



Innovations in m-agriculture: Lessons from India

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Woes of Indian Farmer

Yields are low

Quality is inconsistent

Post-harvest losses

Lot many intermediaries in back end and front end supply chain

Lack of knowledge about domestic as well as international markets

Missing link between lab to land

Less share of farmers in consumer rupee

Information :An Important Input

Information on agri-inputs (seed, fertilizers, pesticides, credit)

- What input brands to use?
- How to use them effectively?
- Which are the best sources for procurement?

Information on Forward linkages

- Domestic/International Markets
- Price Discovery
- Consumer Behavior
- Packaging , Grading and standardization

- Awareness about good agricultural practices
- Weather information
- Time of sowing
- Package of Practices
- Q/A with scientists and extension staff
- Govt. scheme/subsidies

Other Needs

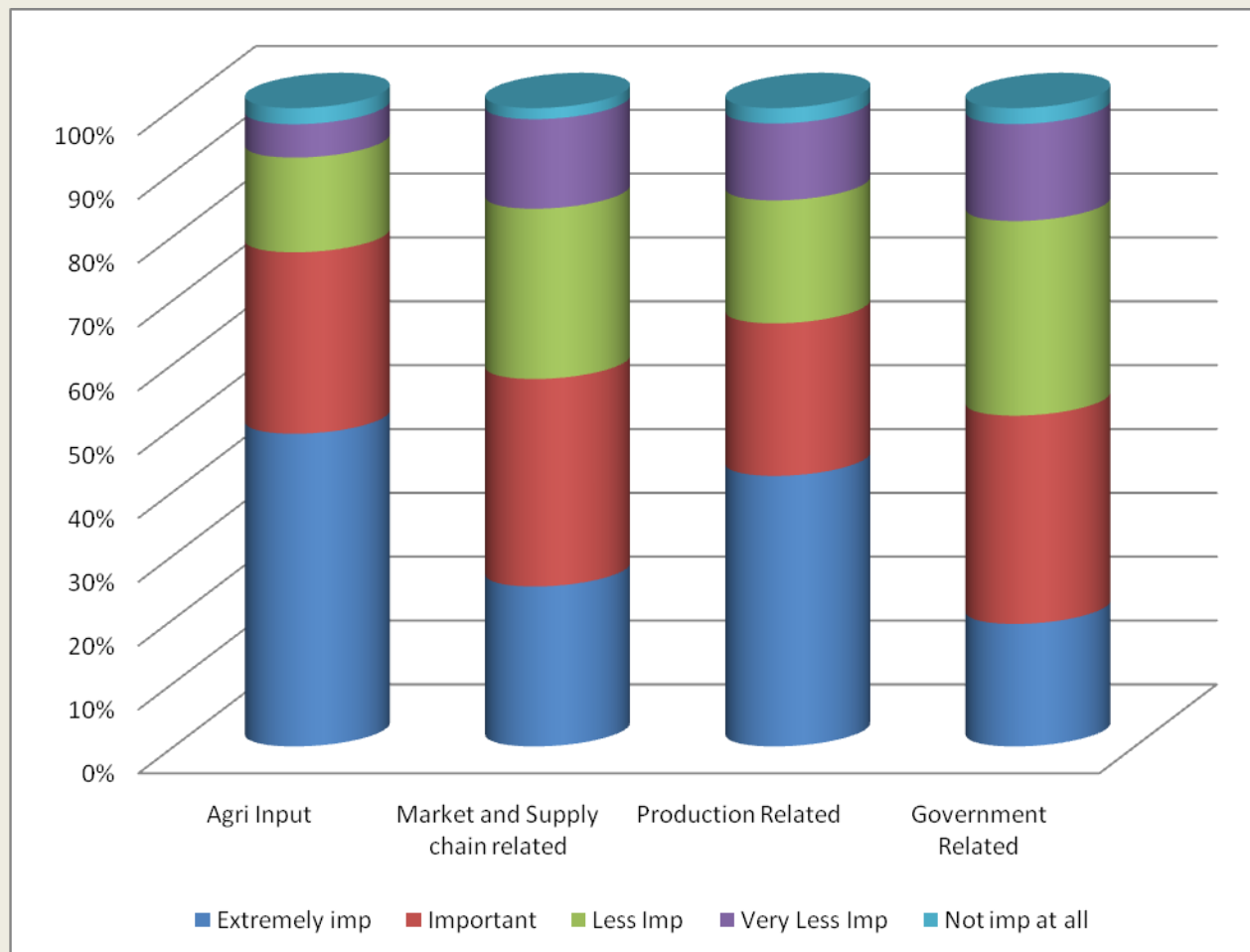
- Family Health and Education
- Entertainment
- Networking
- Communicating with friends, relatives and society



