Broadband Roadmap for India : The Demand side issues & Challenges 2017

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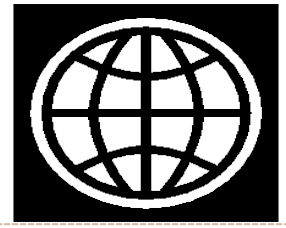
Transport & ICT Global Practice

THE WORLD BANK

NEW DELHI

How far have we come ? And miles to go ..



- India – the 4th largest economy ($ 2.1 trillion) with 1.2 billion people.
- Impressive economic growth and development (7% + growth)
- Life expectancy doubled, literacy rate increased by four times, health conditions have improved – and large middle class has emerged.
- However, biggest challenge is 'inclusive development' !

  (Inequity, regional, caste, gender . . . . . and the financial inclusion challenge)
- The second challenge is 'sustainable development' – SDGs 2030 !

  (Protecting our natural resources; Protecting our environment for pollution, emissions, radiation etc. ; and Resilience from natural disasters).
- And finally the 'Governance challenge' !

  (To deliver the 4 Fs - Framework, Functions, Finances & Functionaries - plus Capacity Building & Accountability)

WDR 2016 - Digital Dividends

- **ICT Revolution**. The world is in the middle of the greatest ICT revolution in human history.
- **Evidence of change all around us.** The poorest 20 % households 7/10 have access to a mobile phone. Over 40 % of the world's population has access to the internet. Many benefits to the poor and disadvantaged, over a 1 billion with disabilities can lead more productive lives. M-Pesa in Kenya, the cost of remittances dropped by 90 %, Aadhar digital bio-metric system is changing the modes of delivering benefits to the poor, in Estonia - citizens can access 3,000 services on their mobile phones).
- **Digital technologies have promoted inclusion, efficiency and innovation** : Businesses to get more productive, People to find new opportunities, and Governments to improve their operations. The payoff: faster growth, more jobs, and better services—what the Report refers to as 'digital dividends'.
- **WDR 2016 warns that benefits of the digital revolution will not automatically trickle down to everyone and everywhere. Why?** 50% of the world's adult population does not have access to the internet - They risk joining the cluster of the 'newly poor'. 6 billion people lack access to high speed internet and 4 billion still have no internet access at all.
- **Infrastructure.** We must invest in infrastructure, but even more important is to pursue sector reforms.

WDR 2016 - Digital Dividends

- WDR provides an answer to how 'new digital technologies' make a greater contribution to the twin goals of - **1) ending extreme poverty and 2) boosting shared prosperity?** The key is in strengthening the basic foundations of development— the **"analog complements"** of digital development that allow everyone to take advantage of digital opportunities.
- **Literacy** being a pre-requisite for getting most of the benefits of digital connectivity, in the new world. Hence, we must step up on 'conventional measures to empower the poor and build up what Amartya Sen has called their '**capabilities**."
- **Regulations and an enabling environment** is critical to address the slow adoption of digital technologies among firms in countries with a poor business environment and prevents innovative startups to enter markets.
- **Institutions**. And the poor record of many e-government projects is not just due to lack of public sector capacity. It is also because too many governments 'use the internet to control' rather than to empower their citizens.
- The new Digital technologies, by themselves, will not solve basic development problems that have persisted for decades. What is needed is a '**broad digital development agenda**' that **promotes connectivity**, while simultaneously **supporting reforms** in the business environment, **skills development**, and **good governance**.

India's accomplishments and challenges . . .

