



WELCOME



Seminar I

Mobile Technologies and Indian Rural Upliftment

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PALB 9164

Sr. M.Sc.

According to the Indian Census of 2011, 69 % of the total Indian population lives in rural areas. People in these areas face several developmental challenges.

In recent years, the mobile phone has emerged as an important development tool. It is seen as a device that has the potential to break the rural–urban developmental gap by delivering information on a variety of economic and social issues.

Mobile phones can facilitate need-based and user-centric information and services at an affordable cost to India's rural population, which was hitherto unreachable.



Objectives



1. To explore the prospects of mobile for rural communities



2. To understand the mobile utilization pattern of rural communities & challenges



3. To review the impact of mobile utilization on up-gradation of health, education & social skills.



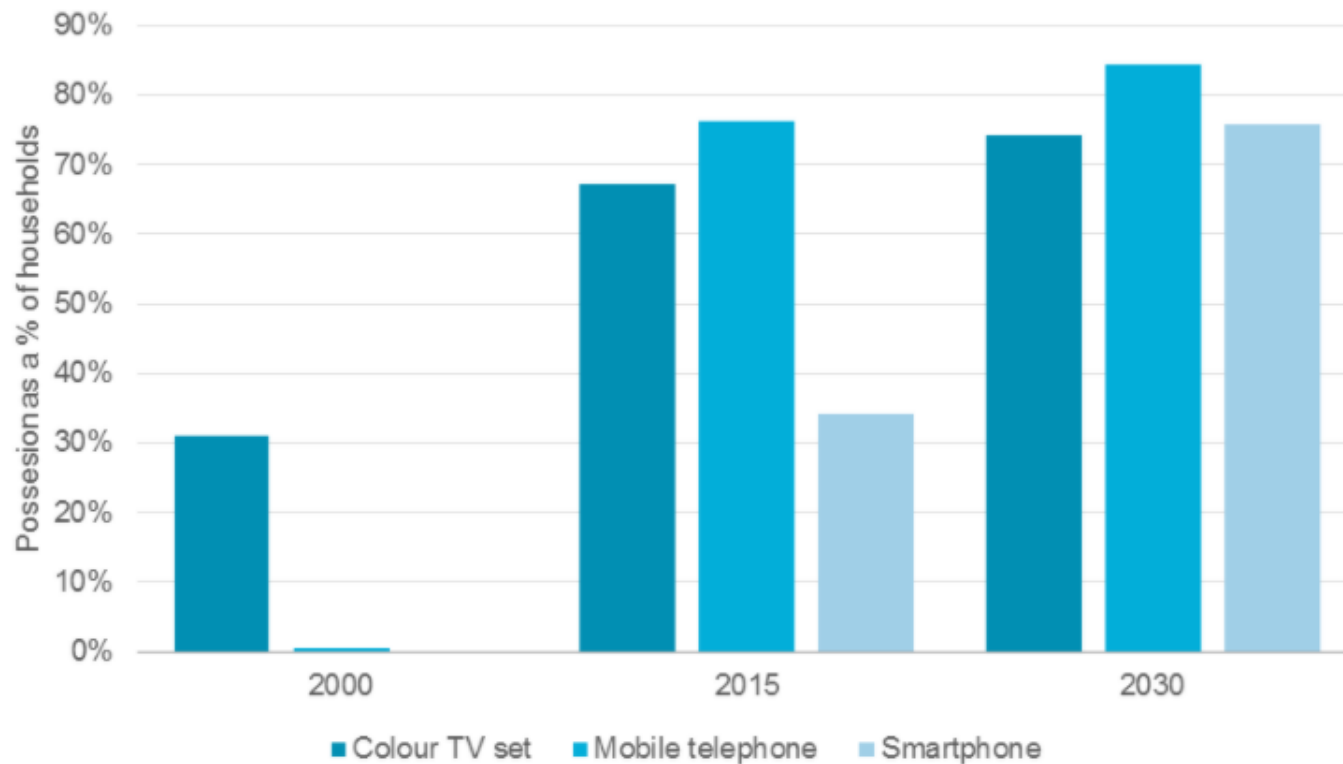
National Telephony Scenario

- In 1985, the Department of Telecom(DoT) was separated from Indian Post & Telecommunication Department. DoT was responsible for telecom services in entire country until 1986 when MTNL and VSNL were carved out of DoT to run the telecom services of metro cities.
- In 1997, the government set up TRAI which reduced the interference of Government in deciding tariffs and policymaking.
- After March 2000, many private operators, such as Reliance Communications, Jio, Tata Indicom, Vodafone, Loop Mobile, Airtel, Idea etc., successfully entered the high potential Indian telecom market.
- In March 2008, the total GSM and CDMA mobile subscriber base in the country was 375 million, which represented a nearly 50% growth when compared with previous year.

- All the private mobile service providers announced in the early half of 2008 a unique initiative to give a special thrust to rural telephony under the name 'Rural Chalo' to reach the benefits of mobile telephony to rural India.
- It was realized that the benefits offered to new rural subscribers strongly incentivize both the take-up as well as the usage of mobile service in rural areas and thus helped to meet the rural telephony objectives of the government during 2008-11.
- Demand for 2G phones has bottomed out and by 2017, shipments of devices using 4G LTE became popular slowly.
- The market for 4G smart phones exploded after Rjio services were launched as everyone had access to the company's 4G network for free. While 4G handsets were seeing some traction in the affordable segment since late 2015

In rural India, mobile handset penetration is much higher than TV. This leaves brands with no option but to use the mobile medium creatively to reach this rather large segment of consumers on a ‘one to one’ basis.

Possession rates in India, 2000-2030



2000

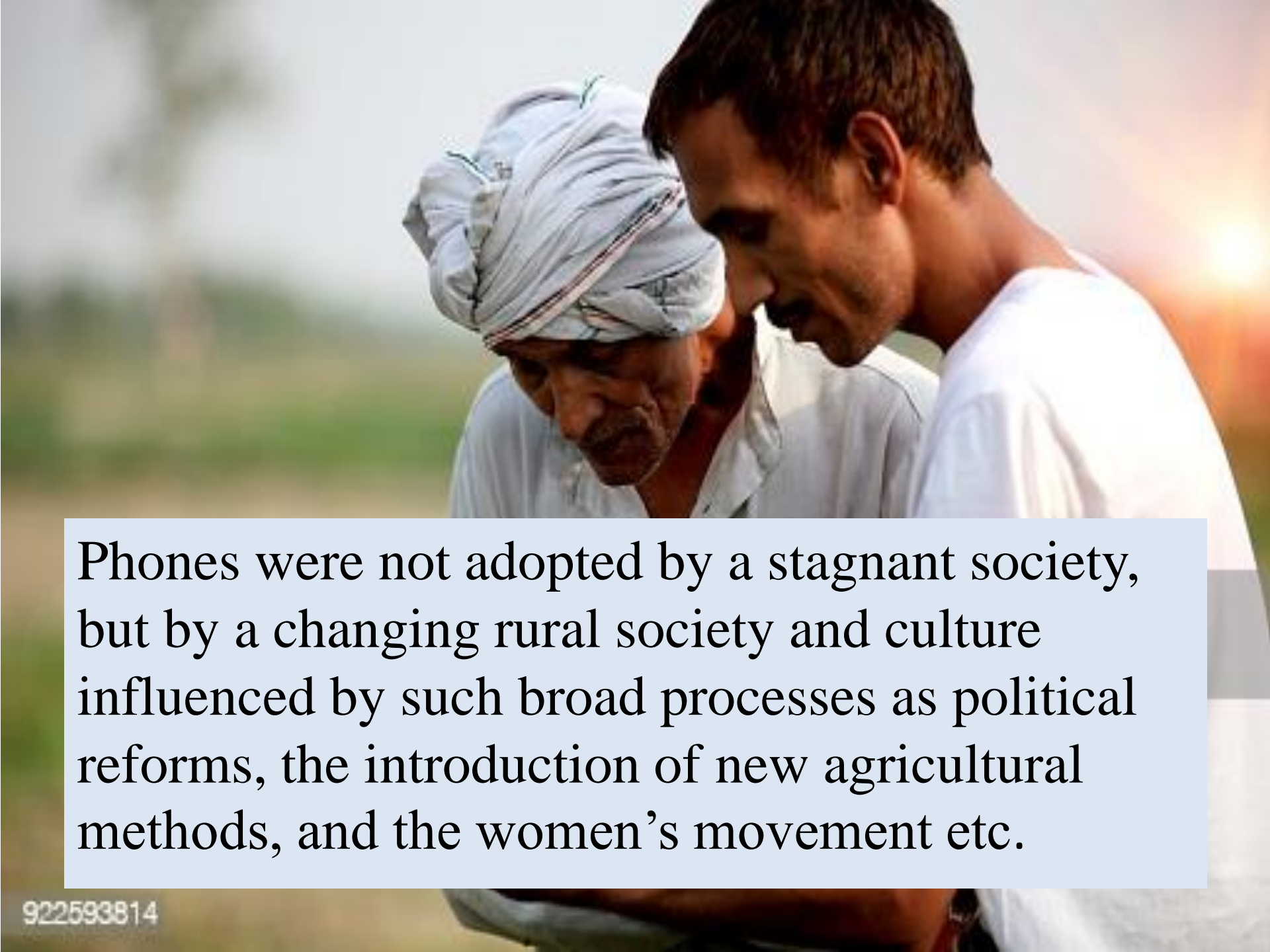
- At that time when urban India was shifting towards the use of mobile phones and surfing the internet, most villagers had neither electricity nor landline phones.