Information, respondents get from different sources

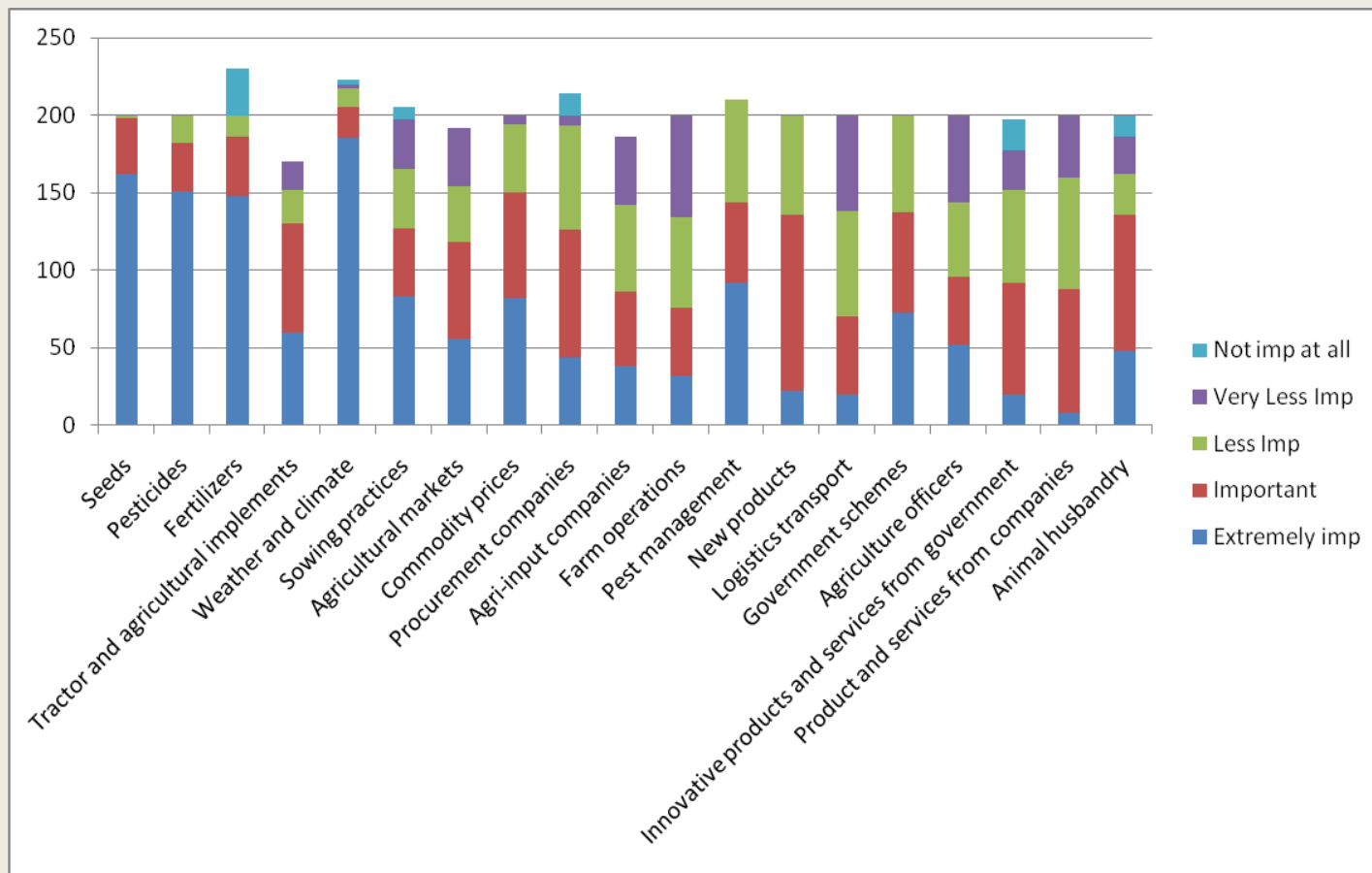
Sl.No.	Information source	Use
1.	Newspaper	Mandi rates, New products, Local News, Query or question answers related to agriculture, Advertisements, job related news, government's subsidies, contract rates
2.	Magazines	Package of practices of different crops, profit and loss of different crops, new movies, monthly news, articles.
3.	Pamphlets	Knowledge about particular crop, like cash crop and a specific disease control
4.	KVKs/ Research Stations	Expert's advice, new technologies and hybrid seeds, disease control measures, weather related advices, input related advices.
5.	Television	Krishak darshan for different kinds of information, upgraded package of practices of agriculture, news, new techniques, fashion trends, market watch
6.	Radio	Weather information, Government schemes, news, disease and pest control
7.	Fellow Farmers	Seed sowing, harvesting, input use time and quantity, new technologies and new world
8.	Fairs	Hybrid seeds, improved practices of farming, irrigation related up gradation
9.	Portals	News, new trends in different fields like in agriculture as well as in human life
10.	Movies	New trends and fashion