- In March 2016 India crossed the 'one billion mark' – 1,056 million telecom subscribers.
- Tele density – 83.3 % : Urban 57 % and Rural 43 %
- Total Market Revenue in 2017 : estimated at US$ 37 billion
- Private Sector – 92 % and Public Sector – 8%
- Broadband users - 145 million (14 %) about 80% mobile broadband
- India's Ranking in UN's e-Governance Development Index (EGDI) –

  107 out of 193 countries :

  - Online Services – 0.74
  - Telecom Infrastructure – 0.14
  - Human Capital – 0.50
  - **EGDI - 0.46**

Demand side assessment . . shared platforms

Livelihood Platforms
- e-Commerce
- Jobs / Mfg.
-Finance & Banking

Human Development
- Health
-Education
- Skills

Entitlements & Services
- Govt. Services
- Social benefits

Governance
- Budget & Finance
- Govt. Records
- Grievances

M&E Platform
- Project Monitoring
- Financial progress
- Results

Digital Citizen Services Platforms

Tamil Nadu Urban Devp. Project

		Systems			Collection Facilities			
	ULBs	By Project	Own	Total	Within Office	Within ULB	Bank	Total
Municipalities	102	718	374	1092	85	14	7	106
Corporation	5	202	116	318	25	34	34	93
Town Panchayats	611	655	0	655	0	0	0	0
Aggregate	718	1575	490	2065	110	48	41	199

