tracking, training, and interpersonal communication purposes (see figure1).

## 3.4. Mobiles for SBC: Case Highlights

Mobile innovations are delivering home-grown solutions worldwide and have shown promising results in India. The experiments on ground is exploring mobile as a tool, platform, carrier of information and content for dissemination, training of frontline workers, project monitoring and tracking and interpersonal communication.

Figure: 1: Mobiles for SBC usage


### 3.4.1. Mobiles for Information Dissemination

*There are experiments on ground on use of mobile phones as a tool, platform, carrier of information and content for dissemination in areas like education, health and environmentally sustainability.*

1. The project 'Let us go to School' as is implemented and run in Puri district of Odisha by Radio Namaskar, uses mobile phones for dissemination of information to and fro in regard to school drop outs and bringing them back to school. The project involves the participation of the community to a great extent especially the listening community of Radio Namaskar Community Radio.

2. The project 'MHSM Toolkit', implemented in Kanpur District of Uttar Pradesh, by Datamation Foundation, circulate vital information regarding reproductive and child health related information services directly to the pregnant and lactating women through mobile phones, using localized SMS in Hindi.

3. The project 'Kisan Sanchar' in Haryana by Sristi Gyan Kendra, brings agri-extension information services to farmers through mobile phones for better agriculture practices and also environment friendly impact through organic practices.

### 3.4.2. Mobiles for Training of Frontline Workers & Interpersonal Communication

*There is newfound application trend in deploying mobile phones for training purpose. Mobiles are used, as instances*

*highlight, to train workers who are in front end services delivery in direct correspondence with citizen beneficiaries. The effective usages of mobiles have been visible for interpersonal communication purposes. This has been more relevant in area of health especially.*

1. The project 'BridgeIT' implemented in Tamil Nadu since 2011 seeks to bridge the gap between teachers and technology and improve teaching and learning practices through mobiles loaded with content and resources and make it suitable for 21st century.

2. The project 'Mobile Kunji' by BBC Media Action has been implemented in 8 districts of Bihar. This project through mobile pack cards is aimed at imparting integrated knowledge, self-efficacy, and health practices to citizens on preventive and curative health behaviours and thus counter the growing demands in health sector. It has enhanced the interpersonal communication to improve the quality of home visits of frontline workers.

3. The project 'CommCare' in Jharkhand came up with a mobile application to counter the problems of maternal deaths in Jharkhand, where maternal death rate is quite high due to lack of critical information resources 'anytime, anywhere' including increase in the level of nutrition, increase in use of mosquito nets and follow healthy practices.

4. The project 'HealthPhone' provides families with their own personal reference library and guide to better health practices 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, and as they are. It has provision for preloaded content on low-cost mobile phones and on the Cloud!

5. The project 'Nokia-Arogyam mDiabetes' is about creating awareness about diabetes. The content of the application is towards creating awareness among people towards the disease of diabetes and motivating them to follow better health practices. The content of the application is available in English and 11 other Indian languages.

6. The project 'Hello Sakhi' in Gujarat is a helpline that aims to provide legal education to women who are victims to physical, mental stress and 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.

### 3.4.3. Mobiles for Monitoring / Tracking

*There are demonstrated examples of how mobile phones have served the purpose of project monitoring and tracking to offer service needs of constituent groups like women and children.*

1. The project 'IVRS based Daily Monitoring System (DMS) of Mid-day Meal in Schools' in Uttar Pradesh and implemented by the State Mid-Day Meal Authority uses an automated mobile-based MIS where data of children availing mid-day meal is made

available on daily basis. This is to check malpractices and ensure proper implementation for retention of school children as well as check dropouts.

2. The project 'E-Mamta (Mother & Child Tracking System)' in Gujarat by the State Rural Health Mission under Department of Health & Family Welfare, has deployed mobile tools as platforms 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.

3. The project 'Nano Ganesh' launched in 2008 in Maharashtra 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.

### 3.4.4. Issues in Improvisation & Scalability

The pilot projects pose the challenges in improvisation and scaling up. 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 project sustainability is the overall concern in the medium and long term which requires policy support like priority grants and subsidies, and investment in priority areas like rural based projects.

# 4. The Emerging Areas for Consideration

The widening scope and space for mobile to intervene and bring in impact changes in social, behavioural and development space calls for serious consideration and coordinated efforts to explore the space to the optimum.

