

**Inclusive Development through e-Governance: Political Economy of e-Government  
Projects in Andhra Pradesh, Tamil Nadu, and Kerala in India**

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## Abstract

E-government projects have assumed prominence in the developing countries in the last decade to improve the quality of citizen-government engagement. Can such projects aim at inclusive development focusing on the traditionally marginalized communities and social groups? What are the institutional and political economy factors that determine the nature, scope, and success of such projects? In this paper, I examine these factors in the context of five specific e-government projects in three southern states in India. These projects are: eSEVA and Computer-aided Administration of Registration Department (CARD) in Andhra Pradesh, Sustainable Access in Rural India (SARI) project in Tamil Nadu, and Akshaya and Information Kerala Mission (IKM) in Kerala. Using data from both primary and secondary sources and employing a comparative multiple case study approach, I find that while all the three states tried to implement projects that aim at improving delivery of government services to the common people, Kerala has taken much greater efforts to make these projects more inclusive by decentralizing them to the lowest tier of government and ensuring that the benefits reach each and every household. Thus, the nature and scope of such projects has been quite different in Kerala when compared to the same in the other two states.

Why has Kerala focused more on inclusive development and access when compared to the other two states? Drawing insights from political economy of development policies in these states, I argue that while the class character of the state can be seen in almost all the states in India, in Kerala the state has been relatively autonomous of the dominant class coalitions. In Kerala, politics has been marked by mobilization and organization of traditionally marginalized castes and social groups. The focus of Kerala in making the e-government projects more inclusive has been due to the empowerment of these groups that has exerted pressures on the state for distributing the economic and social benefits more widely. I conclude that focusing on inclusive development through e-government projects can really expand the access of marginalized communities to such services and improve their welfare. The findings of this research hold deep implications for success and sustainability of such projects in developing countries.

Keywords: Access, governance, policy, inclusion, citizen

# Inclusive Development through e-Governance: Political Economy of e-Government Projects in Andhra Pradesh, Tamil Nadu, and Kerala in India

## Introduction

Information and communications technologies (ICTs) have assumed great importance during the last two decades as the primary tools to foster social, economic, and political development in developing countries. Almost all developing countries have launched ICT for development projects aimed at bringing the benefits of ICTs to the rural and poor communities, which typically have low individual ownership of ICTs. Among these projects, e-government projects have assumed prominence during the recent years to improve the quality of citizen-government engagement. It is increasingly being seen as the answer to a plethora of problems that the governments or public agencies in general face in serving their constituencies effectively. This is especially so in developing countries, where generally the public agencies face resource constraints in improving their operations and delivering services to the citizens. In such cases, e-government has been touted as a means to save costs while at the same time improving quality, response times, and access to services (ADB, 2003). Some analysts have noted its role in improving the efficiency and effectiveness of public administration (Pacific-Council, 2002; UN-ECOSOC, 2003a). It is also seen as a tool to increase transparency in administration, reduce corruption, and increase political participation (Seifert & Bonham, 2003). Its potential to make governments more competitive and to enable them to face the challenges of the information and communication age has also been noted (OECD, 2003; UNDP-APDIP, 2003).

Can such projects aim at inclusive development focusing on the traditionally marginalized communities and social groups? What are the institutional and political economy factors that determine the nature, scope, and success of such projects? Research on e-government projects has been predominantly concerned with analyzing their success or failure in terms of project specific or context specific factors, such as critical success and critical failure factors (Heeks & Bhatnagar, 1999), 'design-actuality' (Heeks, 2002) or 'design-reality' gaps (2003a), and long term sustainability (Kumar & Best, 2006). The institutional and political economy factors behind the design and implementation of such projects have not been researched adequately.

In this paper, I examine these factors in the context of five flagship e-government projects in three southern states in India. These projects are: eSEVA and Computer-aided Administration of Registration Department (CARD) in Andhra Pradesh, Sustainable Access in Rural India (SARI) project in Tamil Nadu, and Akshaya and Information Kerala Mission (IKM) in Kerala. eSeva offers payment of taxes and utility bills, registration and issue of birth and death certificates, etc. CARD project has aimed mainly at computerizing the land registration process and delivery of documents electronically. SARI project established computer and internet kiosks in rural communities and provided email, browsing, voice chat, and e-government services. However, a majority of the kiosks have become financially unviable after two to three years of operation and have closed down (Best & Kumar, 2008). Akshaya project aims at providing e-literacy to every household in the state. IKM project aims at implementing e-governance in all the urban and rural local bodies. Using data from both primary and secondary sources and employing a comparative multiple case study approach, I find that while all the three states have tried to implement projects that aim at improving delivery of government services to the common people, Kerala has taken much greater efforts to make these projects inclusive by decentralizing them to the lowest tier of government and ensuring that the benefits reach each and every household. Thus, the nature and scope of such projects has been quite different in Kerala when compared to the same in the other two states.

