


# Building Sustainable e-Community Centres:

## *A Perspective*

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***“The dreams of the digital empowerment of rural India aren’t dreams any more. They are slowly taking real shapes in the hands of the rural poor, who with luck and IT on their side, will not remain impoverished much longer”***

**--- DATA QUEST, Sept.30<sup>th</sup>, 2004  
A leading fortnightly IT Magazine of India**



# Perceived Objectives: e-Community Centres

- ◆ To create a low cost vehicle for government institutions so that easy, direct and cost-effective delivery of e-governance services to the rural citizen be possible.
- ◆ To develop, test and demonstrate, portfolio of products and services which can be delivered through these Centres.
- ◆ To customize and deliver standard products and services as per local needs.
- ◆ To build capacity for support system for new enterprise and infrastructure.
- ◆ To provide a platform to Civil Society Organizations and NGOs to reach and communicate with remote and isolated communities.

...Contd.



# Perceived Objectives: e-Community Centres (contd.)

- ◆ To demonstrate that to bring sustainable economic and social growth in underserved rural areas of state by using the benefits ICT, **one has to take sustainable business approach and not merely a philanthropic approach.**
- ◆ (By meeting all these objectives above) To create significant and lasting impact on rural livelihood in the areas of **empowerment, equal opportunity, gender equity, social inclusion, better governance, employment generation and human development.**

## *Impact On Rural Livelihood*

- **Good Governance**
- **Empowerment**
- **Equal Opportunity**
- **Human Development**
- **Income / Employment Generation**

## *Issues*

- **CONNECTIVITY**
  - Central / State initiatives
  - Captive Network by non-Govt. initiatives
  
- **CONTENT**
  - Region Specific Requirements
  - Local Language Support
  
- **SERVICE PACKAGE**
  - e-Governance Services
  - Other bundled services (Information, Education, Health, Entertainment)
  
- **SUSTAINABILITY**
  - Govt. Intervention & Support
  - Robust Business Entrepreneurship Model

## *Islanded Initiatives For Service Packages*

- **Government**
  - **Certificates, Licenses, Grievance Redressal**
  - **Law & Order, Govt. Welfare Schemes**
  
- **Private**
  - **Market prices, Education, News, Entertainment, Communication**
  
- **Govt. – Private**
  - **Mixed Services**

**Most initiatives which target services in a particular market segment, may not quite achieve self-sustainability**



# General Assumptions: Rural e-Community Centres

- **Centres to be owned and operated by Village Entrepreneurs**
- **All Centres should be multi-service delivery points – Judicious mix of government & community service packages**
- **Services should result in social returns apart from income generation**
- **Villages can be identified and segmented on the basis of potential sustainability**
- **Direct and Indirect employment generation by at least factor of 3, within reasonable time of operationalization of the Centres**
- **Availability of government services is a must for Rural e-Community Centre to be potentially sustainable**



# Key Parameters to be considered

- **Rural Dynamics**
  - Expected to play a major role as it defines the volume of transaction and kind of service mix.
  - Population is the major factor which indicates volume as well as revenue generation
- **Rural Economics**
  - BPL & APL data would determine the impact
- **Rural Infrastructure**
  - Geographic dispersion, power, road, telephone etc. play major role

