



## RURAL TELEPHONY: KEY ENABLERS FOR SOCIO-ECONOMIC GROWTH IN INDIA

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### ABSTRACT

*Rural markets in India constitute a wide and untapped market for many products and services which are being marketed for the urban masses. There is a demand for telecommunication services to be provided to in these areas. The government which was trying to reach the villages through various initiatives, but the rural teledensity is very poor and can be improved only through the introduction of modern and suitable technology along with participation from the private operators. Telecom and network connectivity are widely seen as key enablers of a nation's socio-economic growth. In today's context, it is a critical an infrastructure as roads, power and electricity are to a nation's progress. As the next phase of growth in the telecom sector will mostly come from rural markets.*

**KEY WORDS:** Bottom of the Pyramid, Rural Market, Socio-Economic Growth, Telecom Revolution.

### INTRODUCTION

Rural India with just 100 million phones has still a long way to go. While urban India, with an impressive 74 per cent teledensity, is reaping the

benefits of the telecom revolution, rural teledensity is still hovering around 22 per cent. In rural India, 720 million potential mobile users eagerly await across 6.30 lakh villages- a massive economy of about 50 per cent of India's total GDP- to reap the full benefit of India's ongoing telecom revolution. While there is a huge potential to be tapped, rural telephony has its own challenges as well. The requirements will be greatly different from those of urban markets. They will also vary from geography to geography. The geographical spread and variance

pose difficulties for the network layout, device and content availability and customization as well as setting up of distribution channels in remote areas, Apart from the above, it is an extremely price sensitive market with lower income levels and therefore a lower ability to pay. The lower revenue generated by rural customers does not immediately offset the return on investments. In rural markets, other factors like word-of-mouth, trust factor and brand loyalty play a greater role than in the urban markets. Early adopters of mobility such as panchayat officials, government employees and trading community in rural areas will play an important role in establishing the utility of mobiles. Also, given the price sensitivity and the ability to pay of this segment, micro financing - options with local co-operative banks will be



an important initiative to improve penetration in this segment. Just as mobile phones have effected a change in the way of life with the urban masses, the same will also happen in rural India with the availability of relevant products and services.

India lives in villages, close to 72 percent of Indian population lives in rural areas. In the country we have 6.36 lakh villages out of which only 13 percent have population above 2000. The rural economy contributes nearly half of the country's GDP which is mainly agriculture driven and monsoon dependant. More than 50 percent of the sales FMCG and Durable companies come from the rural areas. The McKinsey report (2007) on the rise on consumer market in India predicts that in twenty years the rural Indian market will be larger than the total consumer markets. Census of India defines rural as any habitation with a population density less than 400 per sq. km., where at least 75 percent of the male working population is engaged in agriculture. A marketer trying to market his product or service in the rural areas is faced by many challenges; the first is posed by the geographic spread and low population density in the villages in the country. The second challenge is from the low purchasing power and limited disposable incomes in these parts of the country. But this has been changing in the last few decades with agricultural growth rate faster in the 1990's and 80's than the 1970's (CMIE 1996). Green revolution through the introduction of hybrid seeds, fertilizers and systematic irrigation had a major impact on agricultural productivity, and combined with it was a price policy which ensured minimum support price, and in turn insulated the farmers from market risk, cheap input - policy and a stable demand. These all lead to a quantum jump in the incomes of farmers in the country. Initially the impact of green revolution could be seen only in the prosperous agricultural states of the country but now slowly its influence has spread across the country with the increase in irrigation. Though the income levels overall are still very low there are many pockets of prosperity which have come up in the rural areas in the country.

According to NCAER 2002, the number of rural middle class house olds at 27.4 million is very close to their urban counterpart at 29.5 million. The improvement in the support prices being offered to farmers also has an impact on the disposable income with the farmers. And between, 1981-2001 there has been tremendous improvement in the literacy levels, poverty and rural housing in the villages of the country. Rural literacy levels have improved from 36 percent to 59 percent, the number of below poverty houses have declined from close to half to 46 percent and the number of pucca houses have doubled from 22 percent to 41 percent. These figures provide us with a clear picture that rural India with the increase in agricultural income and improving standards is on the verge of becoming a large untapped market which marketers have been aspiring for a very long period of time. Thus the current status of rural markets is an attractive market for marketers.