Fig. 1 shows the location of the three states where this study was conducted.

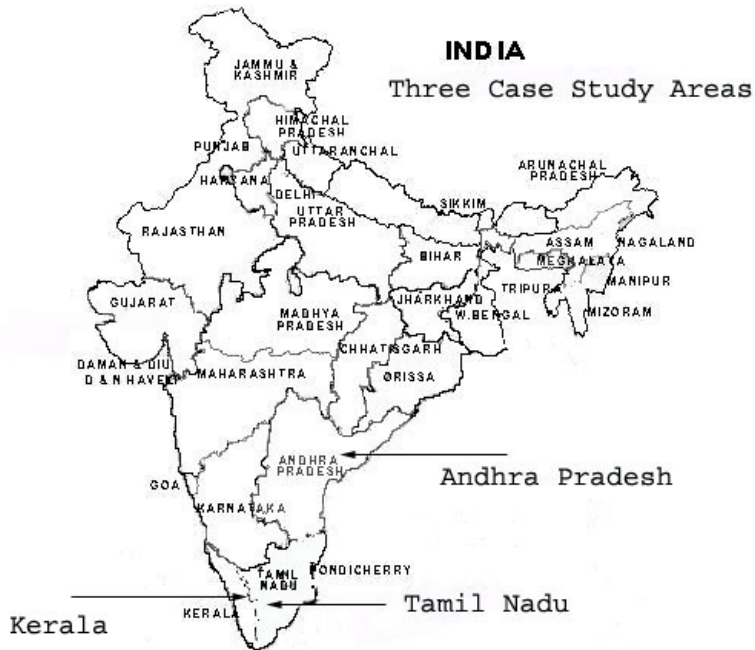


Fig. 1: Location of Tamil Nadu, Andhra Pradesh, and Kerala in India  
 Source: <http://www.tourindia.com/htm/homepage.htm> , modifications by the author

The rest of the paper is organized as follows. First, I present a brief review of the relevant literature for this study and formulate an analytical framework for examining the institutional and political economy factors behind the design and implementation of such projects; then I briefly describe the five e-government projects examined in this research; next, I discuss the research methods that I employ in this study; then I present the results within a comparative framework and analyze the political economy and institutional factors responsible for the design and implementation of these projects and how such projects can be made more inclusive through sustainable social and economic development. Finally, I discuss the implications of this study for the success and sustainability of such projects in developing countries and conclude by presenting an alternative analytical framework for ensuring inclusive social and economic development through e-government projects.

### Literature Review

Scholars have underscored the potential of ICTs to bridge the digital and information divides and promote social inclusion (Phipps, 2000). They help in overcoming geographical and distance barriers, improve delivery of public services and responsiveness to citizens and encourage deliberation (Markoff, 2000; Thompson, 1999). Despite the great promise of ICTs in transforming governance and the fact that ICT for development projects have been in existence for well over a decade now in developing countries, most of these projects have either failed completely or have succeeded only partially in achieving their objectives (Heeks, 2003a). Heeks (2003a) has noted that only 15% of the e-government projects in developing countries can be classified as successes, while 50% have been partial failures and 35% have failed completely.

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[Researchers](#) have attempted to analyze the reasons for failures of specific projects in developing countries. Cecchini and Raina (2003) studied one such project on e-governance in rural India and found that usage of the services was low and the poorest people were seldom using the services. In a study of a community-based e-government initiative in South Africa, Benjamin (2001) found that lack of regularly updated content and interactivity led to the failure of the project. Heeks (2002) has noted several more cases of total or partial failure of ICT initiatives in developing countries. Researchers have also found that lack of government support, flaws in the design of the projects, and low market demand for these services have led to limited success or partial failure of these projects in developing countries (Dagron, 2001; McNamara, 2003; Proenza, 2001).