Karnataka Mobile One

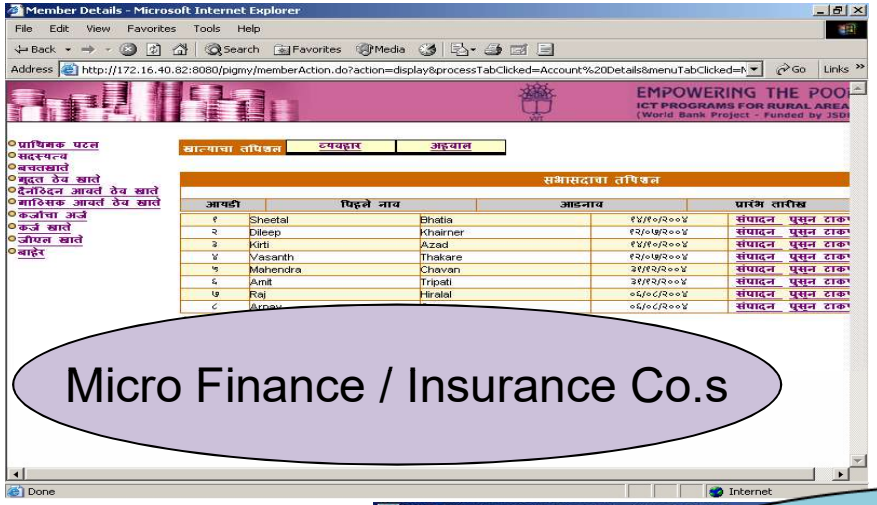
Entitlements & Rural Services Platform

Citizen Service Centers

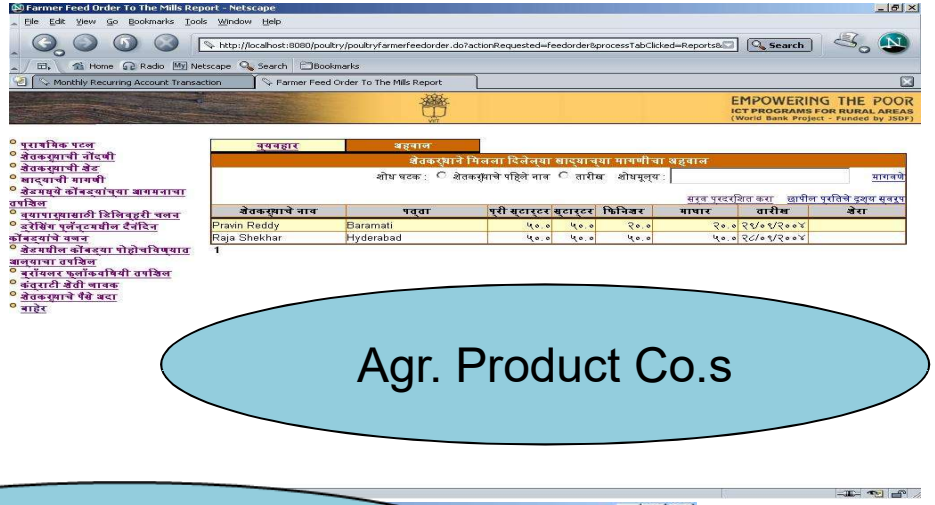
Solar Power enabled Centers

Financial Transactions Platforms

Rural Cluster / Business Hubs based approach

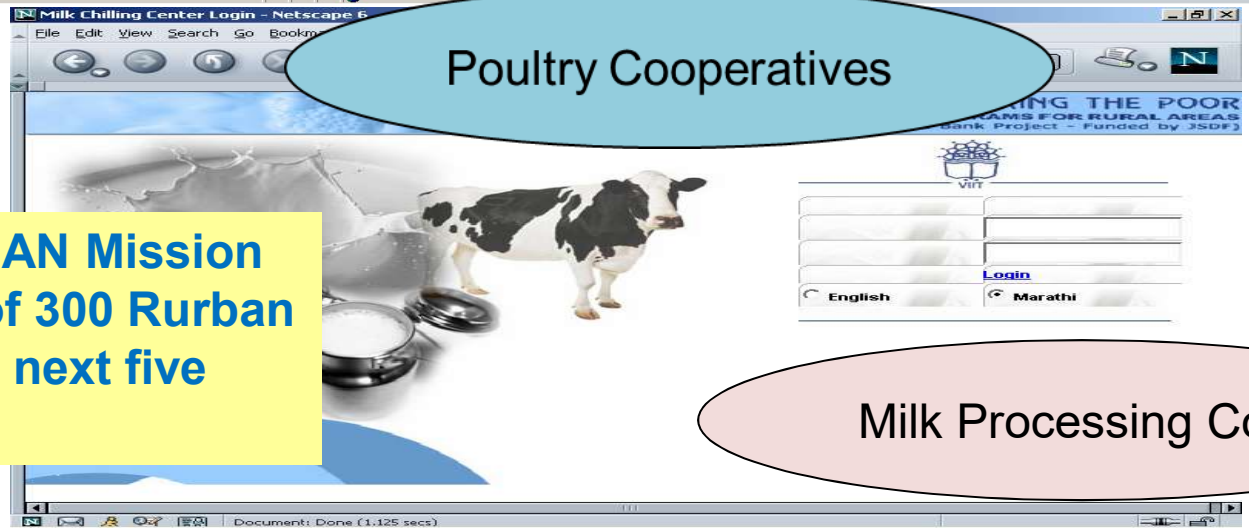


Micro Finance / Insurance Co.s



Agr. Product Co.s

Poultry Cooperatives



Milk Processing Co.s

National RURBAN Mission Development of 300 Rurban clusters, in the next five years.

Global examples : e-Rural Cluster / e-Business Hubs

ALIZILA NEWS FROM ALIBABA GROUP | GATEWAY TO CHINA | ECOSYSTEM IN ACTION | CHINA INSIGHTS | FILTER BY BUSINESS

AN INTRODUCTION TO TAOBAO VILLAGES

ALIZILA STAFF | JANUARY 17, 2016

Definition of a "Taobao Village (淘宝村)":

As defined by AliResearch, Alibaba Group's research arm, a Taobao Village is a cluster of rural e-tailers within an administrative village where:

1. Residents got started in e-commerce spontaneously primarily with the use of Taobao Marketplace;
2. Total annual e-commerce transaction volume is at least RMB10 million ($1.6 million);
3. At least 10% of village households actively engage in e-commerce or at least 100 active online shops have been opened by villagers.

Emergence of "Taobao Towns (淘宝镇)":

In some rural areas, e-commerce is gaining sufficient scale to lead to the formation of bigger clusters of rural e-tailers. These bigger clusters are referred to as "Taobao Towns" and a "Taobao Town" is defined as a town, township or street that comprises at least three Taobao Villages. The first batch of 19 "Taobao Towns" came into being in 2014.