Importance of Various Categories of Information



Source: Narula, 2009; Empowering farmers through ICT enabled food supply chains in Uttarakhand; presented at 4th Uttarakhand Science and Technology Congress, Pantnagar

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Information asymmetry Across Value Chains

- The Case of Lac, Tussar, Paddy and NTFPs in Jharkhand
- The Case of Grapes in Maharashtra
- The case of NTFPs / Vegetables in Odisha

India has experimented with ICTs

Public Service Models

Kissan Call Centres telephony initiatives (www.kisan.callcenter.net)

Web portal initiatives (www.agmarknet.nic.in)

State government has their own modules such as ASHA (Assam) E-krisi and Kissan Kendra (Karnataka)

Private Sector Models

ITC e-chaupal

Mahindra Krishi Vihar

I-kisan (Nagarjuna fertilizers and Chemicals Ltd. and Parry's Corner)

Commodity Exchanges such as MCX and NCDEX

Reuters Market Light, IKSL, Handygo

mKrishi

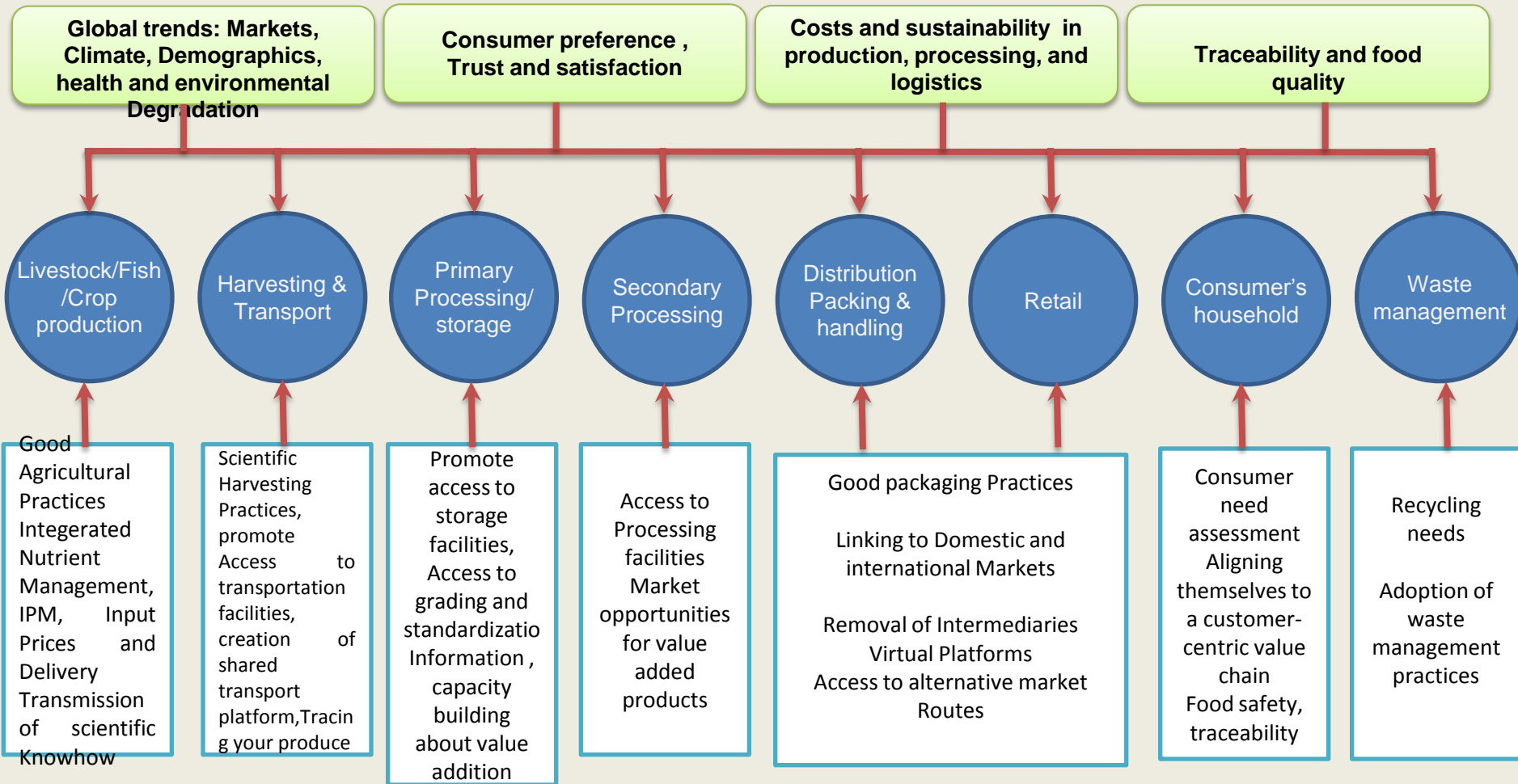
Other Initiatives

Dairy Information Services Kiosk (NDDDB)

GRASSO of West Bengal

Rural Telecentres

Mobiles: A Platform for Information Delivery



