DEVELOPMENT 2.0: HOW TECHNOLOGY FOSTERS PARTICIPATION IN THE DEVELOPING WORLD

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Abstract

Despite significant investment in information technology-led development projects, there
is no systematic evidence of when, where, and under what conditions participation and
deliberation have the biggest impact on development outcomes. Two research questions
inform this paper: (1) what are the various forms and scope of participation and
deliberations in ICT4D projects? (2) How effective are participation and deliberation in
delivering on the stated project goals and outcomes?

The paper first presents evidence from two ethnographic studies undertaken by the author
in Kenya and India to present relevant categories for analyzing what 'grassroots' actors
understand as participation and development. These 'understandings' or categories are
then employed to produce a unique data set, coding all ICT4D projects at the World Bank
in the 1990-2000 period from project reports. The categorical data analysis of yields the
following two major conclusions: (1) 'habits of authority' among various development
actors thwart effective participation; (2) commercial incentives for stakeholders
encourage participation and deliberation

Introduction

Inclusivity now holds the keys to development: the future of over a billion people below the poverty line and of two-thirds of the global humanity in the developing world hinges on their ability to shape the socio-economic development projects that affect them. Farmers in India participate in sharing knowledge and practices in the nation-wide e-choupal project; slum dwellers in Kibera, Nairobi, help to create online maps listing demographics and resources. Participation from stakeholders and deliberation, which involves public reasoning, are salient values for projects termed *information and communication technology for development* (ICT4D), which affect agriculture, health, education, micro-enterprise, governance, and advocacy networks. These values benefit from a double-movement: (1) information technologies are often presented as networked, decentralizing, and conducive to participation and deliberation; (2) telephones, Internet, Web2.0, social media, and crowdsourcing solutions are getting deployed when bottom-up and participatory solutions inform development thought in general.

Despite their salience in development, and a proliferation of literatures, participation remains under-theorized in assessing the role of technology, and detailed empirical evidence is especially needed on the conditions for their effectiveness. While participatory development literature can be traced back to the New Deal in the United States, most of this literature is a critique of participation as conceived among organizations and elites. There is no systematic evidence of when, where, and under what conditions participation and deliberation have the biggest impact on development outcomes. This article attempts to collects and analyze that evidence, for building theory in ICT4D. At present, despite a few 'success' stories, participation and deliberation are

often 'matters of faith' to which development organizations pay homage. Two questions inform the research design:

(1) What are the various forms and scope of participation in ICT4D projects?

(2) How effective is participation in delivering on the stated project goals and outcomes?

This article understands the varied forms and effectiveness of participation in ICT4D projects from a comparative ethnographic study of ICT4D projects in India and Kenya. This knowledge is then operationalized and applied to a large-n study of ICT4D projects implemented by the World Bank, to produce a unique data set on participatory development practices. World Bank has taken steps to foster participation since major restructuring in the late 1990s but is also often criticized for doing so begrudgingly. The ethnographic study helps to specify the micro causal links between forms of participation, social and political contexts, and development outcomes. The ethnography thus assists in developing the quantitative indicators for the large-n study undertaken for World Bank projects. Subsequently, the large-n study provides enough variation in forms of participation to yield meaningful results on the effectiveness of various forms of participation for stated goals and outcomes. The study also helps to assess if participatory techniques from the local levels, studied in the ethnography, resonate at the World Bank.

On the basis of its empirical evidence, the study forwards two major conclusions: (1) 'habits of authority' among various development actors thwart effective participation; (2) commercial incentives for stakeholders encourage participation and deliberation.

Conceptual Context

This section places key terms of this paper – development, participation, and technology – in historical context and describes the methods that the proposed project employs to ascertain the effectiveness of the new approach to development. The mix of qualitative and quantitative methods described below reflects mixed-method calls in the literature to produce well-reasoned and empirically sound results (Brady and Collier 2004). Importantly, the project reverses the large-n (large number) data set and case study sequence in mixed methods, where general results from the large-n causal inferences are applied to detailed case studies (King, Keohane, Verba 1994). Instead, the ethnographies described below inform the interpretative categories relevant for collecting and coding the large-n data set, thus addressing the valid critique that coding schemes are devoid of social context and seldom 'objective'. Process tracing, therefore, precedes and parallels the large-N causal inferences presented in this essay.