To expand the market by tapping the countryside, more and more MNC's are fraying into Indian's rural markets. Among those that have made some headway are Hindustan Unilever, ITC, Coca-Cola, LG Electronics, Britannia, LIC, HDFC Standard Life, ICICI, Philips, Colgate Palmolive and most of the Telecom companies.

### NEED OF THE STUDY

The present potential of the Cell Phone services are extensive and can be exploited by the extension system in agricultural extension and transfer of technology. To cope with challenges posed by the globalization of agriculture, the farmers have to produce quality product at par with world market at reasonable price. The extension professionals are required to identify extension approach, which could provide continuous, relevant and modern technological message to the farmers on the technological package, export quality production, processing, value addition, post harvest technology, marketing and price policies, The present potential of the Cell Phone services is extensive and can be exploited by the extension-system in agricultural extension and transfer of technology. The biggest advantage of the Cell Phone services is that it is far more interactive and personalized that can render services particularly the information as per the needs and requirements of the end users. Such a facility makes a favourable impact on adoption and utilization of the improved and innovative techniques for rural development. Therefore, the critical elements

of successfully meeting the telecom needs of rural India is to set up a cost efficient network architecture and distribution channel, providing services with an affordable total cost ownership and services and features relevant to the needs and lifestyles of the rural masses.

### IMPORTANCE OF RURAL MARKET

The Importance of the rural market for some FMCG and durable marketers is underlined by the fact that rural market accounts for 55 percent of LIC policies, 70 percent of toilet soaps, 50 percent of TV, Fans, Bicycles, Tea, Wrist watches, washing soap, blades, salt, tooth powder and 38 percent of all two-wheelers purchased of the two million plus BSNL Connections, 50% is from small towns/villages and out of 20 million Rediffmail signups, 60% are from small towns. The gigantic market size of rural markets (in Indian Rupees) is self evident:

FMCG - 6500 Billion

Agri - Inputs - 4500 Billion

Consumer Durable's - 500 Billion

Automobiles (2 and 4 wheelers) - 800 Billion.

The figure tell us that the rural market is growing much faster than the urban counterpart. A recent forecast revealed that the Indian cellular services revenue will grow at a rate of 18.4 percent with most of the growth coming from rural markets.

The rural market already contributes more than half of FMCG and durable sales, 100% of agri-products sales, and nearly 40% of automobile sales. In the last few years, the biggest push to Indian's mobile telephone story has come from the hinterland where 175 million connections have been sold- and this is expected to rise to more than 440 millions by 2014. These figures will only become bigger as the Indian growth story spreads further into Indian's hinterlands. The rural market of India is

- a geographically scattered market
- marked by low purchasing power/low per capita income
- continue to be traditional-bound community, with religion, culture and tradition strongly influencing their consumption habits
- cultural diversity and heterogeneous market
- characterised by variable development
- having low literacy level
- by and large, the rural consumers are marked by a conservative and tradition-bound Lifestyle.

Manufacturing companies, telecom companies, FMCG MNCs, Service providers, multitude of entrepreneurs in the unorganized sector and even the government constitute the dominant players in the rural market in India. The rural consumer remains dynamic and acquisition of wealth has made him open to new avenues of consumption.

### TELECOM REVOLUTION

Telecom Revolution swept the country during the last decade. India has established itself as a leading world player in the telecom sector and today it is second to none – growth wise in this sector. No other sector anywhere in the world has grown so exponentially as the telecom sector in India. It has even surpassed all government projections and surprised many telecom experts with its robust growth.

However, there is another telecom renaissance about to happen in the telecom sector in the next few years- one that would change the common perspective of mobile phone usage. In the years to come it would no longer be a mere a talking device. The wonders of this wonderful device would start appearing on the ground when 3G mobiles penetrate deep into rural India and smart mobile handset come within the range of common man.