2010

- Telecom market was shifting towards 3G services while rural people had Nokia phones. Smartphone adoption was limited to high-income urban users

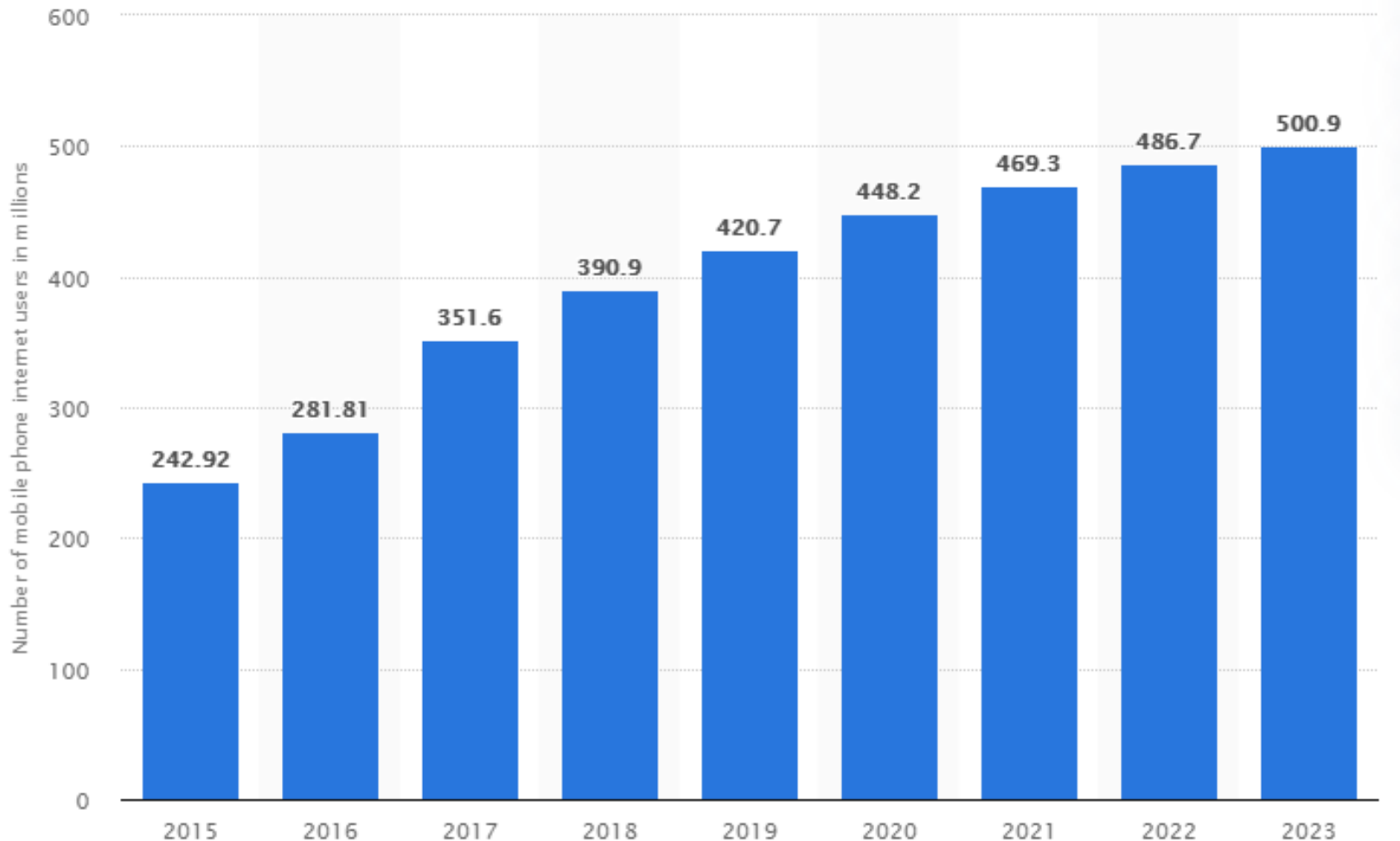
2020

- Smartphone penetration in rural India has risen from 9 per cent in 2015 to 25 per cent in 2018 also 97 per cent of all internet users in India now accessed internet via mobile devices.

A photograph of two men in a rural setting. The man on the left is wearing a white turban and a white shirt, looking down. The man on the right is wearing a white shirt and looking towards the first man. The background is a blurred outdoor scene with a bright light source on the right.

Phones were not adopted by a stagnant society, but by a changing rural society and culture influenced by such broad processes as political reforms, the introduction of new agricultural methods, and the women's movement etc.

Mobile phone internet users in India from 2015 to 2018 with a forecast until 2023 (in millions)



- A Report by ICEA said as of December 2019, India's total smartphone user base had grown to 50 crore, with as much as 40 per cent of this user base hailing from rural India.
- Smartphone penetration in rural India has risen from 9 per cent in 2015 to 25 per cent in 2018, adding that 97 per cent of all internet users in India now accessed internet via mobile devices.
- The total number of smartphone users in India is likely to rise to nearly 83 crore by 2022, fueled chiefly by open operating systems such as Android and low data rates.

- Internet users in rural areas surpassed those in urban areas for the first time, according to the 'Digital in India' report by the IAMAI.
- Last November, there were 227 million active internet users in rural areas which is 10% more than around 205 million in urban areas. In total, India had 504 million active internet users.

Four villages were selected (Taverekere, Maddur, Kadampur and Kabbargi) Of the 6,752 adults, 49% owned mobile phones. A majority of the mobile phone owners owned button phones (2,393), followed by smart phones (721) and touch phones (215)

Fig-1
Digital penetration in rural
Karnataka
N=6752 Adults

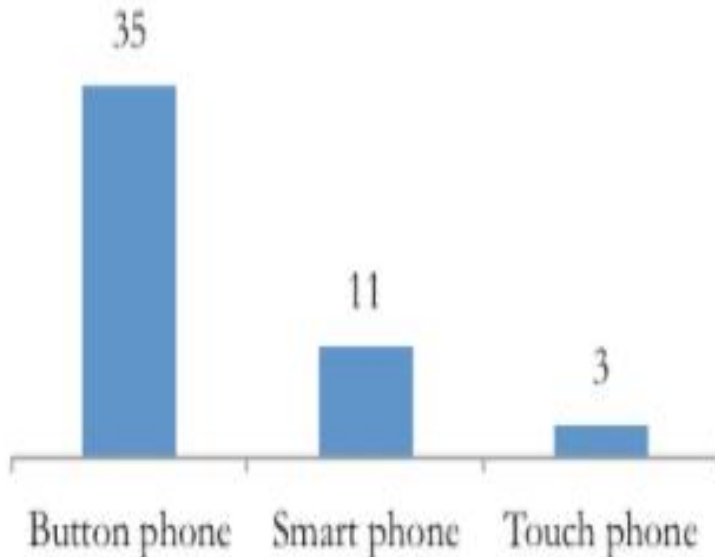
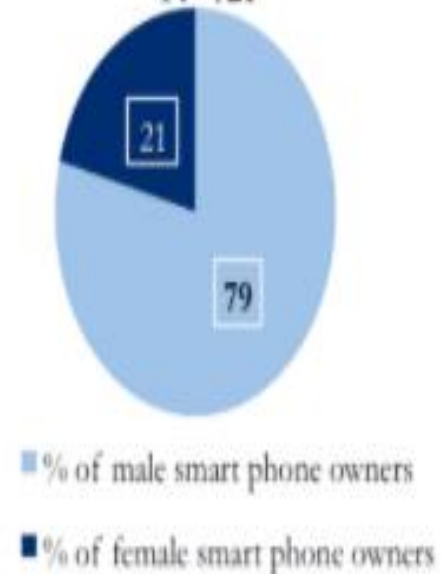
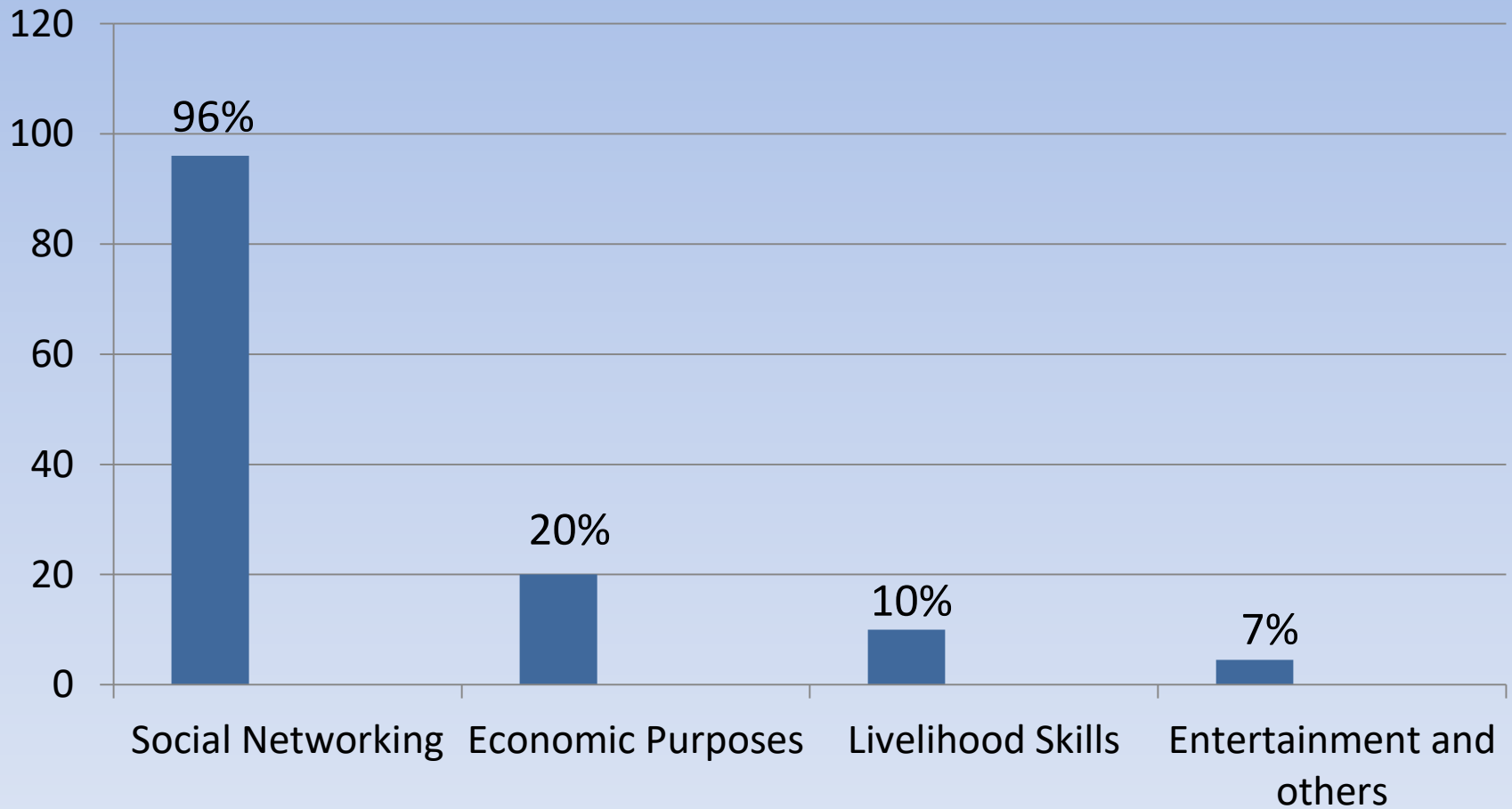


Fig-2
Smart phone ownership by gender
N=721



Usage pattern



Balwant Singh Mehta (2018)