The current emphasis on shaping technology with societal participation sits in contrast to a top-down expertise-led model of technology and development in the post-war period (Anderson and Adams 2008; Shrum and Shenav 2001; Sarewitz 1996). Cozzens et al (2008: 793-794) writes that "over the past half century" development paradigms in science and technology "shared an assumption of strategy and action: some set of actors in the context of a poor country should take a specified set of steps toward 'development'." In general, the consensus in development thought, reflecting European and American economic histories, was to replicate the industrial model, which produced 'modernization' in these societies (Gerschenkron 1962). Development was narrowly defined in terms of economic growth, which resulted from hastening industrialization

(Rostow 1960). Even the central planning models in the developing world – in China or India or elsewhere – reflecting the Soviet 5-year Gosplan models accepted the top-down instrumental logic (Lange 1961; Rosensteien-Rodan 1943). As Scott (1998) has noted, the state imagined a "prostrate" civil society. Neither top-down central plans nor industrial technologies yielded the planned growth rates. Interestingly, telephone infrastructures, at the forefront of what are now termed information technologies, were ignored in these models as being elitist and not relevant to development (Singh 1999; Saunders et al 1994).   Some attention was accorded to communication technologies such as radio and, later, television to broadcast modernization messages to people but, again, technology's role was imagined in a top-down context (Schramm 1964; Rogers 1962; Lerner 1958).

The way that participation was conceived in development and technology initiatives also reflected the history of community participation in contexts such as the United States. Most of these initiatives were top-down. Selznick's (1984/1949) early study of the Tennessee Valley Authority showed that its grassroots approach was an ideology manufactured to recruit participants, and those opposed to this ideology were termed selfish by TVA. Similarly, Moynihan (1969) examines the Community Action Programs that came out of 1964 Economic Opportunity Act (President Johnson's war on poverty) as representing the "misunderstandings" of liberal "activist social scientists" rather than meaningful grassroots inputs. This ideology carried over into the paternalistic P.L. 480 food distribution and the green revolution initiatives from U.S. Agency for International Development and the Rockefeller Foundation (Cullather 2010).   They also

informed Johnson appointee Robert McNamara's basic needs agenda as the World Bank President from 1968-1991.

The current human-oriented turn to development represents a different way of assessing outcomes. It reflects everything from protests against top-down models to exploring various forms of empowerment that enable individuals and communities to participate in processes that bring them material comforts and human dignity (Nussbaum 2011; Keck and Sikkink 1997; Brecher and Costello 1994). Experts believed top-down approaches work like magic wands, which would seamlessly deliver on the desired results: workers would produce industrialization; farmers would adopt 'superior' technologies; children would learn from wise teachers. Workers, farmers, or children, however, did not take ownership. More recently, the deliberative democracy literature has also examined the difficulty of transferring participatory mechanisms from one context to another (Heller and Rao 2015, Baiocchi et al 2011) or the efficacy of participatory mechanisms altogether (Mansuri and Rao 2013). Chhotray (2011) shows that supposedly depoliticized 'watershed communities' for soil and water conservation, started by India's Ministry for Rural Development, tended to reinforce dominant politics rather than foster genuine participation.

The dominant approaches to development, often associated with the World Bank, still conceive goals in material terms such as resolving hunger, increasing life expectancy, or expanding literacy rates (Hulme 2010; Yusuf 2009). But these material goals are now placed in a context of human incentives and empowerment (Appadurai 2010; Nussbaum 2003; Sen 2000), as seen in UNDP's 'human development' approach. The human-oriented outcomes of development are also reflective of the increasing

emphasis on participatory approaches as ethically desirable (Gotoh & Dumouchel 2009; Pogge 2007; Murphy 2006). They continue, and challenge, the tradition from a prior generation of research that examined the precarious links between political participation and modernization ideals (Huntington and Nelson 1976).

The burgeoning literatures on participation at the grassroots allow researchers an opportunity to build theory from the ground-up. This counters the notion that participation is ultimately an elite-created top-down endeavor. Most research on participation in the past tended to examine what participation meant to organizations and elite actors, rather than what it means to grassroots actors. Now researchers can explore what participation means to the participants, and the effectiveness and scope of participation.   This article draws attention to both vibrant and passive forms of participation at the societal level, and the technologies that are shaped by and, in turn, facilitate these new endeavors.

The article undertakes a two-phase study: the first empirical part analyzes ethnographic findings to generate relevant categories and hypotheses for evaluating ICT4D participation at the grassroots. The second empirical part employs content analysis to explore the presence of these categories for over 200 ICT4D projects implemented through the World Bank.