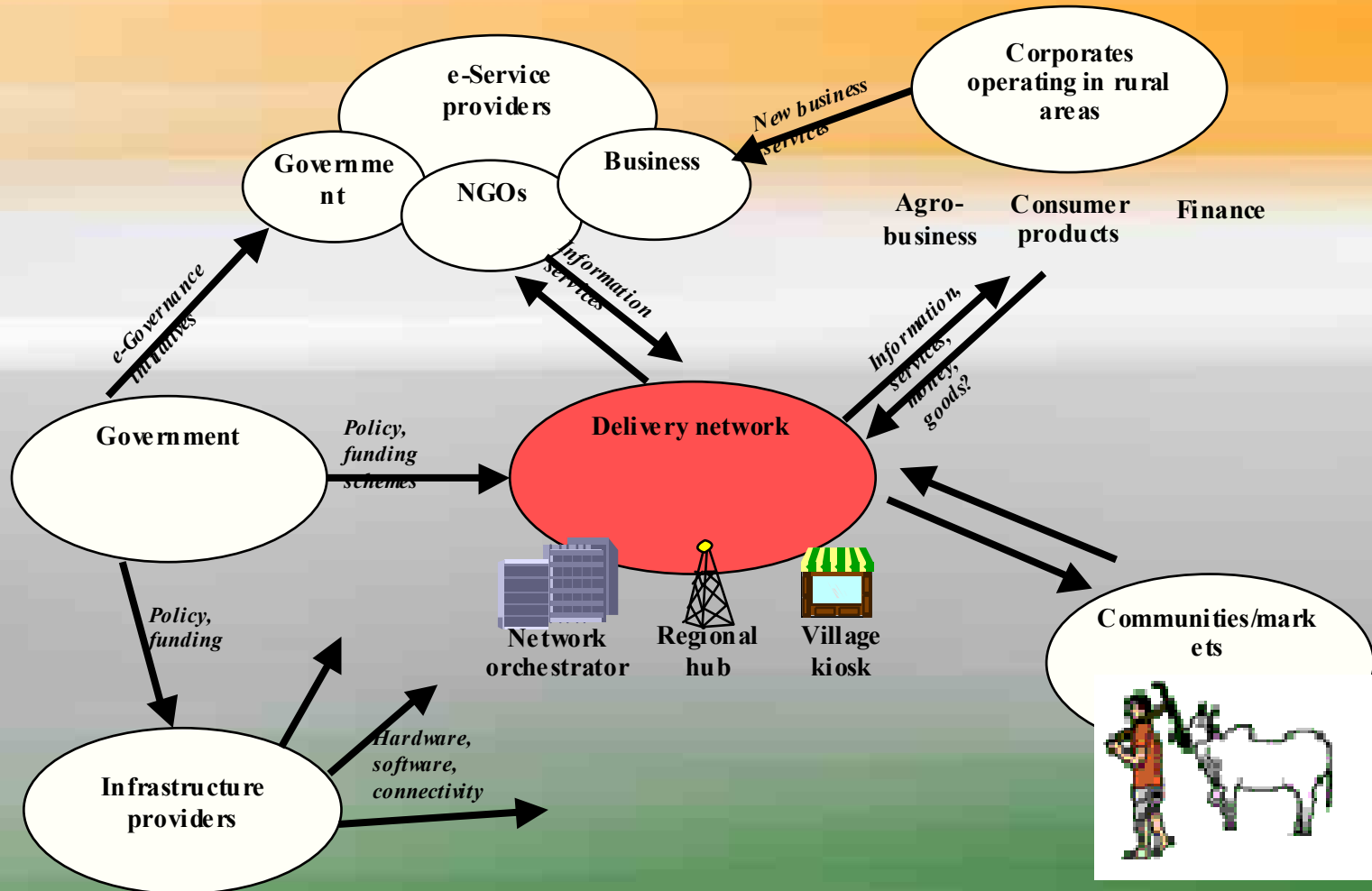


# Building Rural e-Community Centres

## *Macro Issues*

- **Government-on-line is a very complex issue**
  - **Many Technical, Financial, Management & Risk issues**
  
- **Single window e-Service Delivery through e-Community Centres at remote place warrants appropriate dis-aggregation**
  - **Structuring of Front End**
  - **Structuring of Back End**
  - **Middleware for all Technical, Financial and Management parameters**

# ...with Delivery Network at the Core of a Network of Stakeholders



## Network Tier

## Role



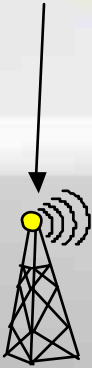
**Network orchestrator  
(implementing Agency)**

### Network-creation

- Demonstrate business-success with model district-hubs
- Recruit & incubate partners

### Ongoing support

- Manage & upgrade software
- Interface with state government, corporate-clients



**District operators  
(Hubs)**

### Network-creation

- Recruit & incubate village-partners

### Ongoing support

- Provide service-fulfilment backend for village kiosks
- Manage hardware at village kiosks
- Interface with local government



**Village operators  
(Kiosks)**

### Marketing & delivering services to villagers



# Six Imperatives For Effective e-Community Centres

- **Kick-start Centres correctly**
  - **Find the right entrepreneur, get initial business fast**
- **Ensure Centres have access to an optimal catchment area of customers**
- **Build credibility for the Centre and Centre operator**
  - **Make the Centre seem like an establishment with some attractiveness and dignity**
- **Ensure sharing of information and ideas across Centres**
  - **Build affiliation among Centre operators**
- **Provide adequate back-end support to Centres**
  - **Address routine as well as exceptional problems for the Centre**
- **Ensuring a culture of quality and maintaining the same throughout the network**