Analytically, researchers have tried to explain the failures of these projects in terms of critical success and critical failure factors (CSF and CFF) (Heeks & Bhatnagar, 1999), 'design-actuality' (Heeks, 2002) or 'design-reality' gaps (Heeks, 2003a), poor economic sustainability of rural ICT projects (Best & Maclay, 2002), or political and institutional factors due to lack of commitment on the part of political leadership and public managers (Bhatnagar, 2000). A sustainability failure model has also been advanced to examine projects that succeed initially but fail to meet their objectives in the long-term (Kumar & Best, 2006). The sustainability failure model examines the sustainability of the projects along five dimensions: financial or economic sustainability, cultural or social sustainability, technical sustainability, political or institutional sustainability, and environmental sustainability. I use this framework to analyze the sustainability of the projects examined here along its various dimensions.

Though the approaches noted above help us in understanding the reasons for success or failure of these projects, they fail to adequately take into account the political economy and institutional factors behind the design and implementation of such projects. [Scholars have pointed out that actions of the government are mediated by institutional arrangements, cultural norms and prevailing patterns of social and political behavior \(Fountain, 2001\). These factors affect the way in which technologies are used by policy makers and citizens. They have also argued that in the long run, technology may reinforce the existing social and political patterns rather than transforming them \(Davis, 1999; Chadwick, 2001\).](#) In the context of e-government projects, [we may expect the institutional processes and existing social and political norms and patterns in each of the states examined in this research to affect how the governments conceptualized, formulated, and implemented these projects. As I discuss in the next paragraph, the existing social and political norms and patterns of political behavior in various states in India have been historically significantly influenced by the](#) class character of the state, and bargaining by dominant class coalitions that affect the decision making processes of the state. [Thus we expect that the design and implementation of the e-government projects might be affected by the actions of the state that can be seen as a](#) result of these processes.

The main analytical framework that I employ [here](#) to analyze these factors and to understand why the regional governments (the states examined in this study) took the initiatives that they did in promoting these projects is that of political economy of development in India in the post-independence period and particularly after the launching of the economic reforms in the early 1990s. The dominant line of thinking in this area has been to focus on the class character of the state in India. This literature discusses how the dominant classes influenced the actions of the state and in turn benefited by it. The main argument is that the state actions in India can be understood as a result of bargaining by a few dominant classes to protect and advance their interests (Bardhan, 1984, 1998; Byres, 1994; Chaudhuri, 1995; Datta-Chaudhuri, 1990). These dominant classes are: industrialists, rich farmers, and the 'professionals' consisting of bureaucrats, military and white-collar workers. These classes are not homogeneous, but are heterogeneous and fragmented by regional differences (Datta-Chaudhuri, 1990). They exert collective influence over the state and influence its actions to protect and advance their own interests. Datta-Chaudhuri (1990) explains how these dominant groups influenced policy-making by the state in India during the pre-reform period. For example, the rich farmers in India ensured that land reforms were not pushed beyond a point, the agricultural income and wealth was not

taxed, and the state provided high prices for agricultural outputs and low prices for the major inputs forcing the government to provide heavy subsidies for agriculture. Similarly, during the pre-reform period, the industrialists extracted concessions to protect their domestic market from foreign competition and forced the public sector to subsidize intermediate goods. The business associations sought favors from the government in exchange for supporting it and the politicians (Sinha, 2005). It was a classic rent-seeking arrangement (Krueger, 1974). The working or the professional class ensured that their employment was protected making it difficult for the firms to reduce surplus and inefficient labor. Pressure from backward regions ensured that the central government allocated public sector investments in those regions. Provision of heavy subsidies and protection of an inefficient industrial sector reduced the resources available for public and private investment and slowed down the growth rate (Bardhan, 1998).

There have been fragmentation and realignments in the dominant coalition after reforms. While one section of industrialists supported the reforms, others sought state support to protect their inefficient production. The rich farmers have diversified into trade, small industry, and real estate and the bureaucracy has accepted that the reforms were necessary (Bardhan, 1998). Support for reforms has mainly come about due to these realignments.

It is helpful to examine whether the above framework is applicable to the actions of the regional governments in India during the post-reforms period. While the class character of the state can be seen in almost all the states in India, in Kerala the state was relatively autonomous of the dominant class coalitions (Cairo, 2001; Dre`ze & Sen, 1995). In Kerala, politics has been marked by mobilization and organization of traditionally marginalized castes and social groups as a result of many caste and social movements during the pre-independence era (Cairo, 2001; Desai, 2001). The communist party in the state played an active role in this mobilization and organization. The empowerment of these groups exerted pressures on the state for distributing the economic and social benefits widely. This has resulted in the state focusing on distribution rather than capital accumulation and growth (Cairo 2001). The model of governance in Kerala thus has been relatively more autonomous of the dominant class interests unlike in the other parts of the country.