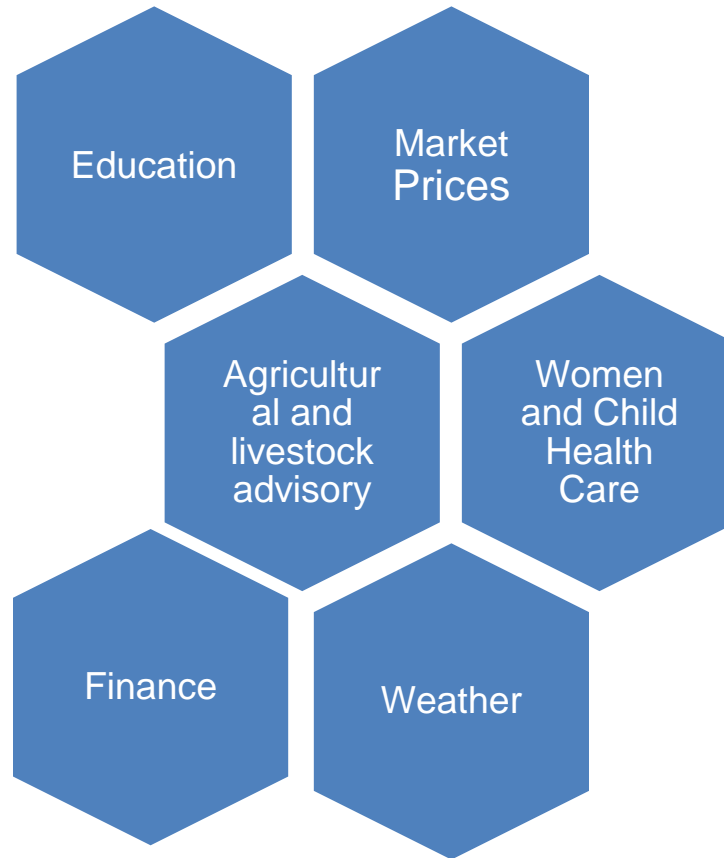
Initiatives in m-agriculture

- Reuters Market Light
- Kisaan Sewa (IKSL)
- Fisher Friend
- mKrishi
- Handygo

Reuters Market Light

- Around 300,000 subscriber base
- Working in 13 different states
- Generating and validating content at the field level
- Providing specific information about 260 crops/crop varieties
- Own distribution network
- Have collaborative linkages with NABARD, IDEA etc.

Handygo: Behtar Zindagi



Handygo: Behtar Zindagi

- PAN India presence
- Information delivery in 18 regional languages
- Covering a wide range of information touching every aspect of rural life
- Content sourced from govt. institutions and state level universities
- More than 12 associations towards the service (Govt. & non- Govt.)
- Giving platform to many govt. organizations for dissemination of information
- State level content segregation delivered through regional voice based menu
- Handset irrespective and 24X7 availability
- Location Based Service (LBS), form of Behtar Zindagi helps users to ascertain the information on the basis of their current location

A Case of IFFCO-Kisaan Sanchaar Ltd.