**Necessary to put in place a system that would fulfill all these requirements**

# Essential To Kick-start e-Community Centres In The Right Way

## Look for the “right” Centre operator

Essential to avoid pitfall of compromising quality of Centre operator for sake of fast ramp-up e-Community Centres

Need to have a well thought-out plan for recruitment of Entrepreneurs

- Look for the right profile: person having confidence and good communication skills, having some knowledge of computers
- Understand which are the best sources for potential operators (e.g. existing computer training centers in the area)

Convince prospective operators that the career option is attractive, through presentations and educative material on the opportunities that are created for the candidate through the kiosk

## Look for ways to provide instant traffic

Marketing and awareness generation through Centre operator personally visiting each village is a sure-fire way of getting some traffic in the first few days

Some on-the-ground observations in existing Centre reveal potential of diverting traffic from already existing businesses

- In a case where the Centre operator also had a public phone business, he could convert 25% of phone customers into using services of e-Community Centres
- In a case where the Entrepreneur operator also had a “cyber cafe” business, he could convert 20% of customers into using services of the e-Community Centres



# Learnings from existing CSC initiatives

- **Entrepreneur... Key to model**
- **True Entrepreneur in Village... not ‘Initial Mover’, not ‘Can Afford to Pay’**
- **Natural rural entrepreneurs have huge psychological barriers**
- **The value of the Centre would be maximum for them**
- **They can reach out to villagers who are otherwise inaccessible**
- **A huge promotional and counseling effort is required to get them interested**
- **But the banks are not ready to fund them due to variety of reasons**
- **Efficiency of Centre deployment is also poor in such regions due to infrastructure constraints**
- **Support from the Government is required for a. EDP b. Capacity Building c. Gram Sabha d. Service development and e. Connectivity**