Statistics at a glance:

- 780 Taobao Villages
- 200,000+ active online shops
- 17 provinces and municipalities
- 71 Taobao Towns
- 25 Taobao Village Clusters

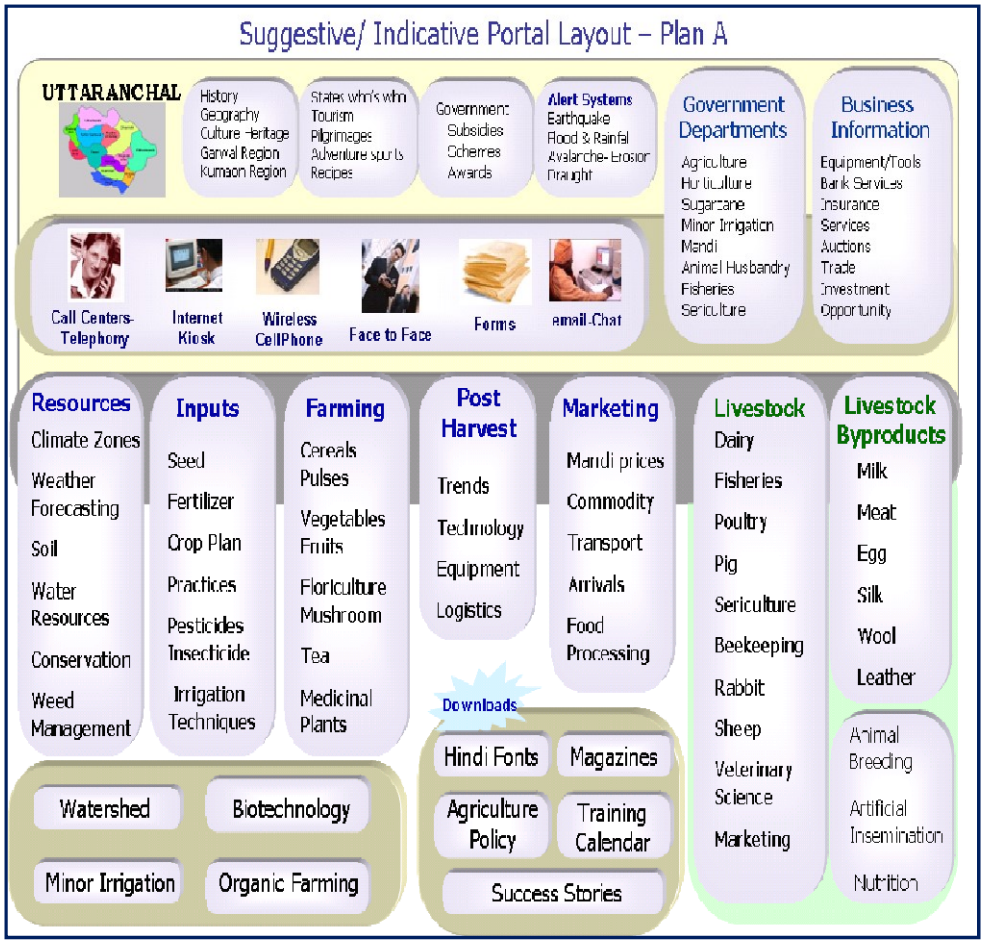
Connecting the PRI and Rural Institutions

Vision of the state using I.T. in PRI for

- Improving efficiency of functioning.
- Better accounts keeping
- Transparency
- Decision support for planning
- Faster flow of information / reports / utilization
- Information sharing & reaching out to the people
- Resource Mobilization