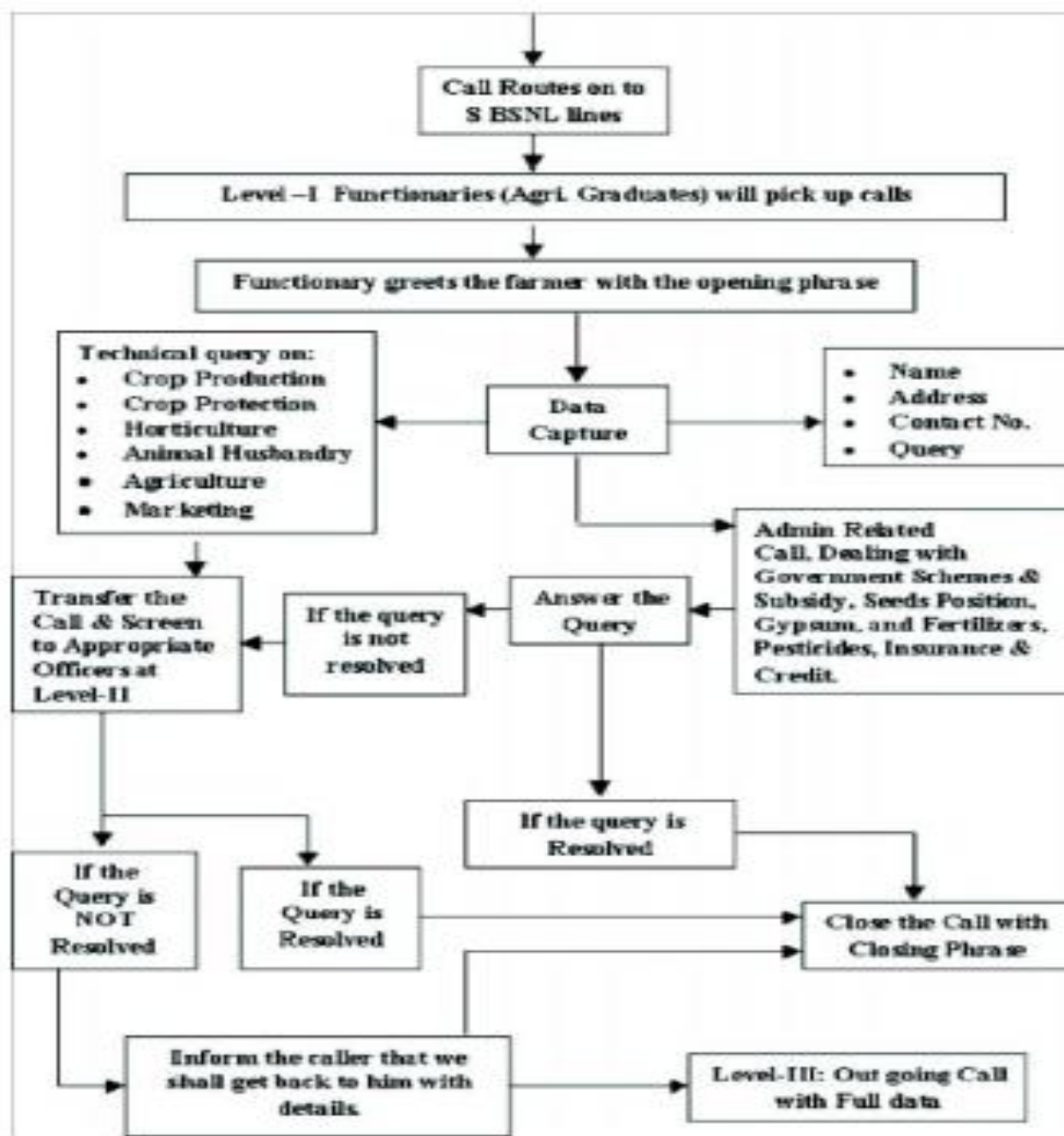
Mobile Advisory Services by the Public Sector



Kisan Call Centre

- The Department of Agriculture & Cooperation (DoA&C), Ministry of Agriculture, Govt. of India.
- Launched on January 21, 2004
- Purpose of these call centers is to respond to issues raised by farmers, instantly, in the local language.



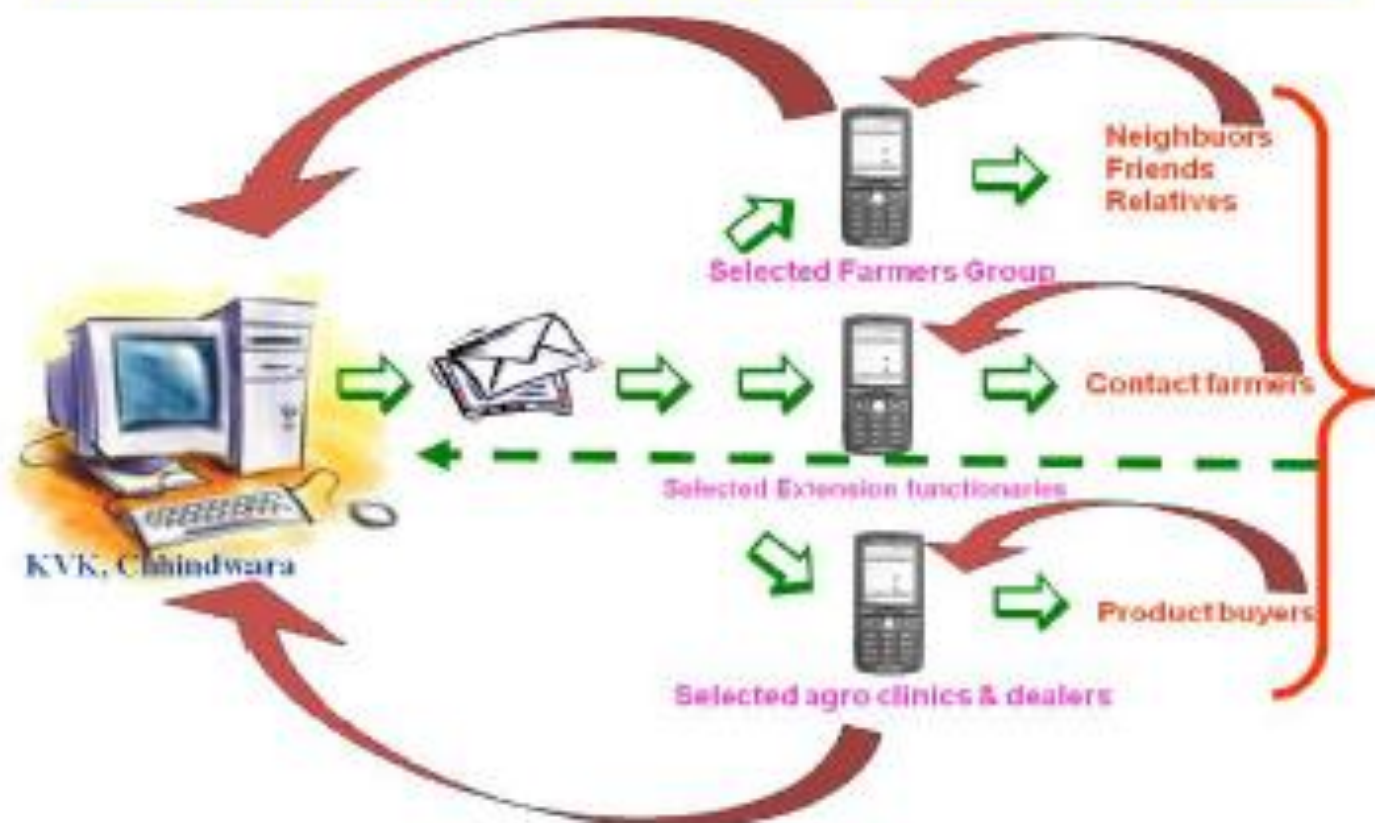


Schematic Representation of Farmers Call Centre Operational Mechanism

Mobile Advisory Services by ICAR-KVKs

- From the year 2010 onwards large numbers of ICAR KVKs have been disseminating farm information by Kisan Mobile Advisory Services (KMAS).
- KVK Chhindwara, Madhya Pradesh implemented programme called “Kisan Mobile Sandesh” for giving bulk SMS to the farmers.
- For example, annual report of the KVK- Zonal Project Directorate, Bangalore during the year 2009-10 reports that 6765 SMS were sent benefitting 34844 farmers. Out of which maximum SMSs sent by KVKs in Karnataka (5192) followed by Tamil Nadu (1022) and Kerala (551), thereby covering 21752, 8499 and 4593 farmers.

Mechanism of the KMS through different Stack holders



Mandi on Mobile Service by BSNL

- Launched in Uttar Pradesh
- BSNL teamed up with UP Agricultural Marketing Board.
- The service would be voice-based. To know the rates of over 100 commodities including crops, vegetables and other items, the farmers need to dial a specific number from their BSNL cellular phones
- 2nd Phase : “Digital Mandi” in collaboration with IIT Kanpur, for dissemination for market rates in approx. 3000 agricultural markets.



Other SMS based services

- Market Price by SMS by Rubber Board, India.
- SMS Service to Farmers by DoA, Haryana State.
Dynamic Market Information (DMI), TNAU-C-DAC, Hyderabad
- vKVK (Virtual Krishi Vigyan Kendra)
- Interactive Information Dissemination System (IIDS)
- Annapurna Krishi Prasaar Seva
- Mobile based Agro-Advisory System in North-East India (m4agriNEI)
- Kisan Help Line, BAU Sabour

App based services



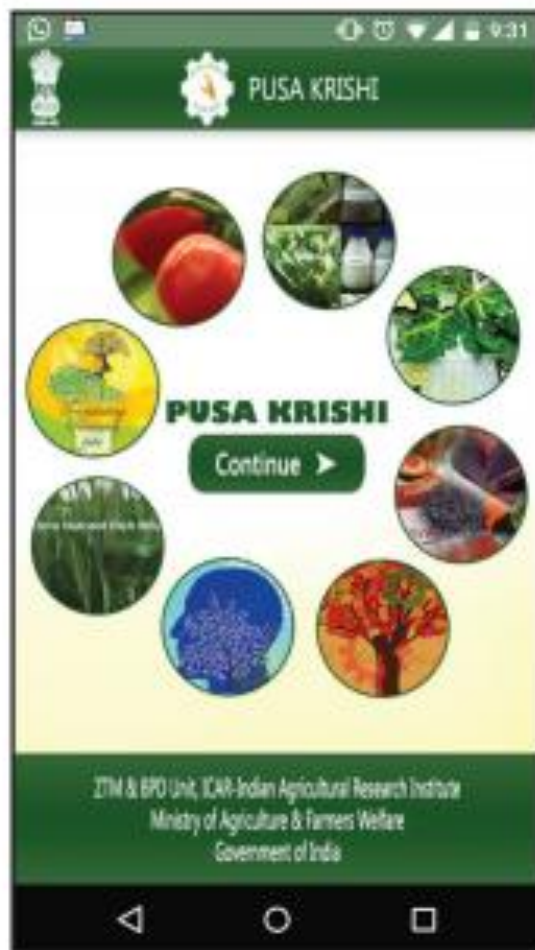
Kisan Suvidha

- Ministry of Agriculture & Farmers Welfare, Govt. of India
- Information to farmers on weather, market prices, dealers, plant protection, IPM, practices, seeds, expert advisory, Soil Health Card, godowns and cold storage. The information is currently provided in English, Hindi, Tamil, Gujarati, Odia and Marathi.