1. Tools of communication are effective medium to effect changes in social, cultural and development space through the human engagement factor. Question is what social and behaviour changes are sought for. There is a need to address how change in individual behaviour would impact collective behaviour and how technology plays the facilitating role. The challenge is in defining and accepting what constitutes a good behaviour change, and in current scenario where the mobile can also become a weapon of mass destruction, how effectively it can be used for a better change in society.

2. There is scope to collaborate between bilateral agencies and government and private enterprises to strengthen the nature of mobile communications for development to promote change. Mobile is relatively newer addition and which is pervasive and has a wide reach.

3. Mobile is a critical instrument to communicate and at the same time it cannot bring change by itself through information. What one can assess is how seeds of social change can be sowed. The task at hand is how stakeholders can help change behaviours in villages through mobiles when the behaviours they practice are substantiated by age-old myth.

4. The reach and access of mobile phones is an emerging area of consideration. The challenge is of access, availability, autonomy and affordability as the 4 As in the list of problems. There is dearth of authentic and relative data available which can be verified and used. The question relevant is how we can provide connectivity and access through affordable handsets and services to serve millions who are on the margins?

5. Demographic data is not available regarding the impact, reach of mobile phones. Social economy and sociological research are important in addressing how mobile phones are impinging on social structure. There should be incorporation of anthropological and sociological data that is more useful in understanding mobile-based demographics and utility trends in seeking entitlements and services.

6. Sustainable mobile inclusion is the key. Uneven sectorial and geographical distribution is area of consideration. There are not many initiatives in regions like the North East India. Technology (mobile) exclusion of marginalised must be addressed.

7. There is newfound change in the transmission of information through emergence of smart phones. To improve impact there should be increase in per capita consumption of Internet, commerce and content. The emergence of App store economy is a corollary to this. Telephony has caused changes in the lower strata through various intervention but the need of the hour is a 20$ smart phone which is a challenge in order to facilitate inclusion.

8. The local experts or voices should be bought on board in order to understand and explore the mobile space. The focus on the ecosystem is necessary. Hyper locality is the key (focusing real time on the needs of the serving community).

9. Cross subsidisaton will help to propel experiments on mobiles. Evolving the content scenario is fundamental requirement along with effective collaboration. Gap analysis helps better design plan and implementation.

10. There are number of case studies done on mobile based social and behavioural change programmes but challenges are faced while scaling up. There is need to identify the context first: is it for profit, or for social development. For instance, the challenge of manufacturing a 20$ mobile phone can have bearing on both the private and social sector.

11. Mobile based data reliability is a challenge to determine action plan and programmes. There is a way out to combat the issue of lack of mobile related data reliability that can be addressed by collaborating and aggregating the data from different sources effectively. This will have more credibility which can be used to derive inferences.

12. In most of the instances, it is observed that supply of platforms, content, services overtakes the demand for it. This disturbs the current and potential individual and social interests and tastes. There is need to address the social and behavior change not by focusing on supply of initiatives alone but by generating demand and addressing the ecosystem in doing so.

13. The question that emerges is how information can be disseminated through the most basic mobile phones usually available with the people. There are instances wherein information through Secure Digital (SD) Card can be disseminated to areas that are not covered by the Internet. For instance in Bihar, people go to small kiosk to get data stored in their SD cards, which are usually movies and songs. Likewise critical and relevant information can be made mandatory and available to them through such methods.

14. There requires a comprehensive exercise to do the detailing of undertaking ethnographic account of communities and society to address the impact or social and behavioural change through mobiles. In a context, when the entire world is made available on the internet through phones, it's an important aspect to watch the child who accesses the information via phone. It is

important to address the top-down to bottom-up concerns.

15. There is need for more diverse research on the mobile space for individual and social changes. Approaches like ecosystem partnership and amplification of human resources management will assist to understand mobile users and impacts. Census, NSSO, Leadership surveys are an excellent source of both quantitative and qualitative data towards this.

16. Many development agencies have no window to address social change as they plan a project for one year. There should be at least a 5 year plan when projects are planned at a ground level. For instance, a project such as mobile fund through m-Wallet transfer to provide cash services to beneficiaries will aid lot of people if it is planned for a mid-term to long term period.