E-Knowledge Platforms – Agriculture

Agriculture Knowledge Portal



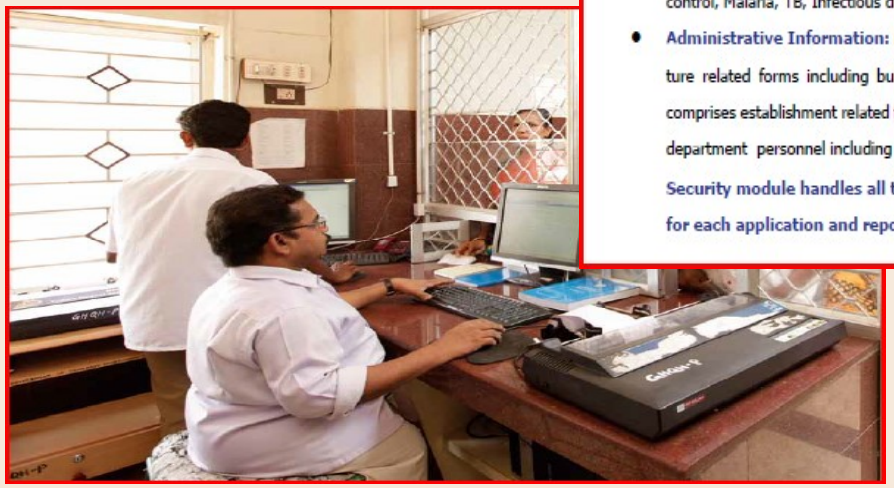
AgriPole & Apps

E-Skills, Education & Awareness

Education & Awareness Projects

- **e-Class & Teacher-Student Portal, Uttarakhand**
- **Vocational Education**
- **Technical Education**

E-Health Services Platform



HMIS (Four Major Modules)

- **Clinical:** OP, IP census and details of maternal, child health, immunization details, family welfare services and disease wise data of treatment and cases, etc.
- **Ancillary:** reporting forms for blood bank services, laboratory services, Stores / Inventory details for drugs and other consumables, diet details and biomedical waste management.
- **Programme Information:** National and State level programmes like Blindness control, Malaria, TB, Infectious diseases, School Health, etc.
- **Administrative Information:** Finance related forms for budget, etc.; and infrastructure related forms including buildings, equipment, vehicles, etc. This module also comprises establishment related forms for capture and reporting details of all the health department personnel including posting, transfers, training, leave, etc.

Security module handles all the access and privileges to be given to end users for each application and reporting.

Implementation Schedule

Pilot --- 5 Hospitals --- HMS + HMIS --- **Activity Completed**

Phase 1 ---5 Districts (36 Hospitals) HMS + HMIS --- **Activity Completed**

+

272 Hospitals --- HMIS

+

5 PHCs --- HMS + HMIS

+

ccrediation process other than the five Hospitals covered under Phase 1 Districts

222 Hospitals in 26 Districts + 15 PHCs ---**Activity in Progress**

under the Directorate of Medical Education including 18 medical college Hospitals

System requirement study in Progress

+

mation system for Tamil Nadu Dr. MGR Medical University - in progress

Source : Tamil Nadu State Health Project

Mother and Child Healthcare Management System for NRHM

ICT Projects – Mobile enabled M&E

To conclude . . .

Three main recommendations :

I. **Partner and collaborate**

II. **Systematic Risk Management**

III. **A ‘balanced’ new approach**

Partnership and collaboration . . .

Table B4.4.1 Broadband investment program, Republic of Korea

US$ million and percent of total

Investment	Information infrastructure, 1995–2005	Broadband convergence network, 2005–14	Total, 1995–2014
Government	806 (2.4%)	981 (38.0%)	1,787 (5.1%)
Private	31,721 (97.5%)	1,599 (62.0%)	33,320 (94.9%)
Total (US$ million)	32,527	2,580	35,107