Pusa Krishi

- Ministry of Agriculture & Farmers Welfare, Govt. of India
- Provides information related to new varieties of crops developed by the Indian Council of Agricultural Research (ICAR), resource conserving cultivation practices, farm machinery and its implementation and production technologies, to the farmers.



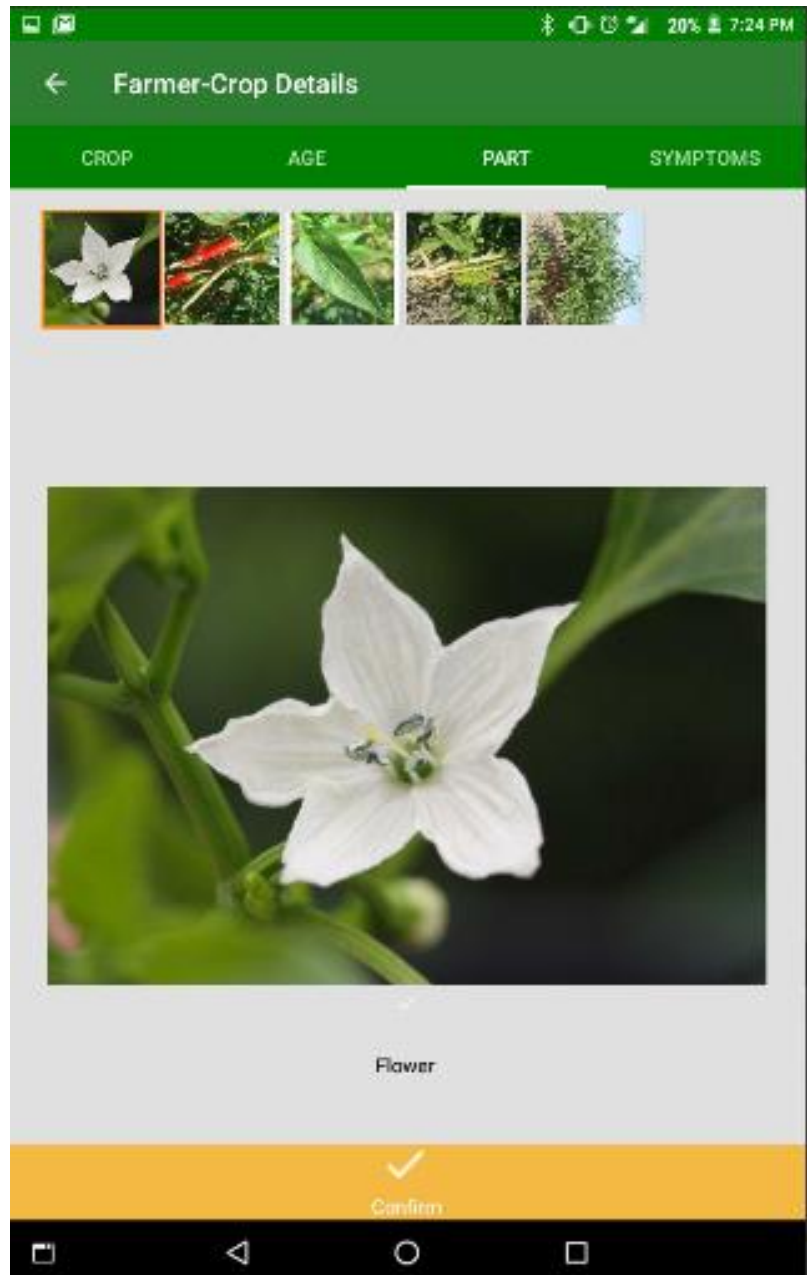
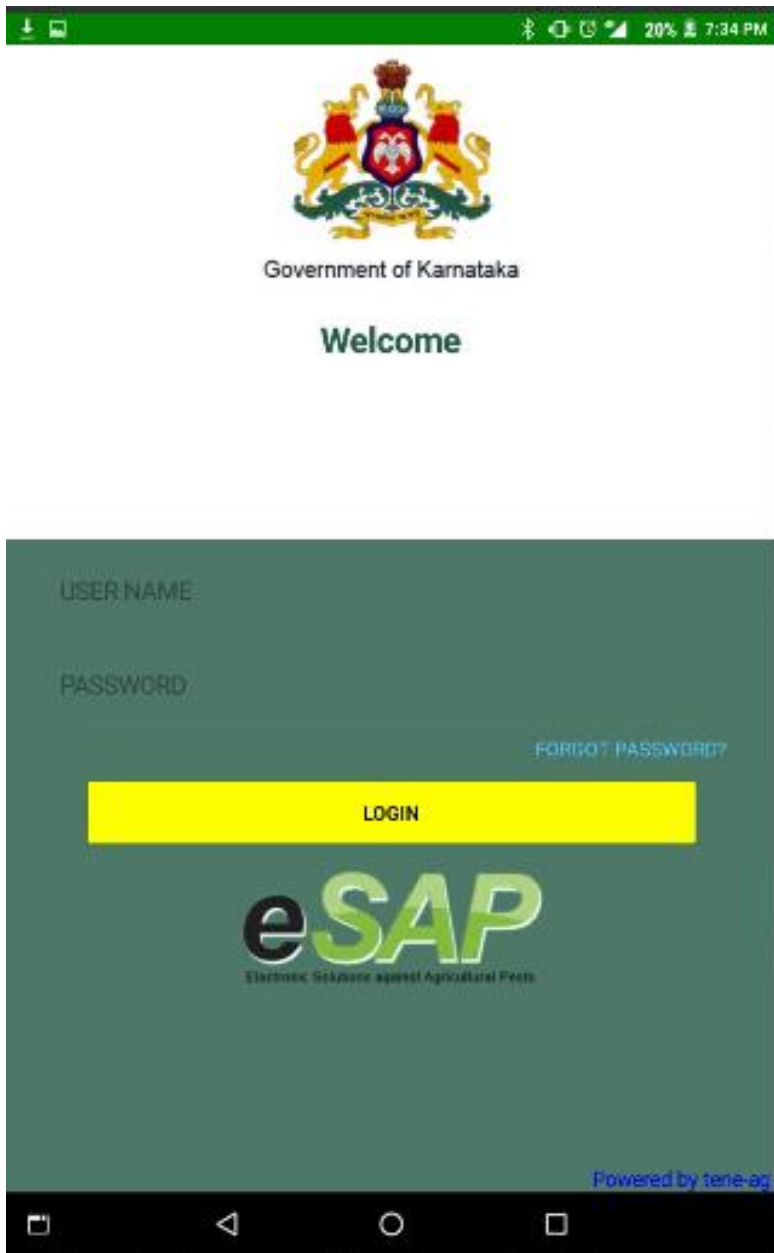




eSAP (Electronic Solutions against Agricultural Pests) is a path-breaking ICT system dedicated for crop health management

This application has been successfully tested and put to practice for the first time in India by the University of Agricultural Sciences (UAS), Raichur.

- Gateway for two-way dissemination of information in real time
- Relevant information in users hands
- Information can be accessed offline
- In-built intelligence for on-field decision support
- User friendly GUI



S.no	App Name	Organization	Description
1.	Soil Health Card (SHC) Mobile App	Ministry of Agriculture & Farmers Welfare, GOI	- Farmers detail entry work for Sample registration -Captures Latitude and Longitude through Location
2.	Bhuvan Hailstorm App	Ministry of Agriculture & Farmers Welfare, GOI	Damage assessment by hailstorm through pictures geographical locations
3.	Crop Insurance	Department of Agriculture & Farmers Welfare	-App provides details of crop insurance -Calculates Premium and coverage amount.
4	Krishi Video Advice mobile app	MANAGE with NIC, Hyderabad	Advisory services related to Agriculture and allied sector -aligned with KCC expert
5.	APEDA Farmer Connect	APEDA	Apply online for farm registration and approval by state government -Lab Sampling

Farmer Details

Land Details

Crop Details

Available Fertilizers

Review and Submit

Dashboard

Test Result Entry



Survey No

Khasra No. / Dag No.

Select Soil Type

Select Topology

Farm Size Select Unit

Select Irrigation Facility

Select Irrigation Source

SAVE

bhuvan hailstorm

A Mobile App to Collect field data for Hailstorm damage assessment

GPS Accuracy: 42.0 m

GPS Photo Attribute

Send Manage Save

Exit Profile Help

FDCapp - Bhuvan Hailstorm version 1.4
© National Remote Sensing Centre / ISRO - 2015 **nrsc**

6.	Havaamana Krishi	AICRP on Agrometeorology, Vijayapura Centre, UAS-D	-Information on weather, shortrange weather forecast and agromet advisory for 7 districts under UAS Dharwad
7.	eNAM Mobile App	SFAC, MoAFW, GOI	pan-India electronic trading portal for farmers, agents, exports etc
8.	AgriMarket	Ministry of Agriculture & Farmers Welfare, GOI	market price of crops in the markets within 50 km of the device's location.
9.	Pashu Poshan	NDDDB	balanced ration can be formulated while optimizing the cost using animal profile details
10.	Cattle Expert System	TNAU, Coimbatore and C- DAC, Hyderabad	Feeding, breeding and disease control management for cattle

12:26

Havaamaana-Krishi

ಕೃಷಿ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಧಾರವಾಡ

ಕೃಷಿ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಧಾರವಾಡ

ಈ ಭ್ರಮಣವಾಣಿ ಬಳಕೆ (Mobile App) ಮೂಲಕ ರೈತರು ತಮ್ಮ ಜಿಲ್ಲೆಯ ಹವಾಮಾನ ಮಾಹಿತಿ, ಮುನ್ನೋಚನೆ ಹಾಗೂ ಸೂಕ್ತ ಕೃಷಿ ಸಲಹೆಗಳನ್ನು ಕನ್ನಡ ಮತ್ತು English ಭಾಷೆಗಳಲ್ಲಿ ಪಡೆಯಬಹುದು

ಭಾಷೆಯನ್ನು ಆಯ್ಕೆ ಮಾಡಿ

ENGLISH ಕನ್ನಡ

AICRP on Agrometeorology
RARS, Vijayapura

12:23 p.m.

