Transforming rural development through Digital empowerment and use of ICT: Case of Andhra Pradesh

Parmesh Shah, Global Lead, Rural Livelihoods and Agriculture Employment, Agriculture Global Practice
Institutional Platform: 11.7 million women

- Insurance Franchisees
- Linkage and liaison with Govt. Dept.

- Women Bank
- Dairy Federations
- Producer Federations

- Nutrition Centers
- Procurement Centers
- Village Banking System

- Credit and saving
- Household Livelihoods Plan

SHGs

1 million

Village Organizations

44,000

Sub-District Level Federations

22

District Level Federations

1,098

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**Key Outcomes**

**System Level**
- Credit US$2 billion
- Institutions of 11.7 million women
- 1.9 m farmers practicing sustainable agriculture
- Milk procurement 132 million liter/year
- A million Jobs

**Household Level**
- Doubled education expenditure
- Doubled access to PDSs
- 70% increased Food consumption
- Doubled HH level assets

**Key Outcomes**
Key Transformations

Non-bankable poor → Credit worthy clients, banking correspondents, facilitators, franchisees

Low-skilled workers → Skilled entrepreneurs using ICT and technology

Passive Participants in the market → Grassroots quality controllers in the value chain

Limited roles in the households → Woman headed households where they play important economic roles in the household

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RURAL DEVELOPMENT & LIVELIHOODS
Participation, Empowerment, Poverty Reduction
Vision

Transform how citizens/users/farmers/women access information and services

Transforming communications devices to transaction and information devices

Use ICT as an enabler to achieve key developmental outcomes

Transform how supply side institutions get feedback, take decisions, and provide information and services

Creating an ecosystem for ICT innovation
Blending community institutional platform with Digital Ecosystem

- Increased access to technology
- High number of Digitized transactions
- Local and indigenous knowledge capture
- Cost-effective digital content for the poor
- Frontline workers equipped with digital devices

Digital empowerment

- Efficient decision Support System
- e-payment gateways

Institutional Platforms of Poor

- Building Enabling Environment
- Partnerships and Convergence
- INNOVATIONS
- Financial & Capital Services
- Market Linkages
- Access to Entitlements
- Last Mile Delivery of Public Services
- Production & Productivity
- Dedicated Support Institutions (Professionals, Learning Platform M & E Systems)
- Human and Social Capital (Leaders, CRFs, Community Para-Professionals)

Increased access to technology

- High number of Digitized transactions

Efficient decision Support System

- e-payment gateways
Using existing devices and applications for Digital Empowerment

Some Applications

1. m-Bookkeeping
2. Digital green
3. m-CMSA
4. m-NDCC
5. Doorstep Banking
6. Micro-insurance
7. Biometric-based payment
8. e-MMS
9. Digital moisture meter
10. GIS applications
Aplication I: Community Managed m-Bookkeeping

Scale:
11.7 million rural households;
$2 billion worth annual transactions.

Outcomes:
• A million transactions every week worth $100 million;
• Repayment rate is 98% (an increase of 5%) after m-Bookkeeping;
• Data base is linked to credit bureau used by commercial banks.
Application 2: Digital Libraries for the Poor: Video-based Learning Platform

Scale: 1.9 million farmers
Gross cropped area 6 million acres

Outcome:
• **2800 video** produced by farmers on best farming practices;
• Digital Libraries **available online and offline** also available on Youtube.
## Cost Benefit

<table>
<thead>
<tr>
<th>System</th>
<th>Cost (USD)</th>
<th>Village/Year</th>
<th>Adoption of best practices (%)</th>
<th>Village/Year</th>
<th>Cost/Adoption (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical extension</td>
<td>$840</td>
<td></td>
<td>11%</td>
<td></td>
<td>$38.18</td>
</tr>
<tr>
<td>Digital Green</td>
<td>$630</td>
<td></td>
<td>85%</td>
<td></td>
<td>$3.70</td>
</tr>
</tbody>
</table>

- **10 times** more effective *per dollar* spent than classical extension
- **7 times** more adoptions *over classical extension*
Digital Green

Wonder Village
Application 3: Community Managed Sustainable Agriculture

Scale: 1.9 million farmers practicing sustainable agriculture
Gross cropped area: 6 million acres

Outcome: 25% improvement in yields;
Timely and customized climate adaptation and crop advisory;
Single Window System

Crop-cutting experiment data
Crop disease observation data

Timely and customized advisory through SMS
Data analytics

Best ICT-enabled Agriculture Initiative of the Year 2012
Web-based: Digital farm and farmers profile

For more information: http://65.19.149.140/CMSAAP/ui/cmsamodules/HomePage.html
Application 4: Health and nutritional services to pregnant, lactating mothers, and children

Outcome:
- Average weight gained during pregnancy is 9 kg as against only 7 kg of non-participant;
- Newborns birth weight averaging 3 Kg against 2.5 kg of non-participant;
- 98.5% safe deliveries among participating women.
Application 5: Digitalized doorstep Bank run by women

Outcome:

• Recovery rate **98.7%**;
• **Improved efficiency** in business process;
• Cost-effective as compared to physical models.