The analytical framework discussed above is helpful in understanding why Kerala has focused more, when compared to Tamil Nadu and Andhra Pradesh, on making the e-Government projects more inclusive. I argue in this paper that Kerala has focused on making these projects more inclusive due to the empowerment of the traditionally marginalized castes and social groups that has exerted pressures on the state for distributing the economic and social benefits more widely. I conclude that focusing on inclusive development through e-government projects can really expand the access of marginalized communities to such services and improve their welfare. The findings of this research hold deep implications for success and sustainability of such projects in developing countries.

### **Research Methods**

In this research, I primarily use qualitative data from both primary and secondary sources and employ a comparative multiple case study approach. This design focused on explanatory and inductive-iterative theory building and cross-case comparative analysis and synthesis (George & Bennett, 2005; King, Keohane, & Verba, 1994; Ragin, 1987; Yin, 1994, 2003). This design also helped in generalizing the results. For this study, I selected the main flagship projects of each state for cross-case comparative analysis. All the projects selected were launched and implemented with deep involvement of the respective state governments and were in operation for comparable time periods. [Selection of flagship projects was done to facilitate easy cross-case comparison to understand the institutional factors behind the design and implementation of these projects.](#)

The primary data came mainly from a series of structured interviews conducted with government officials and firms engaged in developing e-government solutions and providing the

services to the citizens. A total of 57 interviews were conducted in the three states during November 2006 to March 2007. These included 43 interviews with software firms and 14 interviews with senior officials in the three state governments and their agencies engaged in policy making for e-government projects. The interviews with the firms were conducted with chief executive officers (CEOs) and senior-level managers while the government officials included senior civil servants in charge of policy making and senior officials of government agencies. All interviews with government officials were conducted face-to-face while most of the interviews with the software firms were conducted over the phone as the interviewees found it to be more convenient for them. In the case of Tamil Nadu, primary data also came from a structured survey of 27 SARI kiosk owners who had closed down their kiosks after operating them for periods ranging from six months to three years. This survey was conducted during August and September 2005 by two trained interviewers in the local Tamil language. I also conducted semi-structured interviews with other stakeholders of the project, such as SARI project officials, officials from n-Logue, the company providing internet services to the kiosks, and government officials. The officials interviewed included the then Secretary of the Information Technology Department, Tamil Nadu Government in Chennai; n-Logue officials in Melur; and the District Collector and the head of the National Informatics Center (NIC) in Madurai. I conducted a total of 10 such interviews. These interviews were conducted in English during July and August 2005.

The secondary sources of data included official documents published by the three state governments and their agencies regarding their e-governance policies and projects; published studies and scholarly research done on these projects; and reports and analyses published by consulting firms, newspapers, magazines, and so forth.

### **Description of the Projects**

#### *eSeva in Andhra Pradesh*

eSeva aims at providing Government to Citizen (G2C) and Business to Citizen (B2C) services to the public from its 46 service centers located across the twin cities of Hyderabad and Secunderabad and the Ranga Reddy district ([www.esevaonline.com](http://www.esevaonline.com)). Centers have also been opened recently in 20 other districts in the state. Using a Public-Private-Partnership (PPP) model, this project has built upon the successful TWINS (Twin Cities Integrated Network Services) project launched in 1999 in Hyderabad and Secunderabad. It has adopted an integrated approach by including services of both central and state government departments within its fold.

The eSeva centers currently provide 66 G2C and B2C services, such as online payment of utility bills, issue of licenses and certificates, reservation of bus tickets, receipt of passport applications, etc. ([www.esevaonline.com](http://www.esevaonline.com)). The centers accept almost all forms of payment, such as cash, cheque, credit card, etc. Using Intranet on a Wide Area Network (WAN), the centers are connected to the respective government departments for providing online information and delivering services to the citizens.

The project was driven in its initial phases by the highest political executive in the state, the then Chief Minister Mr. Chandrababu Naidu. Financial viability of the project was also ensured as it was implemented through the PPP mode with cost recovery based on user fees. The project has been successful in its objectives and has become very popular among the citizens of the twin cities, especially for payment of utility bills (Second Administrative Reforms Commission, 2008). In fact, the success of the project was largely driven by its facility for enabling payment of electricity bills (Bhatnagar 2005). However, the project has limited reach in the rural areas as a model based on payment of utility bills could not become as successful in locations with limited clientele (Second Administrative Reforms Commission, 2008).