A unique collaboration between India's largest telecom service provider Airtel and largest farmer's co-operative IFFCO

The objective of IKSL is rural empowerment through enhanced customer relations and serving its farmers by providing information related services

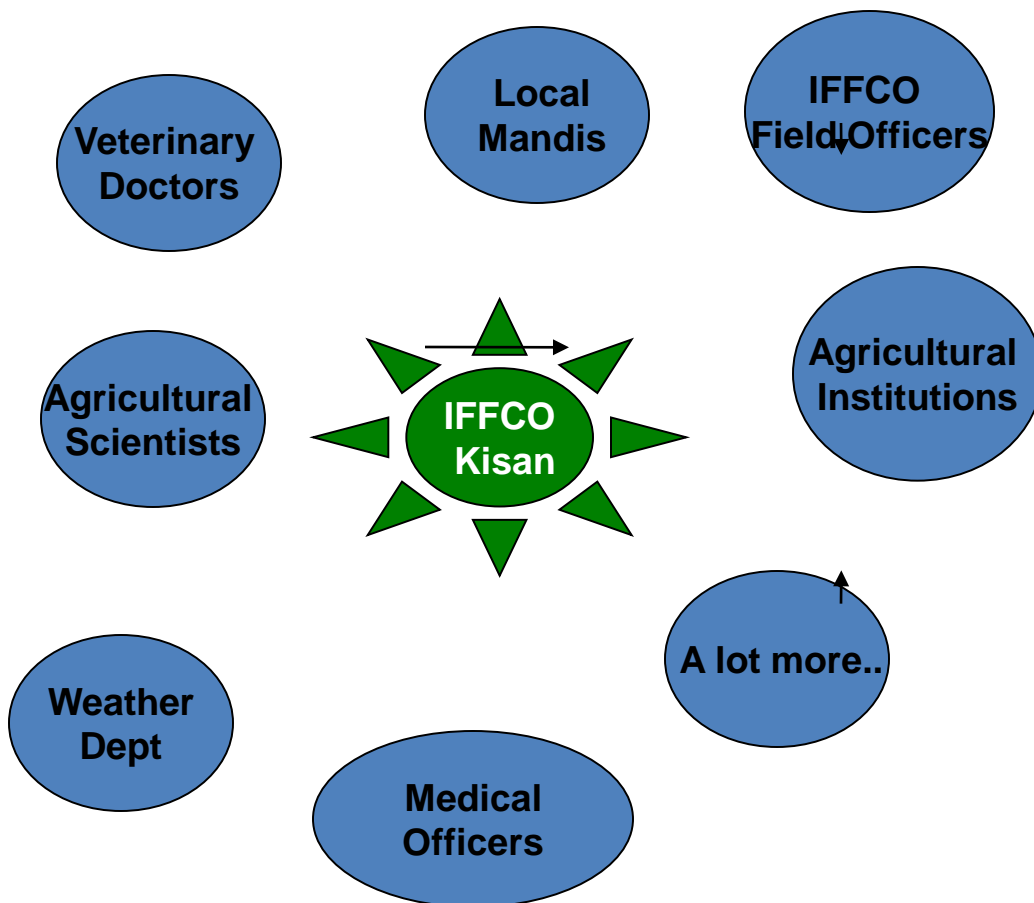
Win-Win Model - For Farmers & Co-operatives

UNIQUE SIM CARD IFFCO - Airtel Green Card

- Needful location specific information for users of SIM Card
- IFFCO Kisan ensures the most competitive Call Rates
- Value Added Services are bundled free of cost
- Best deal for the handsets also
- Cheaper Call Rates within the group also