National Agriculture Market

About NAM

Mandis On NAM

Commodities

Price

Login

For Registration

Contact Your Mandi | Call 1800 2700 224

Language

English

हिंदी

11:35

Home

Latest Report*

461 Mandi

25 States

188 Items

2013-05-17

*Data will be available as soon as we get the updates from Agmarknet.nic.in

Crop Based apps

S.no	App Name	Institute	Description
1.	riceXpert	ICAR-National Rice Research Institute (NRRI), Cuttack	<ul style="list-style-type: none">- Latest rice technologies to the rice farmers in real time basis- Customized Pest solution
2.	Mobile App on Castor	ICAR - Indian Institute of Oilseeds Research (IIOR)	<ul style="list-style-type: none">- Information on castor production technologies- Pest protection, hybrid varieties
3.	Solapur Anar	ICAR - National Research Centre on Pomegranate (NRCP), Solapur	Educate pomegranate growers about scientific pomegranate production practices
4.	Cane Adviser	: ICAR-Sugarcane Breeding Institute, Coimbatore, Tamil Nadu,	Details from planting to harvest of sugarcane with text and graphics. Has a scheduler as well.

1:58 PM 0.01K/s 4G VoLTE 22%

ICAR-IOR Castor

Castor (*Ricinus communis* L.)

Importance	Recommended Hybrids
RDF	Intercropping
Major insect pests	Major Diseases

Cane Adviser



ICAR Sugarcane Breeding Institute, Coimbatore Centenary celebration






riceXpert

NEWS: null



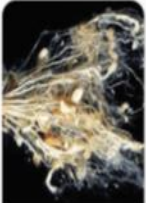
Rice Varieties




Insect Pests



Diseases



Nematodes



Nutrients



Weeds



Non Insect Pests



Farm Implements

PEST SOLUTION

FERTILIZER CALCULATOR

NEWS

WEATHER

e - RICE MARKETING

e - RICE ADVISORY

ICAR - National Rice Research Institute
Cuttack

Agronomical Application	ಕೃಷಿ ಅಪ್ಲಿಕೇಷನ್	Language	ಭಾಷೆ
Plant Population Calculator	ಸಸ್ಯ ಜನಸಂಖ್ಯಾ ಕ್ಯಾಲ್ಕುಲೇಟರ್	English	ಇಂಗ್ಲೀಷ್
Fertilizer Calculator	ರಸಗೊಬ್ಬರ ಕ್ಯಾಲ್ಕುಲೇಟರ್	English	ಇಂಗ್ಲೀಷ್
Weed Manager	ಕಳೆ ವ್ಯವಸ್ಥಾಪಕ	English	ಇಂಗ್ಲೀಷ್
Soil Health	ಮಣ್ಣಿನ ಆರೋಗ್ಯ	Language	ಭಾಷೆ
GypCal -Sodic Soil Reclamation	ಜಿಪ್ಸಂಮಿಶ್ರಣ - ಸೋಡಿಯಂ ಮಣ್ಣಿನ ಪುನಶ್ಚೇತನ	English	ಇಂಗ್ಲೀಷ್
Soil Health Card	ಮಣ್ಣಿನ ಆರೋಗ್ಯ ಕಾರ್ಡ್	English	ಇಂಗ್ಲೀಷ್
Salinity Expert	ಲವಣಾಂಶದ ತಜ್ಞ	English	ಇಂಗ್ಲೀಷ್
Fertilizer calculator n2f	ರಸಗೊಬ್ಬರ ಕ್ಯಾಲ್ಕುಲೇಟರ್ n2f	English	ಇಂಗ್ಲೀಷ್

Plant Protection ಸಸ್ಯ ಸಂರಕ್ಷಣೆ		Language	ಭಾಷೆ
Weather/Light Trap Catch (Rice)	ವೆದರ್ / ಲೈಟ್ ಟ್ರಾಪ್ ಕ್ಯಾಚ್ (ರೈಸ್)	English	ಇಂಗ್ಲೀಷ್
Pesticide Calculator	ಪೆಸ್ಟಿಸೈಡ್ ಕ್ಯಾಲ್ಕುಲೇಟರ್	English	ಇಂಗ್ಲೀಷ್
PestPredict-EMS (Kharif)	ಪೆಸ್ಟ್‌ಪ್ರಿಡಿಕ್ಟ್ - ಇಮಂಜಸ್ (ಕಾರೀಫ್)	English	ಇಂಗ್ಲೀಷ್
PestPredictEMS(Rabi)	ಪೆಸ್ಟ್‌ಪ್ರಿಡಿಕ್ಟ್ - ಇಮಂಜಸ್ (ರಾಬಿ)	English	ಇಂಗ್ಲೀಷ್
PestPredict-RBS (Vol. 2.0)	ಪೆಸ್ಟ್‌ಪ್ರಿಡಿಕ್ಟ್ - ಆರ್ಬಿಎಸ್	English	ಇಂಗ್ಲೀಷ್

Mobile Advisory Services by the Private Sector



Lifelines India

Connectivity by innovative mix of internet and telephony reaches 200 000 farmers in 2130 villages in four states of India (www.lifelines-india.net) with more than 400,000 questions and answers in their knowledge base and eight completed crop cycles. The farmer calls a designated number using a land line/mobile telephone. The call first reaches the Interactive Voice Response System (IVRS) where she/he registers the query with the help of a voice menu.

Fisher Friend

QUALCOMM, M. S. Swaminathan Research Foundation (MSSRF), Tata Teleservices and Asute System Technology jointly implemented mobile based advisory services (instant access to helpful information such as weather conditions, where they can and cannot fish and seeking information on market prices) to fishing communities of costal Tamil Nadu since, 2007.

IFFCO Kisan Sanchar Limited (IKSL)

Through voice messages in local languages. 95 000 voice messages have been delivered and 81 000 Q&A repository with 5 000 feedback messages from the farmers have been received. 1.3 million active farmers are benefiting from IKSL's Value Added Services and IKSL enrollment has crossed four million with forty thousand cooperative societies operating as IKSL Retailers.

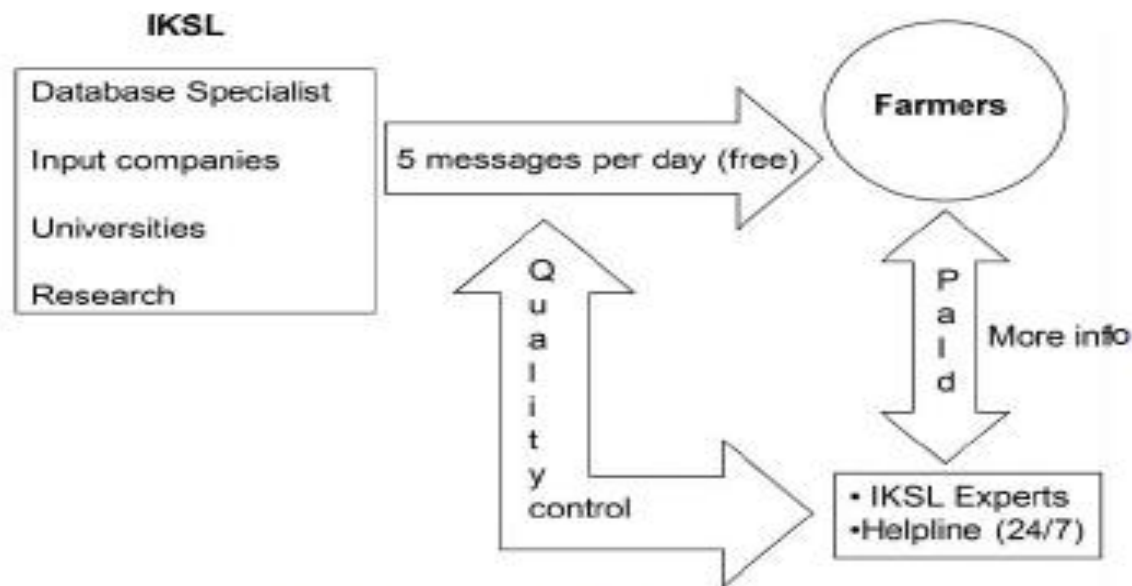


Fig. 13: Information Dissemination Pattern in IKSL

mKRISHI by TATA Consultancy Services

mKrishi is having three combination of services using Interactive Voice Response System (IVRS), mobile based and automatic weather station information integrated service to the farmers. Camera enabled mobile phones with mKrishi application software were distributed to the farmers. The camera in the mobile phone was used to send high resolution pictures of the crop to the experts. Farmers uploaded fertilizer and pesticide history of the crop through the mobile phone having mKrishi client application software. A local person was deputed to assist the farmers to feed the information through the mobile. The mobile software design interface was provided in the local language.

Nokia Life Tools

Nokia Life Tools is a range of services which include agriculture, education and entertainment services designed specially, for the consumers in small towns and rural areas of the emerging markets. The service provides timely and relevant information customized to the user's location and personal preferences directly on their mobile phones

KHETI (Knowledge Help Extension Technology Initiative)

Kheti is a mobile phone-based, multimedia communication system to support sharing of agricultural knowledge and advice within a producers' co-operative.

Developed by Sironj Crop Producers.