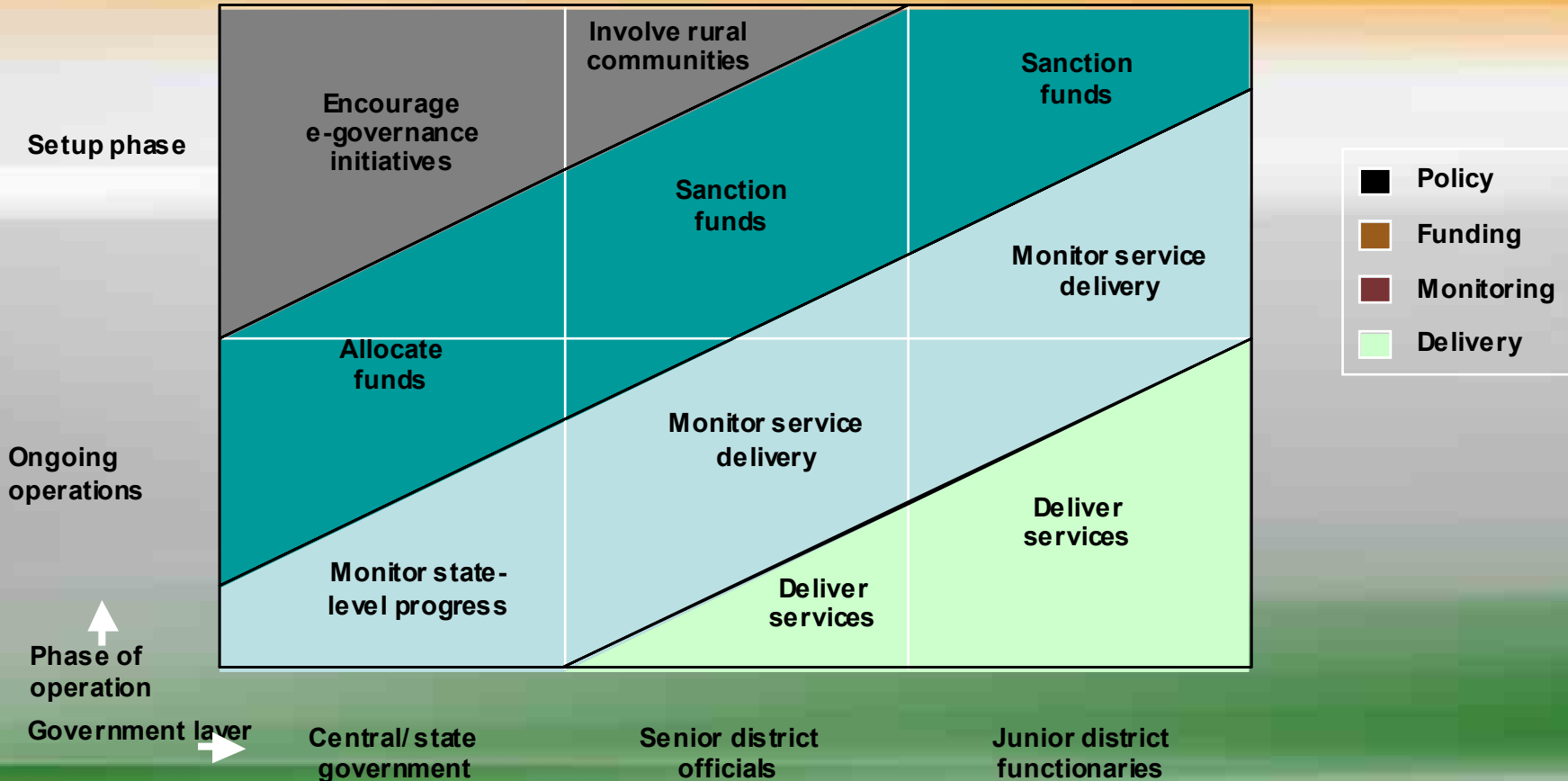
## Other Important Factors

- **Availability of government services is a must for Rural e-Community Centres to be potentially sustainable**
- **Capital Investment to be offset by government to create deeper social as well as geographic penetration**
- **Suitable Model to offset the Connectivity Cost**
  - **Bandwidth of connectivity directly proportional to number and value of services**
  - **Streaming multimedia possibility would enable higher education, entertainment, health and BPO services**
- **Attaining sustainability by increasing revenue and/ or decreasing cost**

# Government Support Critical for Success

*Required Across Layers, During Setup As Well As For Ongoing Operations*

## Desired government support



# Financial Model

	Education	Commercial Services	E-Governance	BPO	Local Services
Service	Computer Education	Insurance (Life & Non-Life), Astro services Agri-Query	Grievance, Certification, Licensing, Land Records, Stamp Vending	Government Data Entry work offloaded and Photo Studio	Rural Emp, E- Health, Elect Bill Collection and reading
Value	Standard Quality and certification	Social Security	1:10 Opportunity Cost saving	Cheapest Networked resource	Raises standard of living
Exp Earning p/m	USD (30-40)	USD (10-15)	USD (25-30)	USD (30-40)	USD (25-30)
Example of Partner Company	Private Computer Training Institute	Bank	District Administration	Red Cross WHO Corporate Govt. RD Deptts.	Travel and Tourist Agency
Future Additions	English Comm	Crop Insurance	100 % Privatised delivery Network	Survey Activity NGO's Development Agencies	Rural Portal with multiple Network based offerings, E-commerce (Village to City)

In addition to the above streams, the e-Community Centre operator may earn through Desktop Publishing, Typing etc to tune of USD (40-50)



# Basic Capital Configuration with estimated Cost for one e-Community Centre

Items	Estimated Cost (in USD)
Computer	480
Printer	120
Scanner	80
Web / Digital Camera with zoom facility	120
Telephone	20
UPS with 4 hrs battery backup	200
Software license	160
Generator Set	400
<b>Total</b>	<b>1580</b>

# Operational Expenses / Month

Expense break up (in USD)	Nature		
	Amount	Fixed	Variable
<b>Monthly figures:</b>			
Manpower	NA	NA	
Telephone	10	2	8
Electricity / Fuel	10	4	6
Cost of Capital	10	10	---
Sales cost	3	3	---
Stationery	10	---	10
Maintenance	6	6	---
Service Provider fee	10	10	---
<b>Total (in Rs.)</b>	<b>59</b>	<b>35</b>	<b>24</b>

# Average Revenue # Inflow per Month

Revenue Source	Amount (in USD)
Education / Training	28
Government services	28
Photoshop & other services	28
Employment services	10
Health services	2
Insurance related Services	6
E-Mail & Internet	3
DTP / Data Entry / BPO	9
Agri-Farming related services	6
Private- Mandi, Matrimonial etc.	12
<b>Total Estimated Revenue</b>	<b>132</b>