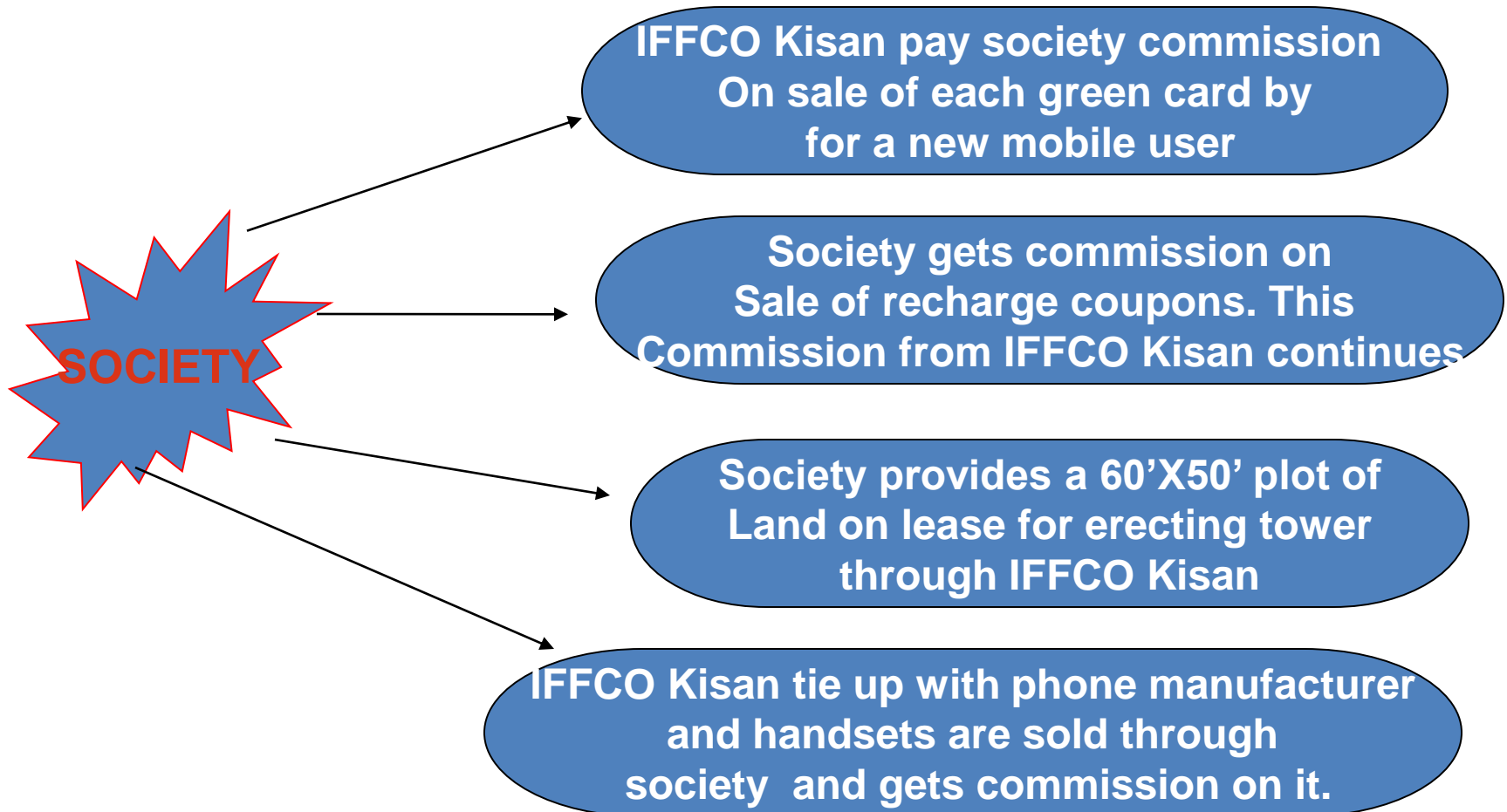
Source: Iffco Kisaan Sanchar Ltd.

Message Delivery



- Mandi rates , Canal Roster
- Availability of Fertilizer and other inputs
- Cane harvest , Weather, Camps/Mela, Pest attack
- Vet Disease, Soil testing Camps
- Pesticide/ Insecticide
- Best yield & Best farming Practices
- Various Government Agriculture Schemes
- Cash crop Economics
- Interest Rates of various Banks

IFFCO Kisaan Sanchar: Business Model



Source: Iffco Kisaan Sanchar Ltd.

Challenges in Information Delivery through m-agriculture

- What information is needed by stakeholders?
- How to design commodity-specific and region specific packages ?
- How to ensure the timely delivery of relevant information?
- How to deliver and validate the content?
- What value proposition should be delivered?
- How to package the information mix?
- Which agencies/stakeholders should be involved in the delivery process?

Designing Value-Added Services: Issues Ahead

- How to achieve economies of scale?
- How to generate and validate useful content?
- How to ensure sustainability?... Revenue streams?
- How to increase the no. of subscriber as well as dealers' base?
- How these models can ensure the farmers' the best of services and have strong relations with them by providing value-added services?
- How can the cos increase its no. of subscriber base as well its talk –time revenue?
- How collaborations should be strengthened?

Content Development :

- Tie-up with research institutes,.
- Identify mandi and other local linkages with Govt. offices for collecting daily market information
- Creation of customized content as well as message.
- Clarity as well as usefulness of the message.
- Empanelment of crop experts and other field experts.
- Trying up with Universities, KVK's, and other research Institutions.
- Farmers as opinion makers, information agents and advisors.
- Record success as well as Failure stories.

Information Delivery

Business Model

- Content sponsorship or information selling or both?
- Collaborative ?
- Or independent such as Reuters and Nokia Life Tools
- Cross-selling or upselling through new products and services?