Behtar Zindagi (Better Life)

Behtar Zindagi was conceived by the Handygo' product team and based on Interactive Voice Response System (IVRS) on mobile in the regional languages to reach the rural population to deliver voice based information services on improved package of practices in agriculture

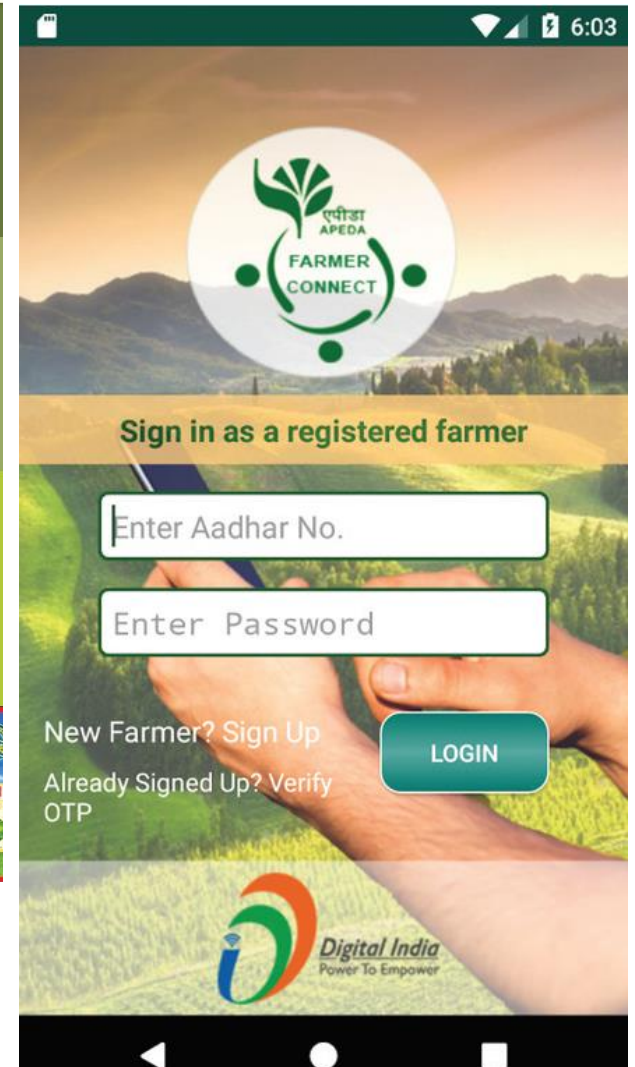
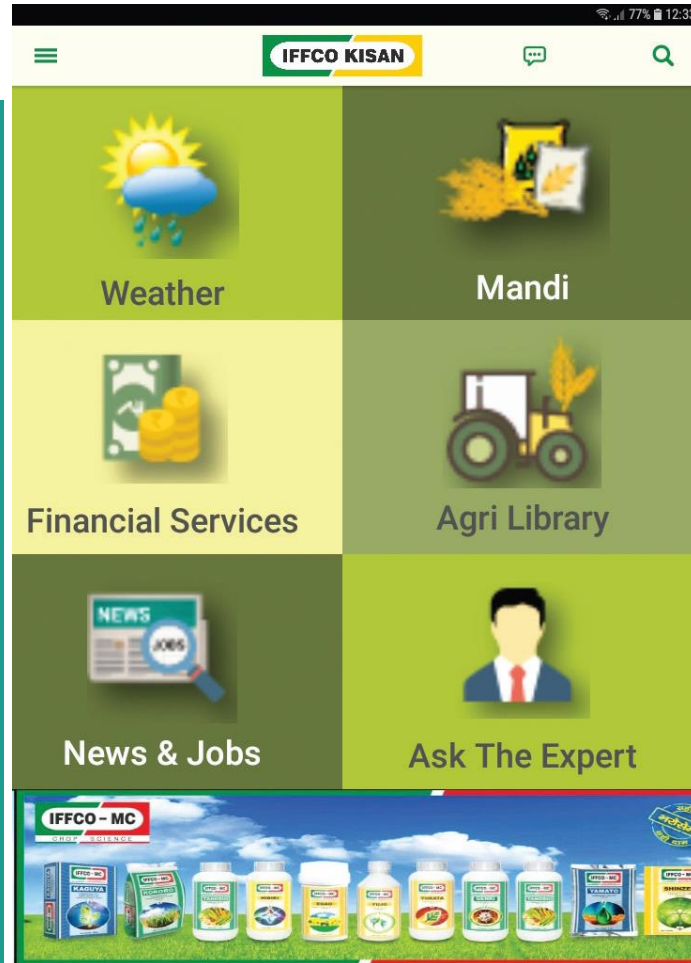
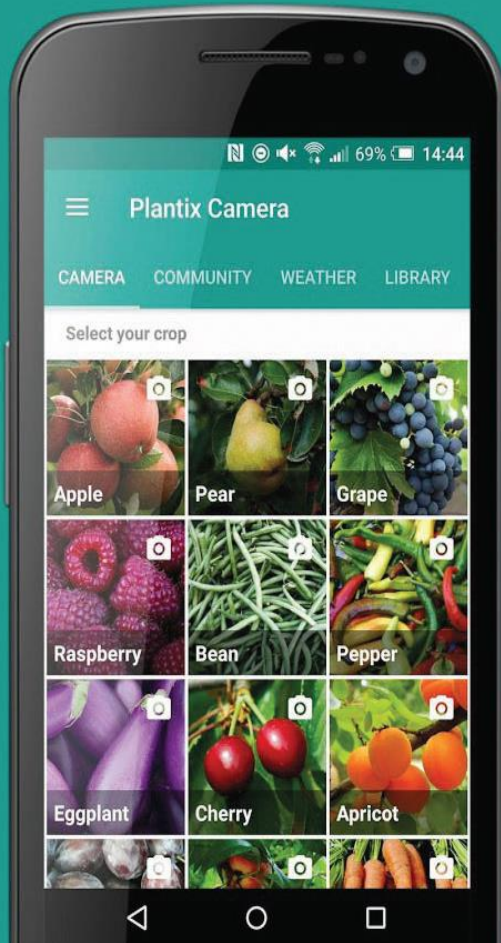
S.no	Mobile Service	Organization	Type of service
1.	Awaaz De (Give your voice)	Gates Foundation Aavishkaar Intellectap group	voice message broadcast functionality
2.	Spoken Web VoiKiosk (Avaaj Otaloo)	IBM Research	Voikiosks are a central point of access where information relevant can be posted and accessed directly
3.	Mrittikka	Grameen Intel Social Business Limited and eKutir Social Business, Orissa	online/offline application for the soil nutrient analysis and recommendation to the farmers
4.	Fasal	Intuit	free SMS based service for up-to-date price information.
5.	Videokheti	Microsoft Research India	multimodal interface on a smart phone or tablet

Mobile Advisory apps by Private sector



S.no	App name	Organization	Description
1.	Plantix	PEAT, Germany	Plant disease diagnostics and monitoring Real-time diagnosis
2.	IFFCO Kisan Agriculture	IFFCO Kisan	Enables access to various modules including agricultural advisory, weather, market prices, agriculture information library
3.	Digital Mandi India	Appkiddo	Latest Mandi prices of agricultural commodities
4.	Loop	Digital Green	improve smallholder farmers' access to markets s by helping them to aggregate their perishable produce.
5.	Dairy Telugu and Dairy Kannada	Jayalaxmi Agrotech	equipped with analytics and decision support system with language support
6	Fisher Friendly Mobile Application (FEMA)	MSSRF and INCOIS	Information on weather, potential fishing zones, ocean state forecasts, disaster alerts .

Plantix - grow smart





Mobile apps for Social development

Gram Samvaad

A citizen centric mobile app to serve and empower the rural citizens of India, by facilitating single window access by citizens to information at Gram Panchayat level on various Rural Development programs, covering inter-alia programme objectives, scope and performance.

Janmanrega

A citizen centric mobile app provides an interface to improve quality of public services under MGNREGA.

AwaasApp

A citizen centric mobile app to inspect and report the houses constructed under PMAYG or other rural housing schemes.

Meri Sadak

A citizen centric mobile app to enable users to give their feedback regarding pace of works, quality of works etc. of PMGSY roads to the Nodal Departments in the State Governments / National Rural Roads Development Agency (NRRDA).

Kaushal Panjee - Skill Register

A citizen centric mobile for DDUGKY and RSETI where Rural Youth can register free of cost and be connected to Training Partners and Banks working in collaboration with the Ministry of Rural Development.

Suyojana

Designed to benefit Auxiliary Nurse Midwives, who play a decisive role in ensuring better maternal health care and child care, in rural Karnataka, this app provides systematic guidelines regarding antenatal and postnatal services.

mDemand

Developed by Dhvani Rural Information Systems in collaboration with Samarthan, a Bhopal-based non-profit organisation, mDemand enables villagers to register and monitor their requests for construction of toilets in rural areas.

GoCoop

GoCoop, is an online social marketplace for India's cooperatives and community-based enterprises. It works with more than 70,000 producers, and aims to impact a million weavers and artisans working in rural areas.

mSakhi

It's is an all-in-one job aid and electronic medical record system that replaces multiple paper-based tools and helps health workers gain access to the most up-to-date training and information in easy-to-understand, convenient formats that work for them.

ArogyaSakhi

A mobile application helping rural women entrepreneurs delivering preventive health care at rural doorsteps. help women in setting up social enterprises for delivering preventive health care solutions and enable them to have access to sustainable livelihood options.

Self-Reliant Initiatives through Joint Action (SRIJAN)

A mobile- based soya crop monitoring system that enables women farmers to increase profitability, productivity and efficiency. SRIJAN's Soya Samriddhi project focuses on enhancing the productivity and profitability of the small farmers. Due to SRIJAN's intervention, Soya Samriddhi farmers received 47 percent higher average yield than other farmers in spite of poor rainfall.

S.no	Program	Organization	Description
1.	Operation ASHA	OpASHA - NGO	TB Contact Tracing and Active Case Finding software increases detection rates and diagnosis of potential patients
2.	Little Sisters	SNEHA (Society for Nutrition Education and Health Action)	Project helping tackle the social issue of domestic violence with mobile phone technology.
3.	Citizen Connect SMS	Surat Municipal Corporation	Empowers citizens with access to information and grievance redressal of local government services.
4.	Early education web channel	Chinh India	Featuring films for children, made by children on mobile phone
5.	Citizen COP	Infocrats Web Solutions	Allows users to help the Police maintain law and order through a mobile phone
6.	Eye Connect	Sri Kanchi Kamakoti Medical Trust	Customized mobile application to overcome eye care challenges in remote areas.

Mobile helplines

Bayer Helpline

1800-120-4049 or 1800-200-6321, operational between 09:00 am – 06:00 pm every Monday to Saturday.

Agri War Room

To resolve problems in getting agricultural inputs and farm implements. (8 a.m. to 2 p.m. and 2 p.m. to 8 p.m.). The helpline numbers are 080-22212818 and 080-22210237.

Gram Vaani (Mobile Vaani)

Interactive Voice Response (IVR) service that reaches over 800,000 households across 12 states. Platform for grievance redressal and to support women's labour unions in Tamil Nadu.

