

# Design and Evaluation of the Societal Impact of e-Government Systems

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# Outline

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- E-governance and E-government systems
- E-government in India
- Bhoomi – status and history
- Conflict and Resistance
- Development Assessment

# E-Governance

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- Textbook definition: “... use of ICT to promote more efficient and cost-effective government, facilitate more convenient government services, allow greater public access to information, and make government more accountable to citizens”
- My definition: exercise of discretionary state power through electronic means
- E-government systems: systems that provide e-governance services

# E-government Systems

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- Large-scale public interventions (government-to-citizen systems) in India
- Development projects?

# E-Government Systems in India

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- First phase 1960s/ early 70s
  - Defence, research, elections, census, tax administration, economic monitoring
- Second phase in 90s
  - IT Task Force and State IT initiatives
  - External e-government systems, services for public
  - Involvement of NGOs and external funding: World Bank, UNDP.

# E-Government Systems in India

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- Widespread deployment of e-gov systems
  - Land records digitisation
  - Service delivery through kiosk-based systems
  - GIS-based agricultural information systems

# E-Government Systems in India

- Robert Schware, Lead Informatics Specialist at the World Bank (E-Government Seminar at IT.Com, Nov 5, 2004):
  - E-government around the world: mostly failures
  - Of 200 projects in India, about 110 are not scalable
  - 33% of e-gov projects in developing countries total failures
  - 50% of e-gov projects were partial failures

# E-Government Systems in India

- Evaluation Frameworks
  - Technical Feasibility
  - Cost-Benefit Analysis
  - User Surveys
- Limitations of analysis
  - Valid for short term only
  - Don't consider multiple perspectives
  - Don't capture richness of e-government interventions



# E-Government Systems in India

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## ■ The Problem:

- How does one value an e-government system?
- How does one plan for an e-government system so that it has a better chance of success? So that it is sustainable?

# Bhoomi

- 7 million farmers: 35 million beneficiaries
- 20 million land records (0.6 hectare average size of holding)
- 177 project locations serving farmers from 27000 villages
- Operators issue certificates at kiosks in sub-district headquarters for a fee of Rs 15
- *Mutation* request filed on line (for Rs 35)
- Currently: 800,000 certificates sold per month

# Record of Rights, Tenancy and Crop (RTC)

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In the manual system:

- Village Accountant responsible for issue of RTC certificates and mutation
- Certificate issue could take 3-30 days and a bribe of Rs 100-2000
- Mutation could take up to 2 years (30 days)
- Encroachment of public land

# Bhoomi – Project Objectives

- Improving quality of service to citizens:
  - Allowing farmers/ citizens easy access to their records
  - Infuse transparency in providing services to citizens
- Ease of administration:
  - Facilitating easy management
  - Prompt updation of land records
  - Making land records tamper proof
- Generating meaningful MIS out of the system relating to land records
- Ensuring self-sustainability of project:
  - Robust revenue model
  - Public-private partnership

# Data in Bhoomi Records

- Data in land records
  - Demographic data, Economic data, Legal rights
  - 47 information 'fields' – owners, tenants, crops, yield, irrigation sources, mortgage details, soil, bank loans etc
- Critical to farmers
  - Basis for ownership & loan

# Online Delivery of RTCs

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- 177 centers where operators issue certificates on-line in 15 minutes for a fee of Rs 15
- *Mutation* request filed on line
- Touch screen/ dual screens for easy access by citizens
- Total Project Cost: Rs 243.8 million
- Security thru bio-log in procedure
- System **not linked with cadastral maps**



(Source: Bhoomi Web site)



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# History



## Karnataka Details

27 Districts

177 Taluks

27000 Villages

6.7 Million Farmers

20 Million Land Records

9000 Village  
Accountants

# History

## Geographical Diversity

- Karnataka formed from 1) Princely state of Mysore, 2) four districts of Bombay, 3) three districts of Hyderabad, 4) two districts of Madras and 5) the territory of Coorg.
- Variety and complexity of land records