#### *CARD Project in Andhra Pradesh*

Computer-aided Administration of Registration Department (CARD) project aims at computerizing all the activities and processes of the Registration Department in the state. This department primarily deals with registration of transactions and deeds in immovable properties, valuation of properties, and issuance of encumbrance certificates. After it was launched in November 1998, the project was implemented in all the 387 Sub-Registrar Offices (SRO's) in the state by 2007 (APDIP 2007). The project works on a LAN with each of the 387 SRO offices provided with a server and four computers each. The SRO offices act as the access point for the citizens wishing to obtain the services.

The services provided to the citizens through the project include registration of deeds, issue of encumbrance certificates and market valuation of properties. The services are provided on a nominal fee per service basis. The current user charges levied are as follows: Rs. 95 for registration of documents up to 10 pages with additional Rs. 5 for every additional page, Rs. 20 for encumbrance certificates, and Rs. 20 for certified copies of the documents (APDIP 2007).

The government of Andhra Pradesh enacted new regulations to provide legal sanctity to the scanned documents. It also legislated appropriate changes in the Registration and Stamps Act, Urban Land Ceiling Act, Surplus Agricultural Land Act, Endowment Property Act, and the Property Act to facilitate the new procedures required by the project (APDIP 2007).

The project has proved to be highly successful. It has drastically reduced the time taken in registering properties and preparing and obtaining related documents. Whereas, applicants could earlier obtain encumbrance certificates only after seven days, they could do so within 10 minutes after the project was implemented (APDIP 2007). Similarly, citizens can obtain certified copies of documents within 15 minutes. They could also register a document within one day against the earlier norm of three to seven days. The project registers 1.18 million documents and serves 5 million citizens in a year (APDIP 2007).

The project has also proved to be financially viable. Against an initial investment of around Rs. 300 million (approx. US\$ 70 million at 2000-01 exchange rates), it had earned revenues of Rs. 475 million by 2007 (APDIP 2007).

A unique feature of this project is that the entire project is implemented and managed by in-house staff (APDIP 2007). All the government officials and staff have been provided with adequate training to implement the project. Like the eSeva project, this project was also driven by the keen interest shown by the then Chief Minister of the state, Mr. Chandrababu Naidu (De 2005). Researchers have noted the outstanding role of Mr. Chandrababu Naidu as a champion in the development of the information technology industry and e-government projects in the state (Kshetri & Dholakia, 2005).

#### *SARI Project in Tamil Nadu*

The SARI project was started as a collaborative venture of several organizations: the Indian Institute of Technology, Madras; Berkman Center for Internet and Society, Harvard Law School; Georgia Institute of Technology; I-Gyan Foundation; and n-Logue Communications Pvt. Ltd. In the initial stages, the Massachusetts Institute of Technology was also a partner. It uses a Wireless-in-Local Loop (WLL) technology developed at IIT, Madras to provide Internet connectivity to rural villages. The project was launched in November 2001 in Melur Taluk (an administrative unit within a district) of Madurai district in the state and had established 78 kiosks at its peak in June 2004 (Best and Kumar 2008).

The Internet connectivity was offered to the local community at kiosks which were run as self-sustained businesses with cost recovery through service charges. The kiosks were operated by two sets of operators. A local NGO, called the Dhan Foundation, operated 42 such kiosks at the time of this study in July 2005. The remaining 36 were owned and operated by local self-

employed entrepreneurs. These kiosks were called as 'Chirag' kiosks while those operated by the NGO were known as 'Dhan kiosks'. Technical support for all the kiosks was provided by n-Logue Communications. n-Logue Communications also provided maintenance services to the Chirag kiosks.

The kiosks provided a host of applications and services to the rural people. These included computer education; email/voice mail/voice chat; e-government services such as obtaining birth and death certificates from government offices; agricultural, veterinary, and health services; web browsing, etc. They provided internet content in the local language in these areas. The services were based on a self-sustaining commercial model with the charges ranging from Rs. 10 (approx. US \$0.22) for sending an email to Rs. 100 (approx. US \$2.2) for one hour of basic computer education everyday for one month.