Product-Service Mix

- Distribution & Retailing of Mobile telephones
- Intermediary for various input output providers
- Cross-selling or upselling
- Providing other value added services to farmers such as micro financing, money transfer etc.
- Extending the mix to offer more product/ services throughout the supply chain
- Extending the service mix to health, education , children

The Way Ahead

generic.....localized specific information (commodity-specific)
traditional media..... modern media
information clutter.....SMART information
information supply.....demand driven information
free of cost information.....value added premium services
single supplier.....collaborative business modules
text servicesmultimedia supported information
costly technology.....cost-effective innovative solutions

The Story of Kisaan Raja

Innovation in m-agriculture- Kisan Raja

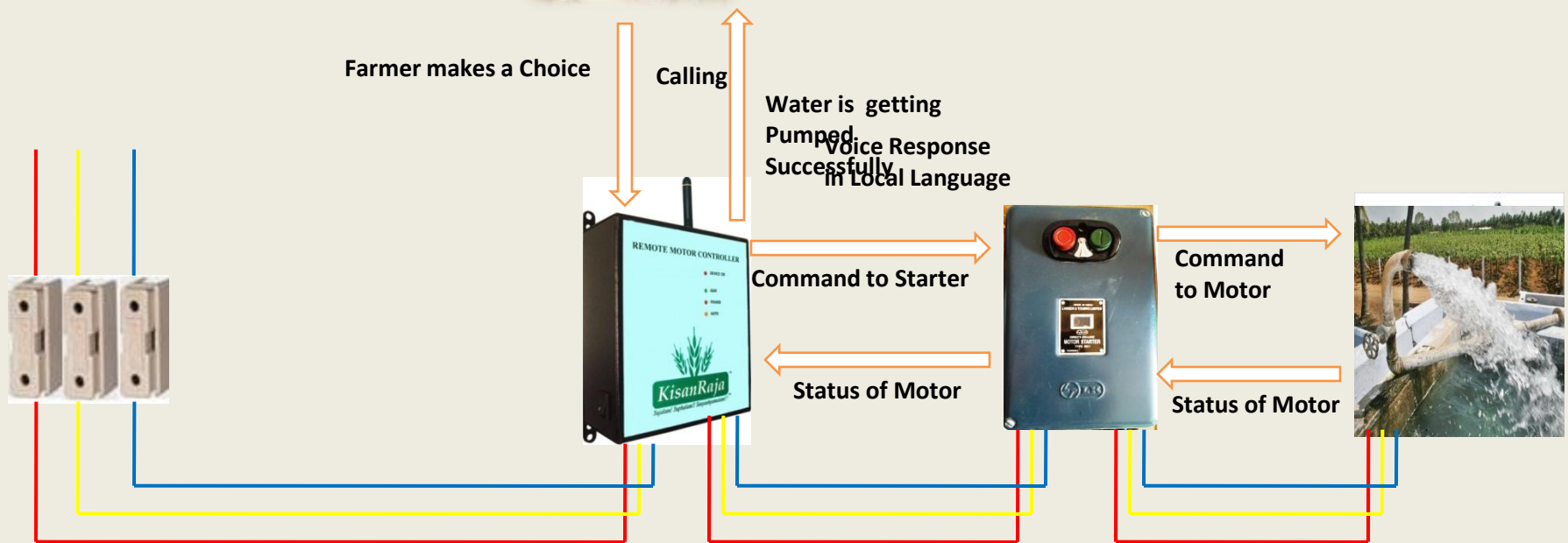
Kisan Raja allows the farmers to remotely control their pumps using the mobile



How Does Kisan Raja Work?



Farmer Initiates the Call



KisanRaja Initiating a call

- Power availability status
- Voltage fluctuations
- 3 Phase connectivity faults
- Dry run/over load
- Attempt of device/starter/motor theft

Reaching out to the Farmers

- **Marketing and distribution strategy**
 - Leveraging dealer network of pump/starter/pipe vendors
 - Direct marketing
 - Offering dealerships to the Rural Entrepreneurs
 - Training and hiring unemployed local youth for after-sales service
- **Demand creation strategy**
 - Showcasing in Kisan Melas and Agri-Industry expos
 - Establishing strong institutional partnerships such as:
 - ITC e-choupal
 - Reuters Market Light (RML)
 - TCS mKRISHI
 - Awareness through collaborations with NGOs, Farmer bodies, MFIs, etc.