Three aspects of participatory development were especially important for the study:

1. Which stakeholders are involved in participatory development?
2. At what stage/s are these stakeholders involved? Are civil society stakeholders in particular are consulted after project formulation?

3. What is the effect of the various forms of participation on stated goals and objectives?

Case Studies

There are several reasons for choosing India and Kenya as the cases for this book, to generate codes for the data set of ICT4D projects. Apart from geographic variation and size of the countries, both are developing countries with roughly similar gross national income per capita at current rates and, important for this essay, similar mobile phone penetration (See Table 1). Politically, both are pluralist systems and socially multi-religious and multi-ethnic. However, the primary difference is the relatively permissible environment for doing business in Kenya. Bates (1989) calls the absence of a socialist development strategy in Kenya in the post-colonial era "Kenyan exceptionalism". One indicator of the current environment is the days needed to start to a new business. Despite the 2014 similarity, it was 54 days for Kenya 10 years ago and 70 for India in 2005. On the other hand, India has a much better infrastructure as, for example, in access to electricity versus Kenya, which relies on generator power electricity. On the other hand, India historically featured a strong hand of the state in a semi-socialist strategy that was often called license-quota-permit Raj. Both the India and the Kenya cases illustrate the varying mix of 'habits of authority' among the actors involved and the economic incentives that sustain or destroy their case.

ICT4D requires an adequate information infrastructure. Without Development 1.0 of the information infrastructure, Development 2.0 of interactivity and service applications is impossible. The following analysis briefly describes the political

economy of the national level ICT infrastructure in each country, before turning to a brief ethnography of a few ICT4D projects. In particular, the essay describes ICT4D projects with a particular emphasis on the workings of private and public (government) stakeholders and involvement of external agencies (multilateral organizations, for example). The main purpose of this ethnography is to detail the extent to which ICT4D structures weaken or strengthen existing social and governmental hierarchies, and the economic viability and sustainability of the projects. The small sample of ICT4D project here includes those with explicit development objectives and not just profit-making.[1]

There were many reasons for conducting ethnographic fieldwork. It is hard to assess the social and cultural circumstances that govern technology through quantitative indicators, survey data, or interview techniques. Ethnography is much better at unraveling the *verstehen* or worldview as Geertz (1973) calls it. Especially in this project, it is important to understand how people themselves code forms of participation and relationship to authority, and the incentives that make them participate. Furthermore, a multisited ethnography allows for such relations to be studied at multiple levels: a multisited ethnography "moves out from the single sites and local situations of conventional ethnographic research designs to examine the circulation of meanings, objects and identities in diffuse time-space" (Marcus 1995). Therefore, I study a few ICT4D projects in depth but in multiple places and issues to arrive at a set of codes that may help to generate theory later.

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[1] The distinction is precarious but the ICT4D literature distinguishes between objectives that cater to socio-political empowerment and not just material benefits (Unwin 2009)

Ethnographic Evidence: India[2]

The advent of mobile telephony in the 21st century in India has made a difference to people's access to telephones – a leapfrogged infrastructure that expanded despite, rather than due to, the state's efforts. This followed intense pressures for telecommunications from middle-income and business groups since the 1980s. It took a while for telecommunication reform to get a hold: Indian telecommunication liberalization in the 1990s was driven by a state whose capacity and consensus frittered away over the last fifty years under the weight of pluralistic pressures and personalistic rule (such as under the so-called Nehru-Gandhi dynasty).

Indian reform efforts in the 1980s were halting and nepotistic even though demands from businesses, urban residential users, and government administrations continued to grow. India was pushed further toward telecommunications liberalization after a severe fiscal and balance of payments crisis in 1991 that weakened the status quo constituencies in the country and empowered many businesses to demand liberalization. Specialized services, including cellular, were liberalized between 1991-94 and basic telephone service was liberalized after the announcement of the National Telecommunications Policy in 1994. Each stage of the liberalization process in India was marked with awarding of contracts and licenses to those with most access to the state's decision-making processes along with many court battles and scandals. The pro-business BJP party government announced a New Telecom Policy in 1999 (NTP 99), which tried to streamline the licensing process and free prospective operators of heavy license fee

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[2] Most of the ethnographic evidence was collected from field research in India during summer 2014 and December 2014-January 2015. However, the first part of this sub-section also reflects prior fieldwork in India. See Singh 1999 for an early look at telecommunications restructuring in India and the developing world.

burdens through revenue-sharing arrangements. The operators were still shy of investment given lack of autonomous and transparent regulatory clout. In particular, foreign investment in telecommunication had slowed down to a trickle by 2000. NTP 99 also divided DoT into a policy-making body (named DoT) and a service provider, Department of Telecom Services (DTS). NTP 99 renewed plans for corporatization of DTS and the corporation BSNL came into being in 2000, which in 2014 has a customer share of nearly 87 million landline and mobile providers.