Scale: Over a million members

Enabled access to financial services in remote areas where face-to-face banking is unavailable.

- Loan due alert by SMS, and Interactive Voice Response System (IVRS)
- Solar panel installed at call center
- Village entrepreneur running the call center/Kiosk

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Application 6: Community based Micro-Insurance Service

Scale: 
11.7 million SHGs members

Outcome:
• Claim Settlement Process Reduced to 30 Days
• More than 90% claims settled in 30 days

Commercial Bank

Payment of solatium/relief

Insurance claim from village

Call center Located in district federation

ATM

$125

Area committee member

Alert

Low Administrative Costs @ 10 cents per member
Application 7: Safety net payment through biometric authentication and smart card (old-age and widow pension)

Scale: **8.6 Million** people

Outcome:
- **US $ 461 million** disbursement per year
- **Significant reduction** in leakage and ghost payments
- **Effective** program outreach

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Application 8: NEREGA (one of the world largest jobs entitlement program)

Scale: 0.52 million annual job cards created
$445 million annual expenditure

Outcomes:
- Significant reduction in leakage and ghost works and payments
- Use of GPS to verify location and avoiding duplication
- Data collection from the Worksite to feed the Website on a daily basis
- Improved transaction efficiency
Application 9: Use of digital moisture meter in CMPCs

Scale:
• **2065** Community Managed Procurement Center (CMPCs);
• handled more than **100 commodities** since 2003;
• **1.6 million** tons worth **$344 million** handled during 2011.

Outcomes:
• **10% increase** in Maize prices due to CMPCs;
• Provide **One-stop-shop for procurement, quality control and payment**.
Bihar Innovation Forum 2014

- 491 Application in High Impact Innovation;
- 67 finalist showcased;
- 32 honored;
- BRLPS is looking forward to partner with many of them.
Invest India Micro Pension

A micro pension IT platform.
Sahaj e-village Limited

Technology back-end architecture which can interact with technology platform of different financial institutions.
All India Society for Electronics and Computer Technology (AISECT)

Service delivery outlet for providing financial inclusion solution and delivering e-governance services.
Dimagi Software Innovations

social accountability to improve citizen engagement and program monitoring
Fino PayTech Ltd.

ICT-based solution: Biometric group smart cards, hand held POS machine and back end technology that links field transitions to the bank.
BPIU, Baisi, Purnia is working on Solar Home Lighting System. In Baisi, electric supply is very low. We inspired to work on SHLS from local generator owner. The local generator owner is charged for only mobile charge Rs. 5 to 10 for each time. During interaction with DIDI, we found in one Household at least 2 mobile available. So, only one Household is paid Rs. 300 per Month for Mobile charging. Then we started working on Solar Home Lighting System with the help of TERI. Now days in Meenapur Cluster, 350 SHLS installed & 500 People want to install. These pictures are part of the Inauguration Cum Training of SHLS in Meenapur, Baisi, Purnia. — with Himanshu Shekhar Sharma.
Andhra Pradesh Rural Inclusive Growth Project (APRIGP): A way forward

**Project Objective:** To enable selected poor households to diversify and enhance sources of income and secure increased access to human development services and social entitlements.

**Project components:**
1. Value Chain Enhancement through Producer Organizations
2. Human Development
3. Access to Entitlements
4. **TA, ICT and Partnerships**
5. Project Management Support

**In addition to existing applications:**
- Automated kiosk (one-stop-shop)
- e-trading portals
- Provisioning solar UPS for *backup* power
- *WiFi and mobile network* connectivity using VSAT
- And more
Application 10: Usage of GIS in program design and implementation

Based on the census data a social category wise literacy map has been prepared which is being used for interventions.
Challenges

- Higher gestation period required due to initial period of experimentation and testing;
- High Risk, High return;
- Connectivity issues in remote areas, require combination of alternate energy and ICT;
- Full potential of mobiles not exploited due to regulatory environment for mobile money transactions in India;
- As ICT involves change management. It requires commitments and expertise particularly at the initial stages.