The kiosks showed encouraging progress in the first 18 months of their operation when 10 Chirag kiosks had achieved commercial viability (Kumar, 2004). The e-government services at the kiosks had also proved successful in the beginning with researchers finding that the presence of kiosks in the village was positively associated with two specific G2C services: obtaining birth certificates for children and applications for old age pensions (Kumar and Best 2006). The users also reported considerable savings in time, money, and effort compared with obtaining the services directly from the government office. Kumar and Best (2006) also found evidence of reduction in corruption in the delivery of these services through the kiosks.

Though the e-government component of the project operated successfully for over one year, it was not able to maintain the necessary level of local political and administrative support to remain institutionally viable. The initial champions of the project in the government had left or had been transferred out of the district and the lower level bureaucracy started opposing the project as it was a threat to their rent-seeking opportunities (Kumar and Best 2006). The state government also failed to show continued commitment and support to the project leading to the failure of the e-government component of the project.

#### *Akshaya Project in Kerala*

Akshaya project aims at providing computer literacy and e-government services to the citizens. It was launched in Malappuram district in 2002 on request from the village panchayats (councils) to provide computer training to the people (De 2005). The project has established 2662 e-centers in eight of the 14 districts in the state as of August 2009, out of which 2382 are in rural areas ([www.akshaya.kerala.gov.in](http://www.akshaya.kerala.gov.in)). The government has planned to cover all the village panchayats in the state in the third phase and has aimed to open at least two centers in each village panchayat. It has also targeted to provide at least one center within 2-3 kilometers distance from every household.

The Akshaya centers are set up and run by local self-employed entrepreneurs who install the equipment by availing loan from the banks. The initial investment required for establishing a center is around Rs. 300,000 (approx. US \$5,800). The services offered at the centers include computer training, and G2C and B2C services, such as payment of utility bills, filing of sales tax returns, mobile phone recharge coupons, etc.

One of the major focus areas of the project has been e-literacy (De 2005). As of Sept. 2009, over 3 million people have been made e-literate through these centers ([www.akshaya.kerala.gov.in](http://www.akshaya.kerala.gov.in)). Women have been the major beneficiaries of this program as over 65% of the people who participated in this program in the initial phases were women (De 2005). Women entrepreneurs also account for over 33% of the entrepreneurs who run these centers.

One of the major distinguishing features of the project that sets it apart from the projects in the other two states is its stress on inclusive development. Unlike in the other two states, the government in Kerala decided to make the local self-governing institutions, such as the village

panchayats as the key players in implementing the project. They play a key role in selecting the locations and the entrepreneurs for establishing and running these centers. They also monitor the center's activities and delivery of services. Deep involvement of the local elected representatives and the local administration have provided a sense of ownership of the project to the local community and enabled it to achieve significant success. The move to involve the local self-governing institutions has also enabled the project to reach the remote rural areas of the district and help in providing services to the socially marginalized communities. The stress on locating the centers within easy reach of every household has also helped in providing the services to all households more equitably and in making the project more inclusive.

#### *Information Kerala Mission (IKM)*

Information Kerala Mission is a flagship e-government project of the state government that aims to fully computerize and network the 1215 local self-governing institutions in the state. It is stated to be the largest and most comprehensive local body computerization project in the country and aims at developing ICT based solutions for the entire range of issues concerning local body governance, decentralized planning, and local economic development ([www.infokerala.org/about.html](http://www.infokerala.org/about.html)). Already solutions for planning and monitoring at the local level, administration of panchayat services, employment information system, and revenue collection have developed. In the pilot phase, the project has been implemented in five village panchayats. Implementation is in progress in 609 of the 1215 village panchayats in the state ([www.infokerala.org/about.html](http://www.infokerala.org/about.html)).

A unique feature of the project is that it has been driven fully by the state government with the objectives of building the capacity and empowering the local self-governing institutions. The project was a finalist at the Stockholm Challenge in 2006.

### **Analysis of the Projects**

As the discussion in the preceding section shows, each of the three states examined here pursued different strategies in designing and implementing their projects. While Andhra Pradesh showed exceptional political commitment led by the Chief Minister himself in implementing its e-government projects, the same level of commitment was lacking in the case of the SARI project in Tamil Nadu. Kerala has shown exceptional political commitment in taking the projects to the rural areas and making the local self governing institutions as the nerve centers for implementing the projects. In this section, I shall try to analyze the factors responsible for the differential performance of the three states in implementing e-government projects. For this analysis, I employ the analytical framework of sustainability of projects along the five dimensions as discussed by Kumar and Best (2006).