The phenomenal growth rate in mobile telephony, from 0.34 mobile subscriptions per 100 people in 2000 to 74 in 2014, followed not just liberalization of the Indian mobile market but also the separation of policy, regulatory and dispute settlement functions in Indian telecommunications. The creation and sustenance of the regulatory authority, the Telecommunication Regulatory Authority of India (TRAI), was delayed with opposition from the DoT, which was loathe to give up its authority. TRAI strengthened its authority slowly through parallel moves such as the creation of an independent Telecom Dispute Settlement and Appellate Authority (TDSAT) in March 2000 to arbitrate between operators and government. Despite the measures taken to create independent regulatory and dispute settlement authorities, politicians and government officials benefitted immensely from bribes. Telecommunications Minister Andimuthu Raja was charged in 2010 for a loss of $39 billion in revenues to the national treasury in 2008 after preferential 2G spectrum sales.

The central government in India dominates policy planning; as a political system, India is often viewed as federal in form but unitary or centralized in spirit, even though provincial governments have grown in authority in the last two decades. The story of

National Informatics Centre at the central (federal) level is instructive for the origins of e-governance. NIC was created in 1976 with $4.1 million UNDP funding just as the central Indian government began to contemplate the potential of information technologies for government. One of its first networks was low cost satellite VSAT-based NICNET, which connected 55 departments of the central government, with 35 provincial and 540 district headquarters. Not only was the initiative top-down, NICNET never achieved its purpose of providing an effective network for government interactions and decision-making. Nevertheless, it remains an early instance of state entrepreneurship in introducing an electronic culture, and many of the bureaucrats associated with NIC, including the founder N. Seshagiri, were champions of pushing the vision of an electronic culture in Indian government (Gautam 1996).

Measures from NIC reached fruition in the last decade. The National E-Governance Action Plan was approved in 2006, which the Department of Information Technology summarizes as follows:

> The National e-Governance Plan (NeGP), takes a holistic view of e-Governance initiatives across the country, integrating them into a collective vision, a shared cause. Around this idea, a massive countrywide infrastructure reaching down to the remotest of villages is evolving, and large-scale digitization of records is taking place to enable easy, reliable access over the internet (sic). The ultimate objective is to bring public services closer home to citizens, as articulated in the Vision Statement of NeGP.[3]

NeGP entailed NIC providing connectivity from the national to the local levels with the goal of bringing about decentralized administration, and envisaged government provision of services through electronic means. It would be difficult for a technological network to bring about decentralization by itself: ironically, NIC succeeded in

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[3] Department of Electronics and Information Technology, *National e-Governance Plan*, available at http://deity.gov.in/content/national-e-governance-plan.

centralizing the access to all levels of Indian government through the national portal --

india.gov.in.   The site provides information on all levels of the Indian government.   A

few standard features of provincial websites include a feature to send complaints or e-

mails to the Chief Minister, the de-facto elected executive authority in Indian provinces,

and a listing of portals that provide informational or other services (utility payments,

tickets for travel, downloading forms for government services).   Below the state-level,

the district and sub-district sites do not provide any useful or important information

except for a handful of cases.

NIC has worked with states to introduce e-governance at local levels. I studied

the rollout of community service centers at the district (county) and sub-district level in

the state of Himachal Pradesh (H.P.) in North India. H.P. is a relatively prosperous state

with the second highest rate of literacy (after Kerala) in India. Its 6.5 million people now

have 8.5 million mobile phones. Due to the mountains, short distances are time-

consuming. Provision of e-governance can cut transaction costs while the state's relative

prosperity and education makes it a case of "if not here, then nowhere else".[4]

Two types of service centers, both with software developed at NIC, provide a

variety of e-governance services in the state.[5] These include payment of electric utility,

copies of land records, renewal of drivers and vehicle licenses, and birth and death

certificates. At the district level, these centers are known as "Sugam" and were started

with a small UNDP fund of Rs 15 million in 2004 (roughly U.S. $265,000 in June 2004),

and are governed through the state level Department of Information Technology and a