17. Users must be the prime factor in programme design, and accordingly plans devised to effect changes through mobiles. It has been felt that it is user who is smart not the phone, phone is a medium. So the need is to enable the people to utilise the medium smartly for individual and collective gains.

# 5. Expanding the Horizon: Stakeholders, Collaboration & Partnership

The expanding mobile space in India requires identifying areas of synergy and convergence among stakeholders. While the users constitute the largest stakeholder, the role of other stakeholders including the government and the industry are more critical to find synergies and joint efforts in order to maximize coordinated action, coherence and effectiveness towards implementing successful mobile based projects. There is need to discuss and debate, collaborate and arrive at points and areas of convergence and collaborate in specific areas of relevance and importance.

- The government through its designated agencies like Telecom Regulatory Authority of India (TRAI) constitutes the most potent role player. Policy consolidation is called for. The high cost of acquiring spectrum is feared to slow down competition and hit prices with increasing cost of capital for operators. Increased competition has led to price war hit margins and benefitted the citizen users. The spectrum regime requires much expected dynamism and efficiency on vital issues: rationalisation in fees on existing spectrum, the terms on which old licenses are renewed and corruptly awarded ones relinquished (if at all), new spectrum grants and the rules on mergers and acquisitions[9]. Regulatory mechanism requires more teeth and specification. Absence of a policy framework in dispute resolution authority has been jeopardising the contractualarrangement between the operator and the Mobile Value Added Services (MVAS) content owner/ aggregator. By allowing unviable firms and their spectrum to be acquired, a scarce resource could be allocated more efficiently and customers benefitted immensely.

- Mobile operators rolling out network services in remote and underserved regions are called for. Cost effective and reliable network services will determine the actual utility of owning mobile phones and exploit its advantages in development. There is still short of "anytime, anywhere" service. Method innovations like sharing radio towers and compress traffic will enable optimum utilization of infrastructure and bring down unsolicited cost of delivery and deliver benefits to users. The role of USOF is expected to boost the mobile infrastructure backbone with policy and fiscal support to operators.

- The effective role of mobile value-added services (MVAS) will determine the trend in mobile usage and penetration in coming days. The growth drives in key m-services such as m-banking, m-education, m-governance, m-health and m-agriculture, needs innovation and promotion. A different type of VAS, mobile internet (both through handsets as well as dongles), will rapidly gain util-

[9]*Happy customers, no profits, http://www.economist.com/node/18836120*

ity, driven by more affordable access to faster networks[10]. For the MVAS providers there is need to address lack of compelling applications and localised content. They need to go beyond the urban areas and cover semi-urban and rural areas as well. At present, the number of utility-based applications is limited. The MVAS providers require working closely with stakeholders in the MVAS ecosystem including content providers, technology enablers, and content delivery companies.

- Manufactures and developers role seeks to simplify smartphone user screens and help overcome technical and literacy barriers that 'illiterate' users face. Manufacturers require providing users with more airtime, battery management widgets, and inexpensive phone-sharing and emergency SMS features.

## Collaborations Necessary

The role of different parties seeks collaboration in diverse ways.

1. Timely engagement amongst stakeholders involving the government, industry, research, bilateral and civil society agencies on policy issues related to spectrum, regulation, arbitration, policy support for mobile industry and community advocacy is going to build a larger unanimity on policy matters and improve the policy and programme focus.
2. Relevant parties must continuously engage each other to increase the reach and access of mobile network and connectivity with focus on rural and remote locations. More than 60% of rural India is still not mobile. For network government agencies like USOF and network operators must continue to engage each other. For affordable devices manufacturers must find support in government subsidy or tax benefits.

3. The role of content and service providers including MVAS operators is critical in creating an environment of demand for content and services on mobiles as relevant to users. The support of bilateral and civil society agencies is very relevant here. Timely and relevant support from government on fiscal and financial front will augment this process. Promoting research for innovations is a necessity here.

[10]*MVAS Future: Role of value-added services in sector growth, http://www.tele.net.in/trends-a-developments/item/9104-mvas-future-role-of-value-added-services-in-sector-growth*

# 6. Way Forward

## 6.1. Suggestions

*In continuity to efforts to explore the mobile space, there are value added inputs as shared by policy planners, service providers, implementers, funders and others that seek collaborative attention and action measure forward.*

1. The purpose of expanding the social and development objectives can be escalated provided there is move to develop mobiles with essential features at a low rate. Low cost devise with user friendly and need based features with navigation friendliness is a necessity.