## Complexity

- Madikeri (Coorg) alone has 1000 different types of tenure (4-5 in others)
- Use of suffixes from land division in some districts
- Survey numbers numeric in some places alpha-numeric in others
- Different languages

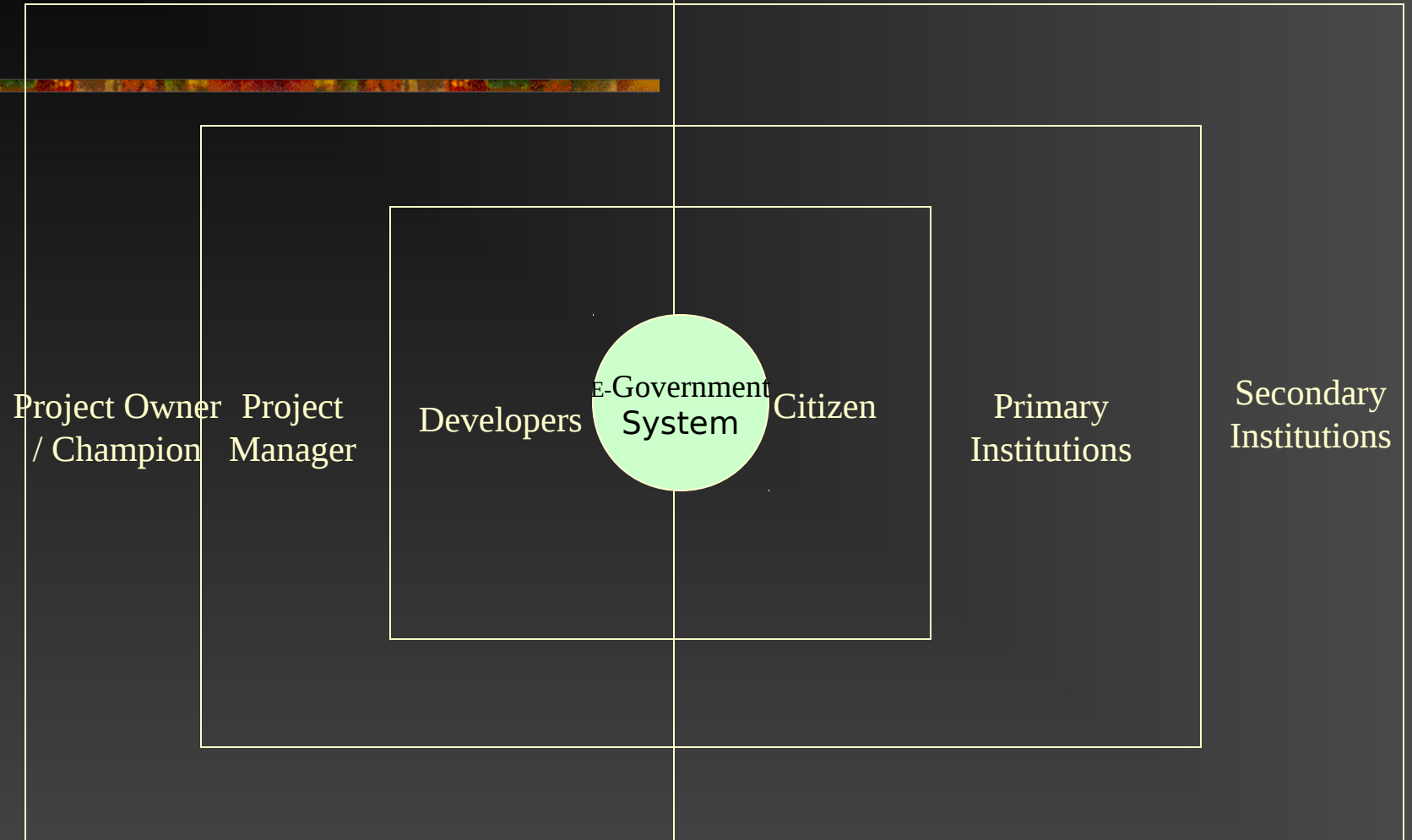
# Stakeholders

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- A stakeholder is a person or group who is able to have an impact on the eventual system in a practical sense
- Demand-side stakeholders
- Supply-side stakeholders