It appears unbelievable at the first instance but it is a fact that in the coming days mobile phones would be used more for their other smart features rather for taking or sending SMSes. A decade ago, when the mobile revolution swept in India, it was projected as mere a talking device, or at the most to at the most to make SMSes.

Today, ten years down the line, the role of the mobile phone has expanded exponentially—it is no more a mere talking device. Rather it has emerged as an important device for business executives—to check their mails, their assignments, send instant messages, record audio or video footage, Listen to radio – internet radio....etc.

All this is just the beginning of the beginning. In the next few years mobile phone would become an integral part of almost all professionals. To check their e mails, to reply to their e mails, to store important data on mobiles... to chat using IM services..., to make free VOIP (Voice Over Internet Protocol) calls, to use mobile as a navigation device in a new city... to keep record of their expenses.... to maintain their official engagements and sky is the limit...

One look at the software development in the telecom sector reveals the silent revolution in the mobile phone industry. During the past five years, the software industry has developed more software application for mobile users than for the computer users. Today there are very few operating systems (OS) prevalent in the market--- while Microsoft is the leading player; Linux and Apple have a negligible share in the industry.

But in case of Smartphone Mobile Operating Systems (OS) sector, there are many players and all are growing exponentially—there is Nokia's Symbian OS, Microsoft's mobile Windows7, Apple's iPhone software, BlackBerry OS by RIM, and latest in the race is Google Android that has outpaced all operating systems in its growth.

As present, Nokia's Symbian is the leading player with 41.2 % of market share in the smartphone, followed by 18.25% of Blackberry, 17.2% by Android and 15.1 % share of Apple i Phone system. The revolution in the smartphone segment started only after Google Android entered the market and changed the rules of the game. Ever since its inception, Google Android has joined hands with over two dozen mobile manufacturers mainly, Samsung, Sony Ericsson, HTC, Motorola, LG and Vodafone.

In mere three years, the Operating System has made available around 70,000 application programs for Smart phone—and many more are in the line. At Present no other operating system has so many applications.

Leading software engineers and other experts from the sector are of the opinion that smartphones would undergo a complete change in the years to come. With the number of free, downloadable software available, it even has the potential for becoming more useful than a personal computer. Form managing e mails, operating social networking websites, using phone camera, scanning, faxing, navigation, weather forecast, listening to music, watching the Youtube, everything can be done through the mobile phone.

Software engineers are these days working more on making mobile software applications than on computer applications. It would not be surprising if in the future PCs start using mobile softwares.

### **RURAL TELEPHONY- THE CHANGE AGENT**

According to the NCAER Rural Infrastructure Report (2007) the demand for telecommunication services are surging across rural India, as middle class and upper classes are growing in most villages but the tele-density levels are very low 1.67 per 100 residents compared with average of 8.59 overall and 25.90 in Indian cities. The characteristics of the rural areas, low population density and spread out population, difficult topographical and climatic conditions make it difficult to provide telecommunication service of acceptable quality by traditional means at affordable prices. But with the development of new appropriate technology like wireless technologies have been accepted that it is possible to overcome these difficulties. Wireless technology has been proposed to be the first viable infrastructure to rural and underdeveloped areas have therefore recommended that villages near a larger town can take advantage of the fiber backbone; a remote village can be connected via VSAT link. From the fiber backbone, a point-to-point or

point-to multipoint WiMAX link can be used to connect one or more villages near the town, thus enabling WiMAX to distribute locally among all rural community groups in a given village using long distance Wi-Fi technology. The technology angle to providing telecom services has been not been given much attention.

Till recently, the government which made an attempt at providing the services in rural India. The aim was to provide every village in the country with a Village Panchayat Phone (VPTs). But the status and maintenance of the VPTs have been found to be lacking, and a large number of them have been found to be out of order and disconnected due to the non-payment of bills as villager perceive them as a free service provided by the government. And provision of one phone per village might not be able to address the tele density issues. The private telecom operators have been occupied with the urban market, India being the fastest growing mobile market in the world, but they have to take interest in the rural markets owing to the size and the fact that the rural markets are the ones that would provide them with the growth in future. Thus the government as provider of telecom services can only be a- part of the solution and the major thrust has to come from the private operators.