#### *Andhra Pradesh*

As noted before, both eSeva and CARD, the two projects examined here, have proved to be highly successful in achieving their objectives in terms of delivering services to the citizens efficiently and effectively. They have also proved to be financially sustainable through cost recovery through user fees. As interviews with senior government officials in the state revealed, both the projects were driven by exceptional political and administrative commitment led by the Chief Minister of the state himself.

However, despite political commitment and technical and financial support for the projects and ensuring that they achieve their objectives, the two flagship projects of the state have remained confined to the urban centers and taluka headquarters within the districts. While eSeva has only recently attempted to expand to districts outside the twin cities of the state capital, CARD has been implemented in the offices of the Sub-Registrars only. Thus, while eSeva has not been able to reach the vast rural population in the districts, CARD has been beneficial to only those who deal in property transactions. Hence, these two projects have not really been

successful in making themselves socially inclusive in terms of expanding their reach to the socially and economically marginalized sections of the society.

*Tamil Nadu*

As noted before, SARI project had strong institutional and financial support from key international educational institutions. It also had full institutional and administrative support from the state government in the beginning. However, the state government and the district officials failed to show sustained commitment towards the e-government component of the project after about a year and half after the project was launched. As the interviews with the government and the SARI project officials revealed, the project also faltered due to the transfer of key district and Taluka officials and opposition from lower hierarchy in the bureaucracy as it posed a threat to their rent-seeking opportunities. The project was also not successful in reaching out to the socially and economically marginalized communities (Kumar 2004) and did not involve the local self-governing institutions in implementing the project. In terms of the sustainability failure model, the project thus suffered failure along the political/institutional and social sustainability dimensions.

*Kerala*

Among the three states examined here, Kerala showed exceptional commitment in taking the Akshaya project to the rural masses and in making the local self-governing institutions, the elected village panchayats, as the main agencies responsible for implementing the projects. It also focused on reaching out to the socially and economically marginalized sections of the rural communities by locating the kiosks within easy reach of each and every household and offering services such as e-literacy that were aimed at making at least one person from every household literate. Making the elected village panchayats responsible for implementing the projects was a key factor in ensuring continued political and institutional commitment towards the project and making it more inclusive as elected representatives made sincere attempts to expand the reach of the project to each and every household in their villages.

The second project examined in this study, the Information Kerala Mission, also shows the outstanding political commitment of the state government in empowering the local self-governing institutions in the state. This project has been driven primarily by the state and has shown good progress in its implementation. No other state showed the same level of commitment in empowering the local institutions and making them responsible for implementing its flagship e-government projects.

**Cross-case Comparative Analysis of the Three States**

As discussed in the preceding paragraphs, the three states have achieved varying degrees of success in implementing their flagship e-government projects and making them socially inclusive. A comparative cross-case analysis of the three states using the sustainability failure model can help us in identifying the factors responsible for the differential outcomes achieved by the three states in implementing their e-government projects. Using the sustainability failure model, I present this analysis in the Table 1 below.

Table 1: Cross-case Comparative analysis of the e-government projects in the three states

Project	Financial/Economic Sustainability	Social/Cultural Sustainability and Inclusiveness	Technical Sustainability	Political/Institutional Sustainability	Environmental Sustainability
eSeva in Andhra Pradesh	Yes	Limited	Yes	Yes	Yes
CARD in Andhra	Yes	Yes	Yes	Yes	Yes

Pradesh					
SARI in Tamil Nadu	No	No	Yes	No	Yes
Akshaya in Kerala	Yes	Yes	Yes	Yes	Yes
IKM in Kerala	Yes	Yes	Yes	Yes	Yes

As the analysis in the preceding section and the above table shows, only one project in Andhra Pradesh and both the projects in Kerala showed good sustainability along all the dimensions. It is relevant to note here that though CARD project in Andhra Pradesh showed sustainability along the social dimension, it is due to the inherent design of the project that limits its scope to providing services to only those who have transactions in immovable property. Due to this unique feature of the project, the project cannot really aim at providing services to the socially and economically marginalized communities who have virtually no transactions in property.

However, the project has been successful in achieving its designed objectives and has demonstrated sustainability along all its dimensions.

Why did Kerala show exceptional commitment towards making the projects more inclusive by reaching out to the socially and economically marginalized communities and involving the local elected self-governing institutions? Interviews with senior government officials in Kerala revealed that the state was mainly focused on using ICTs as enabler of socioeconomic development. This has made the state focus on inclusive development through e-government projects. To examine these factors more deeply, I analyzed the political economy factors behind the decision making process of the state in each case. I present this analysis next.