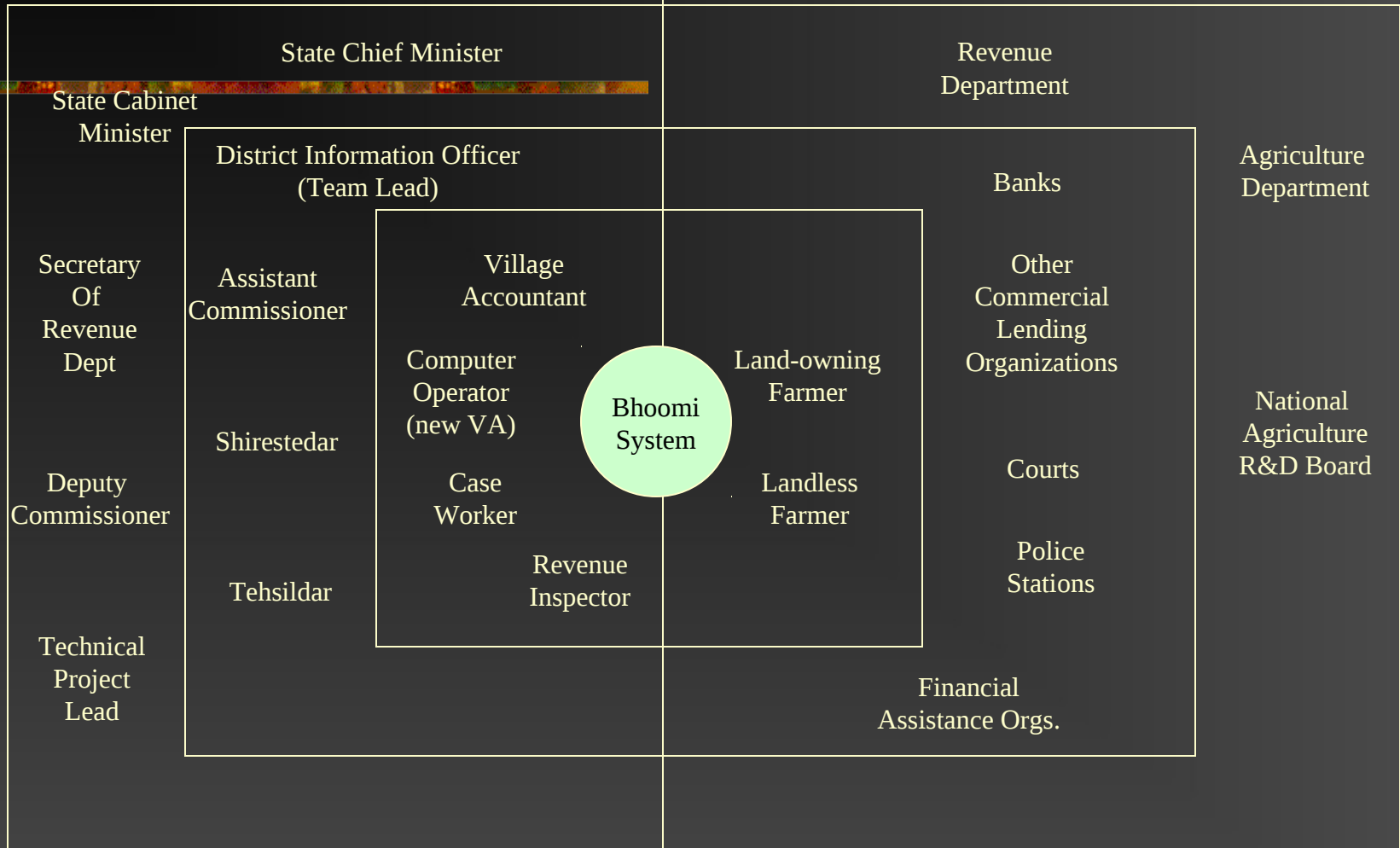
# Supply-Side Stakeholders

# Demand-Side Stakeholders



# Supply-Side Stakeholders

# Demand-Side Stakeholders



# Stakeholders

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- Demand-side stakeholders are rarely (never) included in the initial requirements and planning phase of e-government projects
- Supply-side, top-down push for systems

# Theory: Conflict

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- A priori assumption of conflict
- Assumption that goals and objectives of systems development will be opposed and contested by various groups concerned with the system
- Change, disintegration, coercion
- Assumption (mistaken) of shared goals



# Theory: Resistance

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- Resistance emerges from interactions that new systems have with users
- Resistance is not from system features such as ease of use, cost etc
- Resistance is not from users refusing to change, or lack of top management support
- Resistance occurs when basis of power is re-distributed

# Conflict and Resistance in Bhoomi

Bhoomi	Demand-Side Stakeholder	Supply-Side Stakeholder	Resistance
	Multiple languages and formats for land records	Single format in one language for all records	Cases filed in court
	Privacy of land records	Open availability of land records to all, transparency	
	Inclusion of village accountant; an access to power	Removal of traditional village accountant; all transactions now at the taluk level	Resistance to system from old village accountants
	Address inequities of land records	Not a matter for e-governance to resolve	
	Inclusion of cadastral maps	Cadastral maps would slow down the implementation process	Cases filed in court for map updation
	Reduction of officials in processing	Inclusion of Tehsildar in mutation process	Objection expressed by farmers

# De-Politicization

- Attempt to address by technological means an inherently political issue
- Example: land records updating and resolution requires a political will by the government
- A technological solution, like e-governance, seems to appear attractive but retains all the problems that have to be politically addressed