2. The idea of considering mobile tool as an essential utility device for its empowering capacity and mobile services as utility service seeks worth consideration.

3. The Government of India has special provision to provide connectivity and access in inaccessible and rural areas. The Universal Service obligation fund (USOF) under the Department of Telecom (DoT) provides for creation of infrastructure for provision of Mobile Services in Rural and Remote Areas under Stream III provision. This requires policy and implementation thrust.

4. The suggestion to have a centralised corpus fund to roll out mobile based social and development practices by the NGOs / CSOs is contemporary given the wide reach and permeability of the third sector partners at the grassroots. The extensive network of CSOs / NGOs in India can provide a wholesome opportunity to tap this strength to serve citizen needs far and wide riding on mobile networks.

5. The Government has launched the ambitious National Optical Fiber Network (NOFN) project in 2012 with the aim of connecting all the 250,000 Gram Panchayats (GPs) in the country through Optical Fiber Cable (OFC). As access service providers like mobile operators, and content providers the scope to reach out to citizens is widened up further to launch their access network and services using NOFN. The mobile stakeholders have a substantive role to play in individual and collective capacity to use this space through NOFN to serve the social and community constituents.

6. The thrust in mobile based practices and projects in social programmes seeks that mobile literacy is promoted. The incapacity to use the simple handset and explore its features restricts the lay user from using the mobile to the fullest.

7. Behavioural and social change is not an exclusivist approach. In other words, it cannot have compartmentalised approach focused only on focused groups without providing much space for supporting agencies to contribute and participate. For instance, much can be gained in such change processes if effective and working collaboration can take place with schools, police stations,

hospitals etc. for an inclusive approach to change behavior.

8. Mobile based micro initiatives call for demonstration in pilot areas with testing of all vital parameters pertaining to project, variables, and output and outcome vis-à-vis end beneficiaries. It is called for pretesting of the pilots in more than one instance to cross verify and check capacity of project processes to produce desired results under given conditions and factors in more than one instances.

9. In the ICT domain there has been number of open forums and communities set up like the UN Solution Exchange. The mobile space must be integrated with such forums to enhance its optimum presence and relevance.

10. The trend observed is isolated practice of projects in many of ICT interventions including mobile projects. There are inherent reasons cited in technical and operational matters including complexity in sharing of roles and responsibilities. Beyond such trends and tendencies, what is agreeable to many is collaborative work can bring in critical resources and pulling in of strength areas for successful ventures.

11. The inter-ministerial or departmental coordination and collaboration is suggested to realise optimum gains from the mobile outreach and penetration. The role of the Department of Telecom and the Department of Electronics & IT (Govt. of India) as lead agencies to drive this process will go a long way to serve social and economic needs of millions in India with the aid of mobile networks. The proposition in the Mobile Governance Framework (MGF) to augment this coordination process must be pushed through.

12. A collective effort is timely to set up an incubation and accelerator platform to nurture and encourage young mobile entrepreneurs with funding and mentoring support to scale up ideas and innovations, towards development of value added product and service having higher economic return.

13. The pilot projects pose the challenges in improvisation and scaling up. Issues in improvisation 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, source of funding, wider advocacy and education programmes, effective sales and marketing, project cost design and management, optimum project design and implementation with judicious resource allocation.

14. The project sustainability is the overall concern in medium and long term which requires policy support like priority grants and subsidises, and investment in priority areas like rural based projects. Support from corporate agencies is sought in provision low cost devices and content. Collaboration with research agencies helps to analyse out-

come and create provisions for replication and scalability.

15. In such a situation, all the 12 cases highlighted above is suggested to develop a matrix of collaboration in areas where feasible in terms of technology, processes, operational model, business model and management features. This can pave way for sustainable partnership and sustainable social businesses.

## 6.2. Next steps for Mobile as a Tool for Social & Behaviour Change: Role of UNICEF

It is strongly perceived that the subject of mobile as a tool for social and behavioural change is an emerging area of importance among stakeholders in communication for development space. The development challenge is how to place the mobile tool at the heart of solving key communication related hurdles in areas of education, health, livelihood and environmental disasters. There are ground level limitations to the above. One, the understanding of "social and behavioural change" is limited among the stakeholders of development and largely missing across the board. Secondly, the mobile innovation is a recent development and thus there are limited understanding and experiments to sustain the positive arguments for SBC through the mobile tool.