### **Political Economy of Development Projects in the Three States**

As noted in the literature review, scholars have argued that the dominant classes in India have influenced the actions of the state and have in turn benefited by them. They have argued that the state actions in India can be understood as a result of bargaining by a few dominant classes to protect and advance their interests (Bardhan, 1984, 1998; Byres, 1994; Chaudhuri, 1995; Datta-Chaudhuri, 1990). These dominant classes are: industrialists, rich farmers, and the 'professionals' consisting of bureaucrats, military and white-collar workers. These classes are not homogeneous, but are heterogeneous and fragmented by regional differences (Datta-Chaudhuri, 1990). They exert collective influence over the state and influence its actions to protect and advance their own interests. While the class character of the state can be seen in almost all the states in India, in Kerala the state was relatively autonomous of the dominant class coalitions (Cairo, 2001; Dre`ze & Sen, 1995). In Kerala, politics has been marked by mobilization and organization of traditionally marginalized castes and social groups as a result of many caste and social movements during the pre-independence era (Cairo, 2001; Desai, 2001). The communist party in the state played an active role in this mobilization and organization. The empowerment of these groups exerted pressures on the state for distributing the economic and social benefits widely. This has resulted in the state focusing on distribution rather than capital accumulation and growth (Cairo 2001). The model of governance in Kerala thus has been relatively more autonomous of the dominant class interests unlike in the other parts of the country.

The relatively autonomous character of the state in Kerala was borne out during the extensive interviews conducted with senior government officials in the state. One senior government official remarked that "the state cannot afford to be seen promoting the interests of private capital in the IT industry as has been the case in Andhra Pradesh and Tamil Nadu. However, the working class character of the state has made it to really expand the reach of its e-government projects". This research shows that the focus of Kerala in making the e-government projects more inclusive has been due to the empowerment of the socially and economically marginalized groups that exerted pressures on the state to distribute the benefits of these

projects more widely and make the local self-governing institutions as the key agencies responsible for implementing these projects.

As noted in the literature review, scholars have argued that existing social and cultural norms and established patterns of political behavior affect the institutional processes of the state in its decision making. This research shows that the well established social and cultural norms and patterns of political behavior in Kerala might be a contributing factor to the state taking active steps to make its flagship e-government projects more inclusive by reaching out to the socially and economically marginalized communities and involving the lowest tier of local-self government in their implementation. This holds deep implications for the success of such projects in developing countries as I discuss in the next section.

This study also shows that focusing on inclusive development through e-government projects can really expand the access of marginalized communities to such services and improve their welfare.

### **Implications for ICT for Development Projects in Developing Countries**

The findings of this research hold deep implications for success and sustainability of such projects in developing countries. As this research shows, reaching out to the socially and economically disadvantaged communities through such projects can really improve their welfare and make these projects more inclusive. Involving the local self-governing institutions in designing and implementing the projects can really help in giving the local communities a sense of ownership of the projects and make them socially and politically sustainable in the long run. However, achieving these objectives requires a conscious effort on the part of the government in adopting new technologies for the welfare of the common people and shifting away from the traditional social and cultural norms and established patterns of political behavior that might be influenced by dominant class coalitions. As the example of Kerala shows, social inclusion through e-government projects is possible by consciously designing and implementing the projects to ensure that they reach out to the disadvantaged sections of the society.

### **Suggestions for Further research**

Some suggestions are in order here for further research to refine the analysis presented in this paper. As the primary data were collected mainly from the high level policy makers in the government, it would be helpful to collect and analyze the relevant data from the other stakeholders of the projects examined here. For example, users of the services delivered by these projects and the local self-government functionaries can be interviewed to analyze more deeply how the state governments incorporated their requirements while designing and implementing the projects. This would also give us more insight into the institutional processes that help determine the role of stakeholders in the design and implementation of such projects.

### **Conclusion**

This research shows that ensuring social, political, and institutional sustainability are crucial in making the e-Government and ICT for development projects more inclusive and improving the welfare of socially and economically marginalized communities. Analyzing five flagship e-government projects in the three southern states in India, this study shows that Kerala succeeded in making its projects more inclusive by reaching out to the socially and marginalized rural communities and making the local self-governing institutions responsible for their implementation. This happened in Kerala and not in the other two states owing to the relatively autonomous character of the state in Kerala due to the empowerment of its socially and economically marginalized communities. This study holds deep implications for the success of the ICT for development projects in developing countries around the world.

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