# Development Evaluation - Framework

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- From *Development as Freedom* by Amartya Sen
- Does Bhoomi:
  - Increase political freedom of farmers?
  - Enhance protective security?
  - Improve access to education, healthcare, justice?
  - Improve access to economic resources?
  - Increase transparency in dealing with govt?

# Does Bhoomi facilitate citizens' access to economic resources?

- Credit: no discernable impact
  - Women farmers: small negative impact
- Markets: easier to sell subsidized produce
  - Sale and transfer of land parcels more efficient (Bangalore periphery); negative impact on small, poor farmers
- Market information on prices not provided

# Does Bhoomi improve the transparency guarantees of citizens?

- Easy access to RTC; transparency in mutation queue
- Documents not in system: Village map; *Patta* book; Mutation register; *Tippani*; *Akarband*; Saguvali chit; *Jamabandhi*
- Corruption:
  - Records tampering
  - Mutation queue tampering
  - Tax defaulters' identification
  - Proxy RTCs

# Does Bhoomi increase the political freedoms of citizens?

- Demand-side stakeholders not included in design of system
- Resistance of district officials to Bhoomi implementation (supply-side stakeholders)
- Centralization of power

# Does Bhoomi enable protective security to citizens?

- RTC certificates needed to buy insurance (which is a requirement for loans)
- Data not used by government for planning against natural disasters
- Targeting of poor and marginal farmers by land sharks



# Does Bhoomi enable citizens to have better social opportunities?

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- Bhoomi kiosks are stand-alone applications; no portfolio
- Improved awareness of citizens about computing technology

# Conclusions

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- E-Government systems are complex public interventions
- Many problems have to be addressed politically, and through wide participation, rather than through technical solutions

# Thank you!

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- Questions?