Despite the limited social and behavioural application of mobiles through development initiatives, the encouraging note is the space for mobiles has been overwhelming in the overall communication landscape. The mobile has emerged as the most potent 'm-powering' device with enormous information and communication transformation across communities, especially in rural areas. It is this positivity of mobile that is being looked at with great enthusiasm and optimism. The role of mobiles in SBC led by the government, bilateral agencies and others assumes tremendous significance here.

The two days Mobiles for SBC has led to two key outcomes. One, it has highlighted the quantitative space and strength of mobiles in terms of access, usage, and digital equity impact. Two, it has highlighted that mobiles can facilitate to address development challenges as demonstrated by presentation of 12 case studies with MSBC focus.

One of the key considerations from above is since communication for development is a priority area, therefore, a concentrated approach and framework can be evolved at UNICEF to intervene in key aspects of MSBC. With global mandate and specific thrust in various situation contexts, UNICEF's frontal role and interventions will make significant difference. This role in a collaborative mode with stakeholders will help demonstrate firmly by examples, as to how mobiles can address policy and programme priorities to serve underserved communities by brining in desirable social and behavior changes in them.

*The two-day consultation evolved with a broad understanding as to how UNICEF can play a pro-active role to accomplish the following:*

1. Mobiles as a tool for Social & Behaviour Change: Data, Numbers, Players, Impact & Future of Connected Development: A comprehensive secondary and empirical research on use of mobile for social and behavioural change, considering there is limited authentic reference from the ground so far; this would involve detail studies of key MSBC practices on ground as identified during the consultation; the focus shall be on sourcing real-time data through survey and interviews to analyse real life analysis and impact of MSBC deployments. This could culminate into a directory of innovations as an output; this case study research should go deeper into the available numbers coming from Telcos and TRAI, to find meaning for MSBC.

2. MSBC Consultations: Exploring role of mobiles in select States of India – Sharing Stories from the Ground: UNICEF with relevant partners would organise at least few more consultative workshop on MSBC in as many states or with a combination of two-3 states with close involvement of state governments and other stakeholders including network operators, manufacturers, MVAS operators, developers, content providers and others. The workshops will focus on implementable ideas and explore working partners to ensure ideas work locally on scaled manner or even better;

*Objectives of state consultation workshops can be:*

- Understand the existing initiatives in SBC / MSBC in the state;
- Explore opportunities and new possibilities in the state based on the requirements as articulated by different government counterparts;
- Understand capacity building needs;
- Road map on way forward to support the state initiatives that includes tentative cost (human, financial and technical resources.

3. MSBC Advocacy – Role of Government, Policy Makers and How to empower Bottom 500 million of India: At advocacy level, UNICEF to advocate on mobiles for SBC engaging central and state governments, relevant departments and agencies. This advocacy shall engage stakeholders from industry, civil society agencies and others in an inclusive and diverse engagement. This approach at central and state levels is expected to drive workable partnership with stakeholders on ground based experiments to realize MSBC impacts within communities.

4. MSBC Innovation, Incubation & Mentoring for Strengthening Communication for Development through Mobile and Telecom: To set up a platform to nurture and encourage young mobile entrepreneurs with funding and mentoring support to scale up ideas and innovations, towards development of value added product and service having higher economic return; Form a process oriented selection body like "Mobile for Good" and make it fully focused on MSBC and invite application from across India in the subjects that could cover MSBC's all areas of practices. This annual event could attract a lot of best practices and thus would create pool and innovations to be taken further.

# Resources


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# For more information

**UNICEF**
73 Lodi Estate ,New Delhi 110 003
India

Tel: 91 11 2469-0401, 2469-1410
Fax: 011 2462-7521, 2469-1410
Email: newdelhi@unicef.org
URL: www.unicef.org/india

**Digital Empowerment Foundation**
House No. 44, 3rd Floor, Kalu Sarai
New Delhi – 110016, India

Tel: 91-11-26532786
Fax: 91-11-26532787
Email: def@defindia.net
URL: www.defindia.net

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