# Expected to reach in the 6-7th month after launching the Common Services Centre.

In addition to the above streams, the e-Community Centre operator may earn through Desktop Publishing, Typing etc to tune of USD (40-50)



# Rural e-Community Centres

## An Empirical Sustainability Model

## *Rural Society & Service Requirements*

- **High income, upper caste, large land holding group with adequate literacy, health and Housing**
  - **Market prices, Land records, News, Entertainment, E-mail, Health**
  
- **Low income, small land holding, small traders, poor literacy, health and housing**
  - **Education, Health, Market Prices, Government Loan**
  
- **Low/No income, no fixed employment, backward class, poor literacy, health and dwelling, no land holding**
  - **Eligibility certificates for anti-poverty schemes, health, education**



# Strategy for e-Community Centre Service Building

- **This is the central factor for making the e-Community Centres sustainable**
- **An assured revenue per month (say USD 150) for the Centre operator would only help proliferation.**
- **Assured revenue may come by servicing 15-20 % of the population of the village (say 5000)**
  - **Frequency and volume of transaction become key factors for assessing income generation potential of each service**
- **Services need be priced both in standard / local categories**
  - **Government services may be standard and priced uniformly across the network**
  - **Local services may be customized as per local needs and prices non-uniformly across the network depending on local economic and social conditions**



# Service Category

Service Type	Feature	Example
Savings	Reduces unit cost of a service vs its conventional delivery system	E-Governance; Commodity market prices
Buying	Utilization of disposable income for future benefit	Insurance; Computer education
Income	Increase in per capita income of a villager	DTP; BPO involving villager (data entry)



# The Possible Market

## *A typical Indian Village Panchayat*

- **Population- 5000**
  - **Family size-5**
- **No. of family heads-1000**
- **% who cannot afford to pay-25%**
  - **Target market size- 750**

**All purchasing decisions are made by the family head**



# Implications for Revenue Generation Plan

- **USD 150/ month should be earned by servicing 750 people in a village.**
- **Frequency and Volume of transactions become Key Factors for assessing income-generation potential of each Product / Service.**



# Time Slots and Varying Levels of Income

- **Depending on the nature of the services, the level of the Centre Operator's engagement in service delivery would differ.**
- **The services being offered via the network should take into consideration this critical factor and ensure that he is able to utilize his time in the entire day, productively.**

# Earning Potential in different Time-Slots

<b>Time slot</b>	<b>Earning potential</b>
<b>8:00 am – 10:00 am</b>	<b>High</b>
<b>10:00 am – 12:00 noon</b>	<b>Medium</b>
<b>12:00 noon – 2:00 pm</b>	<b>Low</b>
<b>2:00 pm – 4:00 pm</b>	<b>Medium</b>
<b>4:00 pm – 6:00 pm</b>	<b>High</b>

# Services / Products and Pricing

<b>Product Category</b>	<b>Characteristics</b>	<b>Pricing</b>
<b>Standard</b> e.g. Birth Certificate	<b>Uniform service across the network</b>	<b>Standard</b>
<b>Local</b> e.g. Market Information for Perishable Goods	<b>Customized service as per local needs</b>	<b>Local</b>



# Pricing of Products / Services

## Standard Products / Services

Since the services are offered by a single service provider, the pricing would be uniform across the network.

## Local Products / Services

Since the services are offered through a local content provider using a local infrastructure, the pricing would be not be uniform across the network. It would depend upon local conditions - economic and social.

# Example: Pricing of Local Products / Services

Revenue

=

Volume of  
transactions

X

Price



1. Target market size
2. Frequency of use



X % of current costs:

1. Travel cost
2. Perceived value of time
3. Incidental expenses- meals, etc.



# Various Category of Services

## **Category 1: Business Process Outsourcing (BPO)**

### **Government**

- **Electoral list,**
- **Old age pension list**
- **Widow pension list**
- **Small savings accounts**
- **Village Panchayat Accounts/Data-entry,etc.**

### **Private**

- **Rural surveys,**
- **Data compilation & entry for -**  
**Red Cross, WHO, UNICEF,USAID, Corporate**



# Various Category of Services

## *Category 2: Education*

- **Computer training**
- **Language-English**
- **Teacher's training**
- **Modern Farming methods**
- **Vocational courses**