Call Centres ಸಂಪರ್ಕ ಕೇಂದ್ರಗಳು	Language	ಭಾಷೆ	Information Type	ಮಾಹಿತಿ ಪ್ರಕಾರಗಳು	Number ಉಪಕ / ಸಹಾಯಕ ದೂರವಾಣಿ ಸಂಖ್ಯೆ
ರೈತರ ಸಹಾಯವಾಣಿ ಕೇಂದ್ರ	Kannada	ಕನ್ನಡ	All information on Agriculture	ಎಲ್ಲಾ ರೀತಿಯ ಕೃಷಿ ಮಾಹಿತಿ	1800 425 3553
ಪಶು ಪಾಲಕರ ಸಹಾಯವಾಣಿ ಕೇಂದ್ರ	Kannada	ಕನ್ನಡ	Information on Animal Husbandry 7am to 9 pm	ಪಶುಸಂಗೋಪನೆ ಬಗ್ಗೆ ಮಾಹಿತಿ	1800 425 0012 080 - 234 17 100
ಅರಣ್ಯ ಇಲಾಖೆ ಸಹಾಯವಾಣಿ ಕೇಂದ್ರ	Kannada / English	ಕನ್ನಡ / ಇಂಗ್ಲೀಷ್	Information on Forestry, Schemes, Public Services, Publications	ಅರಣ್ಯ, ಯೋಜನೆಗಳು, ಸಾರ್ವಜನಿಕ ಸೇವೆಗಳು, ಪಬ್ಲಿಕೇಷನ್ಸ್ ಕುರಿತು ಮಾಹಿತಿ	1926
KMF ಸಹಾಯವಾಣಿ ಕೇಂದ್ರ	Kannada	ಕನ್ನಡ	Information on Dairy Products 10.00AM - 5.30PM	ಡೈರಿ ಉತ್ಪನ್ನಗಳ ಮಾಹಿತಿ	7899683696 & 1800 425 8030
ಸಹಾಯವಾಣಿ ಕೇಂದ್ರ	Kannada / English	ಕನ್ನಡ / ಇಂಗ್ಲೀಷ್	Agricultural Marketing Information	ಕೃಷಿಮಾರಾಟ ಮಾಹಿತಿ	1800-425-1552

m-Education

An analysis of empirical research (Yao-Ting Sung et al. 2016) on the use of mobile devices revealed that the overall effect of using mobile devices as a tool in education is better than using desktop computers.

- low costs and increasing ubiquity
- delivery of 'anytime, anywhere' education
- reduces the gap between urban education and the rural.
- m-learning can hugely save the long distances that students have to travel to attend far-away schools.
- Initiatives like EDUSAT, Samudaya (Raichur), Gurukul Schools (Bihar), 8 day Academy are taken by govt. and private institutes.

Proposed Initiative

- **Video Learning:** The first proposed solution is the use of videos to impart education among the students of rural India
- **Examination:** The second proposed solution is with regard to exams conducted which are an equally important part of the education system.
- **Feedback:** The third proposed solution is the feedback of the tests given by students.
- **Interactives:** The fourth proposed solution is to use interactive tools as an alternative for textbooks.

m-Health

The innovative practice of using mobile phones for the delivery of healthcare delivery has been termed as m-health.

Information Services:

- lowest tier of m-health
- offers one-way communication between healthcare providers and patients
- Patients can read basic information about diseases, healthcare myths, treatments of common ailments.

Enabling Services:

- two-way information-flow between the patient and healthcare providers
- can act as a substitute for traditional methods of health delivery
- services such as teleconsultation, video consultation over 3G, appointment scheduling, triaging, SMS prescription services .

Transformative Services:

- Most transformative arm of m-health
- real time health data can be collected by the m-health network

Initiatives like Operation ASHA, ArogyaSakhi, are successful in this regard.

Social Inclusion

Mobile platform not only eliminates digital divide, but also play a vital role in communication and social participation.

ICTs, such as social media, provide people with effective communication ways and promote information sharing.

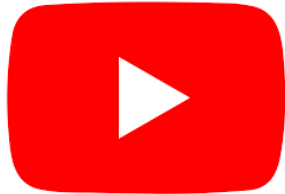
- **Political Inclusion:** ability to be involved in political activities, such as voicing their opinions, participating in democratic political decisions.
- **Social participation:** relates to the extent to which a group or an individual participates in society, in terms of social interaction and interpersonal networks.
- **Economic inclusion:** plentiful job opportunities and can be productively engaged in train and work, leading to economic growth and poverty alleviation.

Social Inclusion

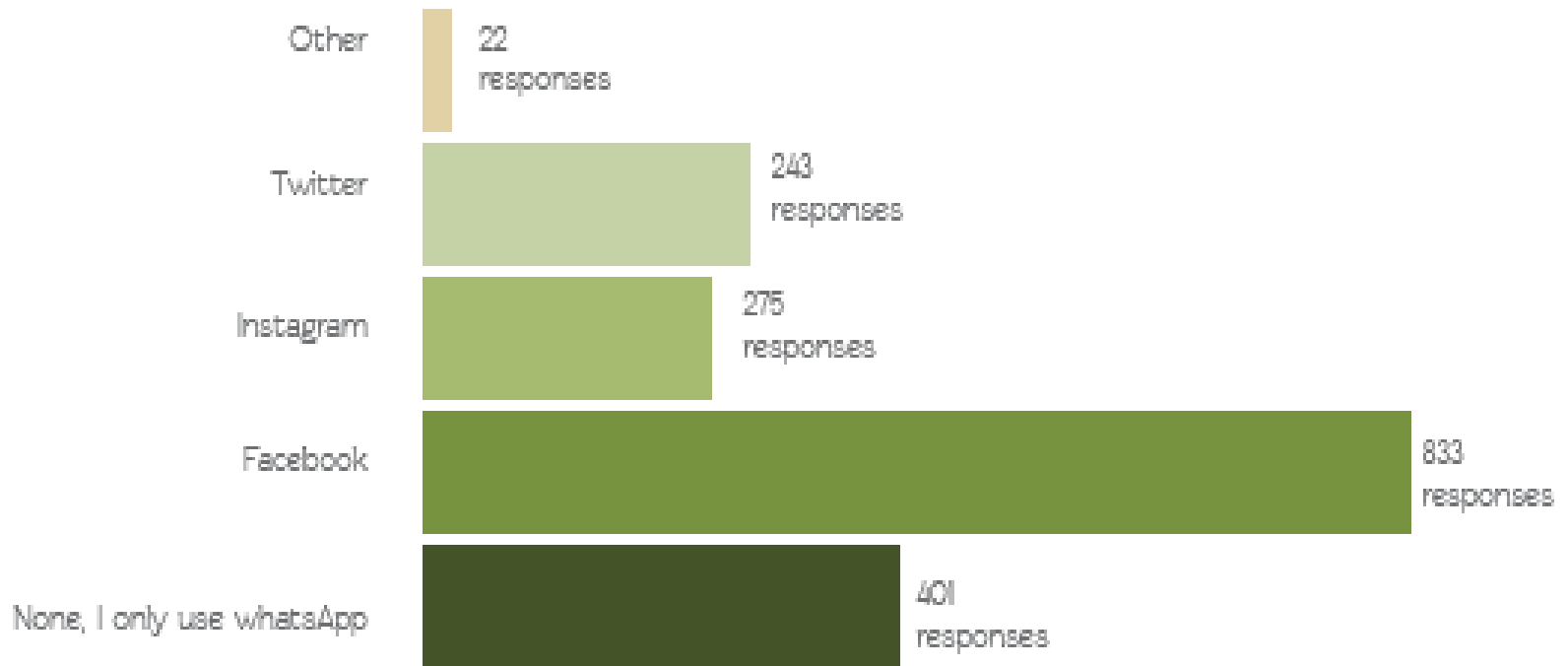
Political

Social

Economic



Popular platform used by people living in villages are Facebook, Whatsapp.



- The use of mobile phones for credit or cash transfer by family members is also gaining popularity in rural areas. Mobile phones enable families to learn about their migrant members' bank account numbers, the amount of money transferred and other bank transactions.
- Apart from the formal banking system, the informal money transfer system is also gaining popularity through the usage of mobile phones, through UPI apps and net banking.

One such initiative for people who do not have bank account is World Bank-funded ***Eko Financial Services***, which provides mobile banking services by using small shops as de facto banking outlets

Money transfer via mobile phones has helped hugely in cutting down travel time, thereby reducing costs, besides making access to information easier.



Research Studies

Use of Mobile phones a ICT tools by Dairy Entrepreneurs in Kolhapur District of Maharashtra

Warthi Mrunal Jagan, (2017)

Study was conducted in Kolhapur District of Maharashtra, 3 Blocks were selected and from each block 2 villages, totaling of 6 villages.

20 dairy entrepreneur fom each villages.

n=120

S.No.	Variables	Respondents (n=120)		
		Regularly	Occasionally	Never
		Frequency	Frequency	Frequency
1.	Breeding of dairy animals	100 (83.34)	16 (13.33)	04 (03.33)
2.	Feeding of dairy animals	95 (79.16)	20 (16.67)	05 (04.17)
3.	Health care of dairy animals	98 (81.67)	18 (15.00)	04 (03.33)
4.	Management of dairy animals	94 (78.34)	22 (18.33)	04 (03.33)
5.	Marketing information and prices	70 (58.33)	44 (36.67)	06 (05.00)
6.	Various central / state government schemes	24 (20.00)	87 (72.50)	09 (07.50)
7.	Storage facilities	25 (20.83)	25 (20.83)	70 (58.34)
8.	Farm labour and machinery	29 (24.17)	66 (55.00)	25 (20.83)
9.	Credit and finance information	97 (80.84)	14 (11.66)	09 (07.50)

- Study showed 100% of farmers have favorable attitude towards use of mobile phone for obtaining information regarding animal husbandry and agriculture.
- Major benefits perceived by dairy farmers were ease in access to veterinary expert, reduces time and distance barrier, timely access to useful information, ease in handling.
- Ease in marketing and marketing information.

A Study on Farmers perception and utility of mobile e-Extension services in agriculture

Eldagi Prashant S.