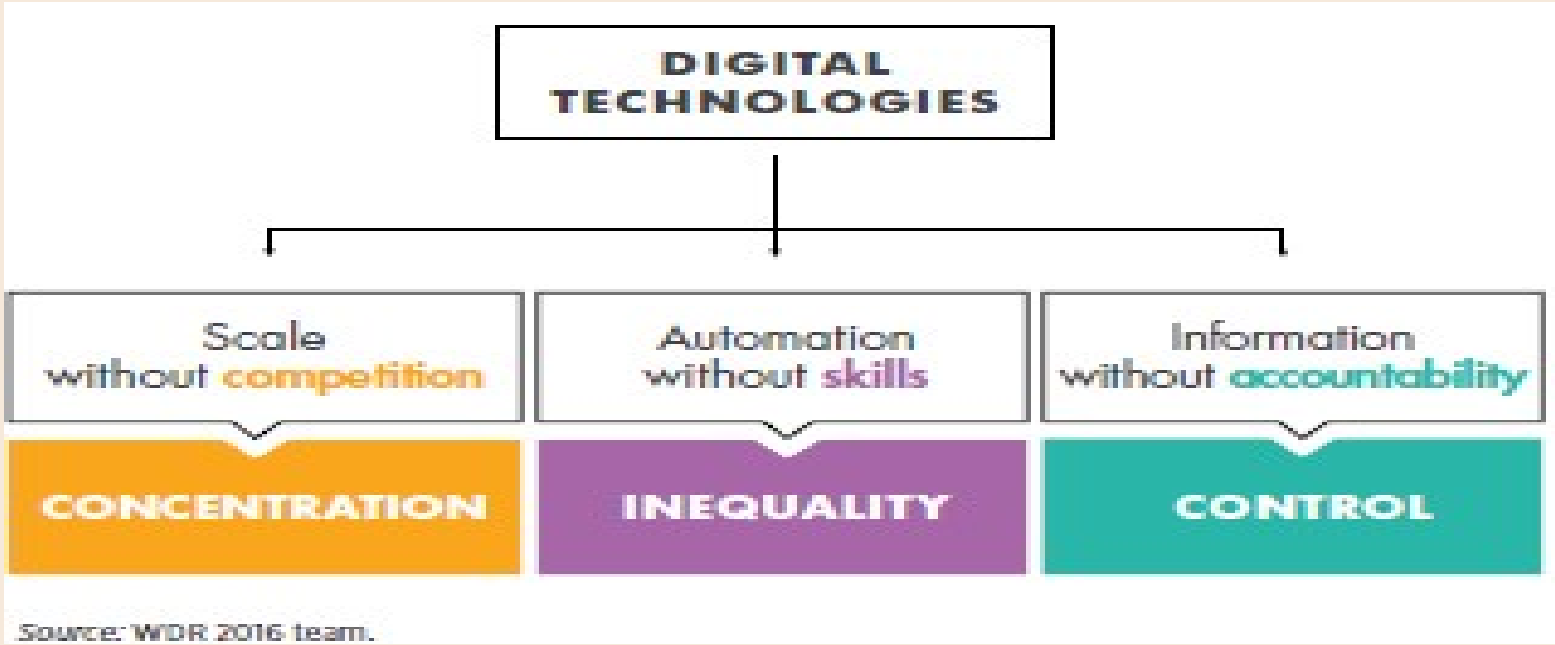
Sources: Kim, Kelly, and Raja 2010; World Bank and Korean Development Institute 2015.

Private companies have driven network investment throughout the world, especially in mobile networks. Markets fail where the private sector under invests—for instance, because the return on investment (RoI) may be less than the social return.

This appears to be happening in at least three areas :
a) Remote areas. b) Unattractive markets. c) Uneconomic services.

Partnerships and suitable collaboration will have to be developed to address the challenges of digital broadband roadmap for the future.

Risks in adopting new digital technologies . .



Source: WDR 2016 team.

A comprehensive new approach . . .

Supply side Issues

- **Improving Digital Connectivity** - geographic and demographic challenges of a huge country, lack on underlying infrastructure and even for fixed-line
- **Building a robust & reliable digital connectivity network** – Speed and Quality of broadband connection.
- **Managing the 'contention levels' on the network** - number of users, hogging of bandwidth, back / front hauling traffic, spectrum allocation issues etc.
- **Development of 'optimal technologies mix' –** flexibility to develop the most optimum mix and introduce new technologies
- **Last mile connectivity 'business models' for collaboration and partnerships**

Demand side Issues

- **Demand Assessment & Targets** – understanding the 'last mile' and the 'invisible mile' needs. Critical to move beyond 'GPs only' approach.
- **Assess the feasibility of 'cluster based approaches'** – address the demand and supply challenges by cluster of villages.
- **Promoting demand for rural broadband** – critical assessment of policies and processes, prices / tariff, local content, local applications / e-services.
- **Development of the 'rural e-commerce' industry** – assessment of policy, regulations, incentives framework to support development of rural enterprises
- **Building of skills, core capabilities and digital literacy of rural citizens** - assess readiness, bottlenecks and barriers in using e-platforms in rural areas.

Thank you.

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