# Various Category of Services

## ***Category 3: e-Governance***

**Inclusion of a particular service depends upon the support and willingness of the local administration.**

**Services would be uniform across all districts in a particular State.**



# Various Category of Services

## ***Category 4: Corporate***

**Utilizing the e-Community Centre network to either strengthen or complement the distribution channel of a Corporate's rural marketing efforts. Several partnerships are possible.**

- **Consumable Goods**
- **Agri Products**
- **Micro Irrigation Products**
- **Insurance**



# Various Category of Services

## *Category 5 : Local Services*

- **Employment Exchange**
- **Railway / Bus Reservation**
- **Telephone Cards**
- **Tourist Information and related services**



# Value of Service

- **Sustainability Model needs computation of value of each rural service**
- **Value of services is the potential revenue that a e-Community Centre owner can generate based on the factors that affect a particular service.**
- **Value of Service depends on Scalability, Number of Transactions and Unit Value**

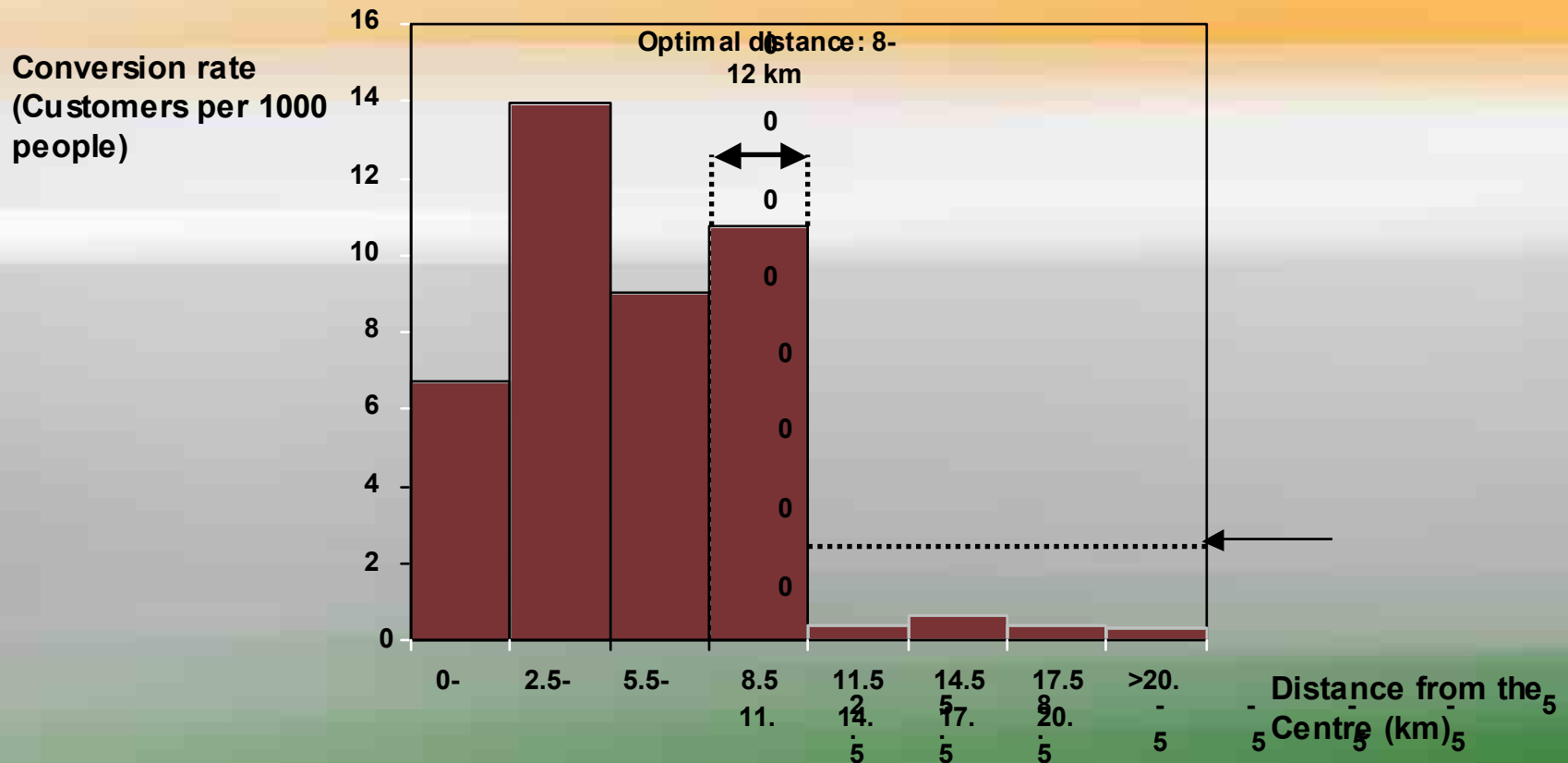
**Scalability = Viability in various geographical locations**