Core sectors of the economy which includes telecom are said to have a direct bearing on transforming consumers into producer and promote economic development. Need for community based solution has been advocated by many; by tapping into local networks companies can serve low-income markets profitability. The successful examples of telecom in rural areas also points to the same direction, the Grameen Phone which has been successful has tapped the Microfinance network, and various ICT initiatives have taken the help of either successful cooperatives or have tied-up with a local NGO.

Experiences like the Grameen Phone have shown that provision of phone connectivity to a village serves two purposes, first leads to the economic development by helping individuals and business gain economic efficiency through communications, and promoting social and economic development for individuals who own and operate the telephone enterprises. To address the issue of the urban and rural gap and reaching to the rural masses can be addressed by falling back on the Bottom of the Pyramid (BOP) marketing strategies as advocated by Prahalad (2004) and the 4 A's Availability, Affordability, Acceptability and Awareness. The BOP marketing strategies basically talk about aggregating the demand of consumers who have low individual purchasing power and are spread out.

Availability the first A is about making the product reach the consumers and in the case of telecom services studies have shown this to be the biggest barrier to be overcome. It has been acknowledged by many that distribution systems are the most critical component and a barrier which needs to be overcome for success in marketing in rural areas. The task of distribution in these areas is considered to be more difficult than in urban areas, low density of population and inaccessibility makes the problem of servicing villages individually difficult and often uneconomical. Direct delivery of goods even to the top one percent of villages cost twice as much as servicing urban markets. To overcome the difficulties posed in distribution a phased spread of the services is recommended, wherein bigger villages can be targeted first, then the ones which are near a small town and connected and last would be the remote villages. In the distribution the importance of small town markets cannot be ignored and need to be given importance as besides being a point of distribution they can also be used for promoting products as villagers tend to come to the town frequently for either purchase of agricultural inputs or sale of their produce.

Acceptability issues would include issues needed to be addressed to improve the willingness to consume, distribute or sell a product. It would also include how the product or service could be made more acceptable to the rural consumers by incorporating features which would make it attractive to them. With a telecom service there are two basic components of the service one being the handset and second being the recharge coupons. Innovation is needed at both the ends to be able to tackle both the issues. Affordability issues in telecom would include two sets of issues, the first being a fixed cost and an initial barrier for a villager to start with the service needs to be brought down and many companies.

The rural population where illiteracy is very high needs to be taken into consideration before coming out with the product and the feature which would be included in the product need to be rethought; the needs of rural consumer need to be taken into consideration. In a rural area a radio combined with a mobile

might make more sense to the rural consumer than perhaps a camera. And while designing the phone one needs to keep the problems related to the power shortages in the villages.

The second component of recharge also needs to be tailored according to the needs of rural masses. The availability of disposable income in rural areas is cyclical relate to agricultural cycles and thus the recharge coupons provided in the urban areas might not be suited to the needs to farmers and the promotions and schemes to be used in these markets also need to be in accordance with the agricultural cycles. And it has been shown through the success of single use small packs that the cost per-use is more important than the cost of the overall product or service. The last A, Awareness is linked to the issues of promotion of telecom services in rural areas. The promotion of the services also needs to be adapted to the village environment; the language and means of communication used should be in the local language. The best places to promote the services could be the local haats and melas which is frequented by the villagers, the local festivals should also be included in the promotional plan, so should be the agricultural cycles.

Studies have shown that the communication needs of rural consumers are limited, in a study done by ICICI (1998) they found that nearly 70% of the outgoing traffic from rural areas is meant for a destination within the district, Of this 40% remained within the Taluka. Only 20% traffic goes to another district and hardly 10% to another State. International calls represent less than 1% of the traffic. The needs would go beyond basic commutation needs and initiatives like one by Reliance Telecom services which helps farmers ascertain market prices should provide us with a pointer.