The Kisan Raja Edge

- **Product leadership**
 - End to end irrigation automation solutions provider
 - Superior to all existing solutions on several parameters
- **Revenue model innovation**
 - Widen the target base by encouraging cooperative farming and offering them our solutions as shared services model
 - Alternative revenue strategies (Eg: from selling of Carbon Credits, lease rentals)
- **Cost leadership**
 - Drive down the per unit cost with economies of scale
 - Low cost replacements for any imported components
- **Distribution channel leadership**
 - Distribution channel and after-sales support through Rural Entrepreneurs
 - Collaboration with TELCOs, Motor/Starter vendors, FMCG players

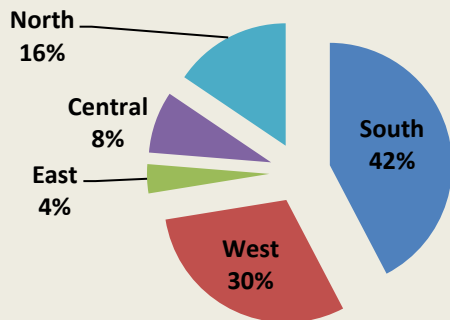
Current Status and Future Plans

➤ Kisan Raja- Size of Current Operations

- # Installations: Impacted the lives of 2000 farmers across AP and Karnataka
- # Open Customer Orders across the country: 5000
- # Units under Manufacturing: 1000/month
- # Dealers appointed: 160 from AP and KA

➤ **We are planning to expand operations across all South Indian states in next 6 months and sell 10000 units and plan to expand operations across India within next 12-18 months.**

Irrigation Motor Pumps: Region wise Breakup

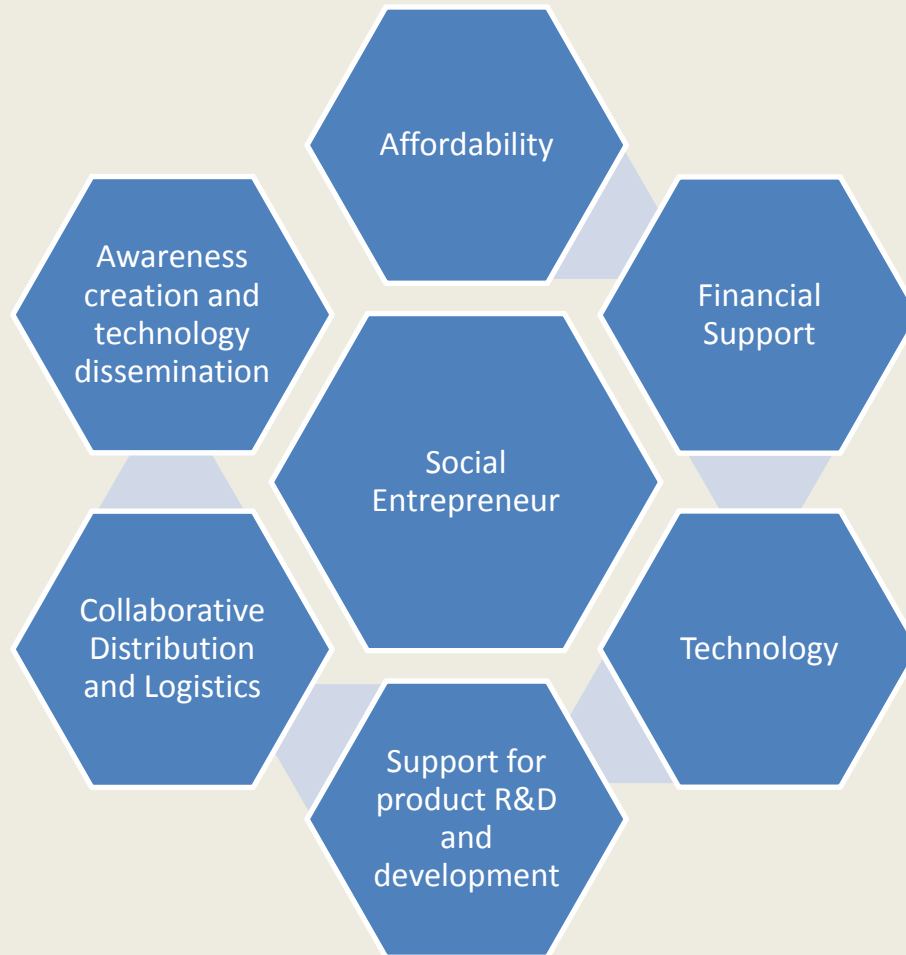


Southern Zone	# of Districts	# Motor Pumps
Andhra Pradesh	23	2,769,275
Tamil Nadu	32	1,913,697
Karnataka	30	1,833,528
Kerala	14	490,054
Goa	2	8,143
TOTAL	101	7,014,697

Challenges

- Lab to land... long gestation period
- Creating awareness about technology
- Technology Demonstration
- Distribution related challenges
- Operational Support
- Product affordability
- Financial support for social entrepreneur

The Future ahead.....





THANK YOU

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