**Number of Transactions = Target Population \* Periodicity**

**Unit Value = Cost of Delivery / Opportunity cost**

# Optimal Catchment Area of e-Community Centre lies within 8-12 Km Radius

## Centre revenue-customer conversion rate by distance



Source: Drishte: BCG Analysis

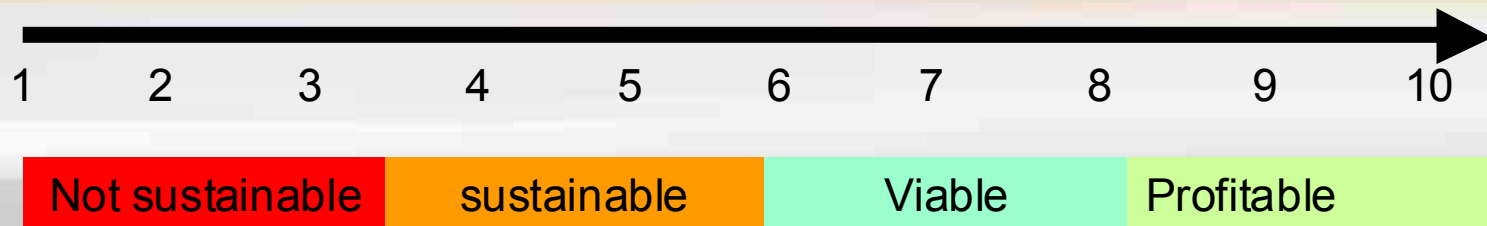


# Key Parameters for Sustainability

- **Viable Business model**
- **Min Range of Services**
- **Partnership: Entrepreneur, Industry, Govt**
- **Role of the Local Govt**
- **Aligning existing Govt programs**
- **Eligibility of Entrepreneurs**
- **Aggregation: Recommended Reach / Geographical Spread**

# Rural Service Delivery

## Framework Segmentation of Villages



**Segment value of a village =**

**Rural Dynamics (7) +  
Rural conomics (1.5) +  
Rural Infrastructure (1.5)**



# Rural Dynamics

**Rural Dynamics plays a major role as it defines the volume of transaction and kind of service mix. Hence rural dynamics has been assigned the maximum weight. As the cost of service has to be kept low for rural area, population is a major factor which indicates the volume and revenue generation.**

# Rural Dynamics

Factor	Wt	Method for calculation					
1. Population	5	Below 1000	1001-2000	2001-3001	3001-4000	4001-5000	Above 5001
Population within 5 km radius		0	0.3	1	2	4	5

2. Literacy	0.8	Literacy percent * 0.8					
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3. Role of Govt. (Govt. is the key enabler)	0.6	No inclination	Officials inclined at dist	Computerization at dist	Policy change for ICT at State	Delivery of ICT enabled service at Dist
Add whichever is applicable		0	0.1	0.1	0.2	0.2

4. Response of entrepreneur	0.4	Culturally govt job oriented	Negative towards self employment	Avg	Presence of ent community	Culturally entrepreneurial
Example Gujarat is culturally entrepreneurial whereas Bihar is culturally Govt. job oriented		0	0	0.1	0.3	0.4

5. Role of NGO	0.2	Not present	Not Active	Active	Very Active
		0	0	0.1	0.2



# Rural Economics

**Although there are lots of factors which influence rural economics but Below Poverty Line (BPL) is the easiest to get and shows the economic health of a village.**



# Rural Economics

Factor	Wt	Method for calculation
1. Population Above poverty Line	1.5	Percentage APL * 1.5



# Rural Infrastructure

**In Rural Infrastructure distance from the nearest town and the quality of road link plays an important role. Village which is nearer to the town with good road link has less potential whereas village which is less reachable has high demand for services**

# Rural Infrastructure

Factor	Wt	Method for calculation				
1. Road Link	0.4	Highway Link	Good Road	Average	Poor Road Link	No Proper Road
		0	0.1	0.2	0.3	0.4