All of this needs to be supported with vernacular content and compatible handsets. Handset manufactures also play a key role in understanding the needs of the rural segments and developing devices to meet them. Handset features that will find favour with the rural segment are features like multi-lingual capability, predictive English text and phone book storage. Also, going forward contents and features like mobile players for different communities. The destination is clear; the path to the destination, though not hurdle-fee, is not insurmountable either. And with the stakeholders focused and determined, India's rural telecom revolution is set to transform the distant dream to a definite reality in the not-too distant future, thereby making India's national goal of achieving 25 per cent rural teledensity by the coming year is achievable.

Amidst all the talk of slowdown in the Indian economy, telecom is one sector that has had a fairly good year in terms of subscriber additions and revenue growth in 2008. However, even as this gives some reason to cheer for the telecom incumbents, there are a few trends in key metrics of these companies that suggest\ increasing pressure on margins.

Mobile service companies have managed to add subscribers at the rate of 8 million subscribers a month in 2008. This makes India the second fastest growth market for mobile services in the world. But an analysis of the top four private telecom players (Bharti Airtel, Vodafone Essar. Reliance Communicaitons and Idea Cellular), which account for nearly 80 per cent of the mobile market, shows that while subscriber growth has been phenomenal, revenue growth has not kept pace. While subscribers have grown at 48-80 per cent for different operators in calendar year 2008 over 2007, revenues have grown only by 21-49 per cent. Reflecting this trend, the average revenue per user (ARPU) has fallen by 4-26 per cent over the year for the top four operators.

Rural India is not a homogenous mass, but there are pockets of prosperous villages and areas in the country and within villages the purchasing capacity of the villagers vary and the products to be offered need to be tailored to their needs. The next section looks at experiences of other countries which have been successful in rural telecom.

#### **Table 2.8: Telephone Connections in Bihar (2001-2013)**

Year	BSNL				Private Operators			Total
	Landline	W.L.	Mobile	Total	Landline	Mobile	Total	
2001-02	8.05	0.40	0.08	8.53	—	1.15	1.15	9.68
2002-03	9.66	0.79	0.76	11.21	—	1.84	1.84	13.05
2003-04	11.10	0.89	2.58	14.57	—	2.58	2.58	17.15
2004-05	12.89	0.98	4.05	17.92	—	5.65	5.65	23.57
2005-06	17.38	1.30	9.28	27.96	—	14.18	14.18	42.14
2006-07	9.86	1.53	12.68	24.07	—	34.5	34.5	58.57
2007-08	9.73	1.88	16.3	27.91	—	68.03	68.03	95.94
2008-09	9.63	2.38	26.92	38.93	0.05	133.69	133.74	172.67
2009-10	9.61	2.82	43.44	55.87	0.10	251.25	251.35	307.22
2010-11	9.66	2.84	55.82	68.32	0.13	379.5	379.63	447.95
2011-12	3.80	2.84	41.47	48.11	0.10	411.89	411.99	460.10
2012-13	2.17		42.23	44.4	0.15	502.02	502.17	546.57