Study was conducted in Gulbarga district of Karnataka. Out of seven taluk, three taluk were selected (Gulbarga, Chittapur and Jewargi).

n= 120

Overall usefulness of Mobile Advisory services

SL NO	Particulars	Most useful		Useful		Not useful	
		F	%	F	%	F	%
1	Improving the agriculture knowledge	25	41.66	32	53.33	3	5.00
2	Nursery management in different crops	0	0.00	0.00	0.00	60	100
3	Nutrient management	22	36.37	34	56.66	4	6.67
4	Effective in controlling pest and disease	40	66.67	18	30.00	2	3.33
5	Increases farm yield	18	30.00	30	50.00	12	20.00
6	Improving farm and home condition	10	16.67	19	31.66	31	51.66
7	Creating awareness about health	0	0.00	12	20.00	48	80.00
8	Influence for higher adoption	27	45	25	41.66	8	13.34

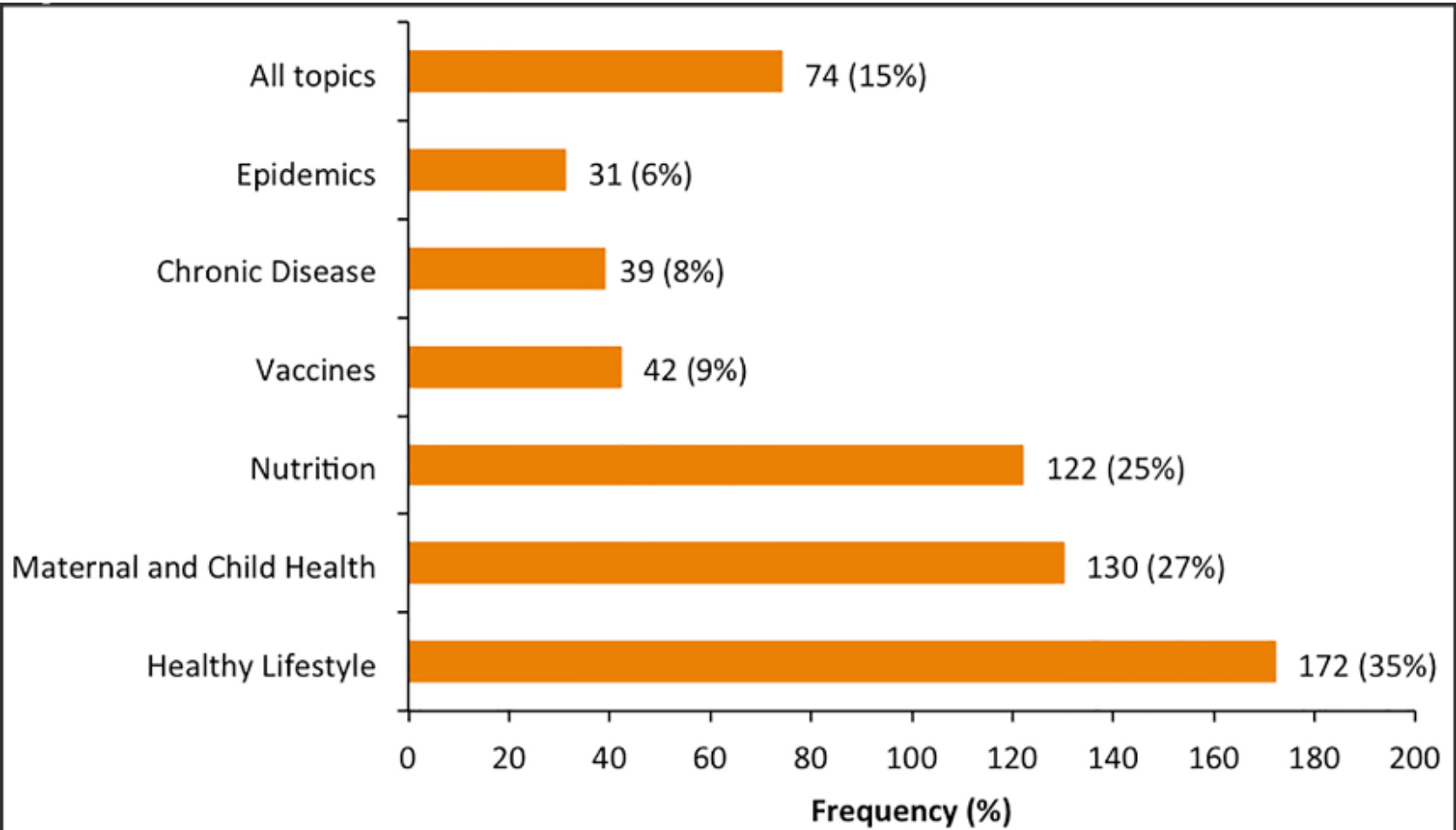
n= 120

- Study found that Majority of farmers possessed mobile phones. (98%)
- Majority (67%) of farmers perceived SMS services provided by KVK and APMC useful.
- Majority (66%) of farmers fully adopted pest management strategies w.r.t red gram

Mobile Phones: The Next Step towards Healthcare Delivery in Rural India

Sherwin I. DeSouza et al. (2014)

This is an exploratory study done at a village, 52 kilometers from Bangalore, Karnataka State. Village had 608 households, 558 were available and willing to participate in the study, of these only 488 owned a mobile phone and were enrolled.



- mHealth interventions such as reminders and information disseminating applications via mobile phone were acceptable by rural people
- The voice call was the preferred mode of communication in our setting, and needs to be considered in light of the popularity of SMSs globally.
- Of 488 respondents, 484 (99%) were open to receiving health information on mobile phones. Topics that participants preferred information on included healthy living, nutrition, maternal and child health, vaccination, self-care in chronic illnesses and information on infectious disease epidemic

A study on use of e-Learning among rural youth

Kawita Bhatt (2019)

Study conducted in Udaipur district of Rajasthan, in Badegaon panchayat samiti, 7 govt schools were selected.

n= 140

S No.	Category	Male (n ₁ =70)		Female (n ₂ =70)		Total (n=140)	
		f	%	f	%	f	%
1.	Tools						
a)	Personal computer	26	37.14	41	58.57	67	47.86
b)	Laptop	33	47.14	26	37.14	59	42.14
c)	Smart phone	70	100.00	60	85.71	130	92.86
d)	Internet	70	100.00	61	87.14	131	93.57
e)	Smart classroom	45	64.29	34	48.57	79	56.43
f)	CD/DVD	25	35.71	21	30.00	46	32.86
g)	Audio-and videotape	20	28.57	33	47.14	53	37.86
h)	TV	17	24.29	32	45.71	49	35.00
2.	Platforms for e-learning						
a)	YouTube	59	84.29	57	81.43	116	82.86
b)	Quora	12	17.14	12	17.14	24	17.14
c)	Gmail	41	58.57	22	31.43	63	45.00
d)	Facebook	54	77.14	40	57.14	94	67.14
e)	Instagram	54	77.14	40	57.14	94	67.14
f)	Whatsapp	57	81.43	40	57.14	97	69.29



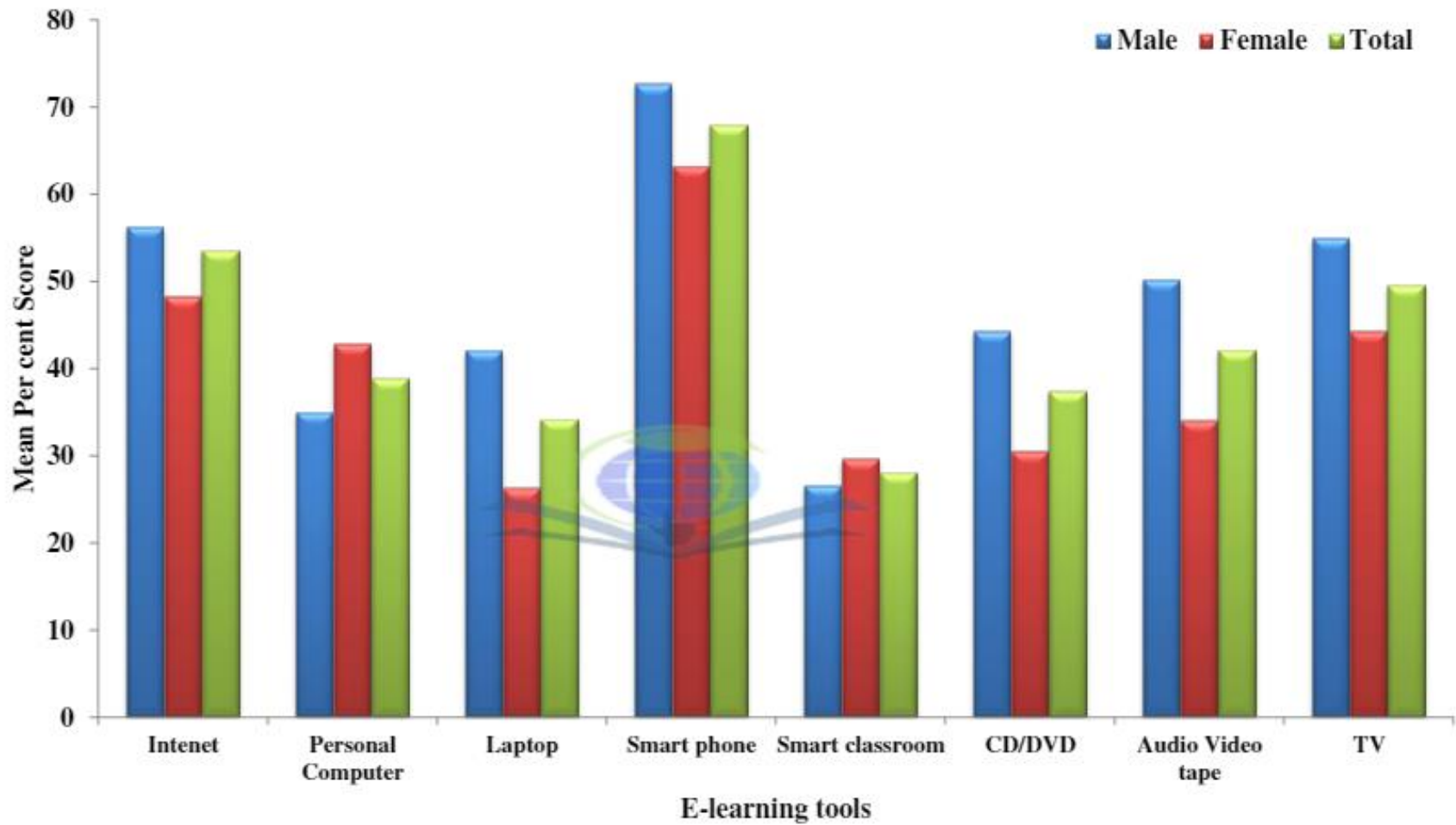


Fig 4.2 Use of e-learning tools by the respondents

- Study concluded that most of the respondents used internet (94%) and smartphone (93%).
- More than half respondents perceived mobile learning useful in exams, provides answer to each and every query.
- Helpful in learning concepts, provides current affairs, and increases general awareness to great extent.

Challenges

- Design (Navigation)
- Trust, comfort with technology, and affordances
- Poor internet connectivity
- Age
- ICT infrastructure
- Electric fluctuations
- Lack of awareness
- Transparency/ Ambiguity

Way Forward

- eGovernance in rural areas
- Boost towards ePayments (Cashless India)
- High speed internet connection should be available for every gram panchyats
- e-Justice
- e-election (Digital Voting)



Conclusion