2. Distance from Town	0.4	Upto 10 KM	10 KM-20 KM	20 KM – 30 KM	Above 30 KM
		0.1	0.2	0.3	0.4

3. Electricity	0.3	No electricity	Electricity for 4 Hrs/Day	Electricity for 8 Hrs/Day	Electricity for 16 Hrs/Day	Electricity for 24 Hrs/Day
		0	0	0.1	0.2	0.3

4. Constraints	0.2	Throughout the year	For three month in a year	Rarely
Natural constraints like flood if it affects for three months in a year.		0	0.1	0.2

5. Telephone	0.2	No telephone line	Telephone connection exists
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# Service Calculation

## *E-Governance*

$$\text{Value} = ((\text{Population/Family size}) * 6 * \text{Unit cost} * 20\%) / 12$$

**Expense\***

**Kiosk owner needs to spend 15 minutes per customer per service**

**\* Cost is computed as man-hour cost over a month**

# Service Calculation

## *Education*

- **If there is no government support:**

$$\text{Revenue per village} = (\text{APL} * \text{Literacy rate} * \text{Youth percent (14-25 yrs)} * 10\% * \text{Unit cost}) / 12$$

- **If government supports the fee:**

$$\text{Revenue per village} = ((\text{APL} * \text{Literacy rate} * \text{Youth percent} * 10\% * \text{Unit cost}) + (\text{BPL} * \text{Literacy rate} * \text{Youth percent} * 5\% * \text{Unit cost})) / 12$$

### **Expense**

Centre owner needs to spend 1 Hr per day and 12 Days in a month for a batch size of 4 students; at best 2 batches can be taken in a month.

# Service Calculation

## *Entertainment*

**Value = (APL population/Family size) \* 20% \* unit monthly cost**

### **Expense**

**In cable TV the Centre owner has to pay 65% to the service provider and 25% goes towards Maintenance of the network.**



# Service Calculation

## *E-Commerce*

*Rural Products e.g. fertilizer, seeds, hiring of agri-equipment*

$$\text{Value} = (\text{Population} * 5\% * \text{Unit incentive}) / 12$$

$$\text{Target} = \text{USD } 20 \text{ (short to medium term) / month}$$

### Expense

Centre owner initially may need to spend about 1 Hr per customer per service which will be progressively lower

# Service Calculation

## ***Business Process Outsourcing***

***(e.g., Data entry, Census-- outsourced to computer- trained manpower)***

**Value = Computer trained manpower \* 25 % \* 5000 \* 10%**

**Target = USD 10 (short to medium term)**

### **Expense**

**Centre owner may need to spend 10 Hrs per month per computer trained manpower.**



# Service Calculation

## **Health**

***(e.g., Eye testing, ECG, Video Conferencing with Medical Expert at e-Community Centre)***

**Value = ((APL population/Family size)\* 15% \* unit incentive) / 12**

### **Expense**

**Centre owner may need to spend 30 Min per customer per Health service**



# Service Calculation

*DTP*

**Value = ((APL Population/Family size) \* 50% \* 3 \* Unit cost) / 12**

**Expense**

**Centre owner may need to spend 30 mins per customer per service**



# Service Calculation

## ***Commercial Services***

***(Insurance, Mandi information, Matrimonial, Astrological)***

**Value = (APL population/Family size) \* 5% \* unit monthly cost**

### **Expense**

**Centre owner may need to spend 30 min per customer per service**



# Service Calculation

## ***Communication***

***(E-mail, Telephone, Greeting Mail)***

$$\text{Value} = (\text{Migrating population} * 10\% * \text{Unit Price}) +$$
$$(\text{APL population} * 5\% * \text{Unit Price})$$

### **Expense**

**Centre owner may need to spend 60% of the revenue to the Service Provider .**



# Service Calculation

## *Agriculture*

*(Consultancy in Agricultural related services)*

**Value = (Total No. of Land Holdings\*10%) / 12**

### **Expense**

**Centre owner may need to spend 30 min per customer per service**

# Business Model

## Segmented Panchayats / Villages

### SERVICES

### GEOGRAPHY





# Conclusion

- **Sustainability of an e-Community Centre would heavily depend on robustness of the Business Model, Content , Service ranges, ability of the entrepreneur etc.**
- **Availability of government services is a must with adequate support from local administration**
- **Generally the break-even period is 6-8 months for potentially sustainable areas during which hand-holding from service agency and government is highly desirable**