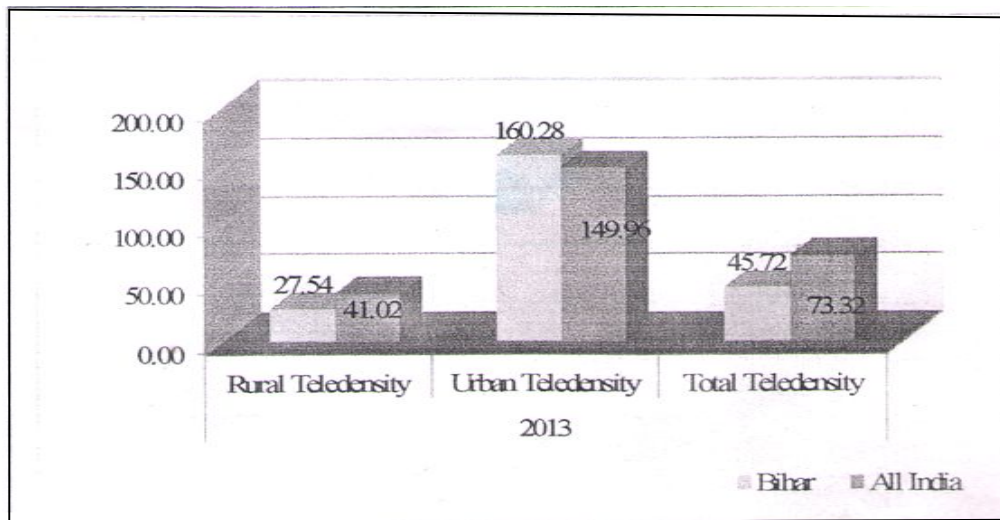
Source: BSNL and TRAI Reports

**Table 2.9: Teledensity of Major Indian States**

Service Area	2012			2013		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	39.21	189.26	80.87	41.83	169.00	77.19
Bihar	25.58	196.24	48.9	27.54	160.28	45.72
Gujarat	53.89	145.51	91.14	53.12	136.39	87.23
Haryana	55.92	153.97	89.42	56.78	113.51	76.44
Karnataka	44.08	185.62	97.22	43.00	170.38	91.24
Kerala	61.94	237.08	106.61	61.93	196.11	96.09
Madhya Pradesh	25.9	130.37	53.81	30.91	115.09	53.55
Maharashtra	52.03	147.56	96.8	52.64	128.64	88.56
Odisha	35.24	215.58	65.84	38.72	164.01	60.21
Punjab	64.59	180.95	113.13	66.90	152.31	102.99
Tamil Nadu	56.2	164.4	116.61	66.33	139.94	108.17
Uttar Pradesh	31.98	161.32	60.93	33.34	137.69	56.83
West Bengal	43.42	171.45	79.91	42.01	138.03	69.43
All India	39.22	169.55	78.66	41.02	149.96	73.32

Source: Telecom Regulatory of India

**Chart 2.2: Teledensity of Bihar and India**



Source: Economic Survey, 2013-14, Govt. of Bihar, p.130

To Provide general access to rural population for wireline broadband facilities at affordable rate, BSNL has planned for 1000 Broadband Kiosks in Rural Telephone Exchange of Bihar with the support of Universal Service Obligation Fund (USOF) of the central government. The BSNL has installed 392 such Rural Broadband Kiosks, till September, 2013 in the state.

The BSNL, through its 595 Rural Telephone Exchanges with DSLAMs in Bihar has already provided 6357 wireline broadband connections till September, 2013. It has devised affordable and special USO tariffs suitable for rural public. The modems are offered free and no security deposit for broadband plan are taken from customers in the rural areas. The BSNL is making sincere efforts to bridge the digital divide between the urban and rural areas in Bihar.

## CONCLUSION

When rural customers discover the new and exciting choice of brands available in urban markets, a demand for these brands is created in rural areas. When Titan found rural consumers purchasing their Sonata brand of quartz watches, they formulated a marketing strategy tailored to the requirements of the large rural market.

There is an increase in the launch of new products and brands in rural areas. In many product categories like cigarettes, biscuits or soaps, specific brands are developed for rural markets. The rural market, in both durables and nondurables, can be developed through new products and suitable positioning cell phones are ably contributing rural marketing development. This is due to penetration of cell phone services in Rural India.

As per estimates of industry experts, Mobile commerce may cross 70 percent of total e-commerce business. The base behind this estimation is increasing craze of smart phones coupled with day-by-day launch of smart phones with added features. With these features many tasks/activities have got ease to complete. Accordingly, in coming year increase in outline purchase fixed.

There are quite a few reasons for the -growing interest in rural markets. Their vast untapped potential, increasing income and purchasing power, improved accessibility and the increasing competition in urban markers make rural markets an attractive destination for jaded marketers of products and services.

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