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[4] Odell (2006) and George and Bennett (2005) call it a theory-infirming case.
[5] The NIC software has been rolled out in various Indian states but is know by a different name in each state such

para-statal body know as the Society for IT and e-Governance (SITEG) to make the telecenters sustainable through their own revenue collection. UNDP funds were distributed through the National Institute for Smart Governance and UNDP wanted them outsourced to private agencies, but national and state governments decided to provide the service themselves (UNDP also provided funding for a few other states). Sugam Centers were initially established in three district headquarters in HP and by 2015 they existed in 10 out of the 12 districts in the state.

The government also licensed privately run service centers from the district to the village level, known as Lok Mitra Kendras (LMK). Estimates of the number of LMKs are hard to provide, but a list from the government in four of the 12 most populated districts listed 65 operators. More than half of these may be non-functional due to reasons listed below.[6] My estimate would be that there are probably over 100 LMKs in Himachal Pradesh.

Technologies arrive with embedded social relations but, in turn, facilitate emergent interactions. Earl and Kimport (2011) employ the concept of "affordances" to convey the relations of information infrastructures to their environment. Service provision through Sugam and LMK needs to be understood similarly. The term *sarkar* or government in Hindi, India's official language, historically carried connotations of an authority to be looked up to and obeyed, meeting the Weberian criterion of legitimacy or a consolidated state. The post-colonial state, including many leaders of the Indian nationalist movement, commanded moral authority in the public sphere of governance. It would not be far-fetched to say that *sarkar* now commands neither due obedience nor

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[6] For the ethnography I visited LMKs in Solan district and the four districts in the lit provided: Bilaspur, Hamirpur, Kangra, and Shimla.

moral authority. However, within this changing ideology of *sarkar* may be located

marginalized societal and business voices, at once impatient with India's limited

statehood and demanding better governance.   At an everyday level, these steps are barely

noticeable, and India's lively mass media disseminate a daily dosage of government

corruption and inefficiency.

Several contrasting narratives of authority can be constructed from the ground

level of Sugam and LMK rollouts that also speak to national plans. In the 'official'

narrative, government officials deliver on developmental aspirations. The National e-

Governance Plan (NeGP) in 2006 envisioned 100,000 community service centers or

kiosks at the village level with budgets made available from the five-year plans. By 2011,

in fact, 119,000 villages had Internet connectivity though that does not mean they had

information kiosks.[7] For example, the Western Indian state of Gujarat initiated the e-gram

(gram in Hindi means village) project in 2003 and computerizing 13,753 Panchayats

(Sinha 2008) and other states have followed. The state also introduced another project,

Gyan Ganga (meaning knowledge Ganges), that established information kiosks for

service delivery but impact assessments listing tangible benefits to governance and

services delivery are hard to find.[8]

In Himachal Pradesh's 'official narrative', Sugam cuts costs and time and makes

citizens lives easier. It provides employment to Village Level Entrepreneurs (VLEs) and

at the Lok Mitra Kendra. In fact, the government works very hard: "they expect us to

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[7] *Current Affairs & Analysis*. August 12, 2011. "E-Panchayats." Available at
http://currentaffairsappsc.blogspot.com/2011/08/e-panchayats.html. Accessed July 31,
2012.
[8] A government informational video, albeit in Gujarati language, describing the e-gram
initiative can be found at http://www.youtube.com/watch?v=nWeztbn-usQ Accessed
July 28, 2012.

climb electricity poles for them," as one official told me. People like coming to government offices such as those of Sugam because of their "viability". Over 500 people go through the Sugam center in Solan, Himachal Pradesh daily on the six business days of the week. The government has designed a user-friendly platform through NIC, involved private firms in software development (GNG and Zoom in HP), and allowed VLEs to flourish in the LMKs, while employing its own staff in the Sugam Centers. "we have to tell LMKs not to act like government officials," said one government employee. "These are not government jobs."

This narrative breaks down slightly at the government level depending on where one stands in the e-governance centers. In Solan, from behind the counter, the officials often ask people to perform many tasks, including standing in queque, asking them to wait, or to bring clean and orderly files with additional materials. An occasional stern warning or a remonstration directed at the customer is not uncommon. However, most people are satisfied that things do get done even if the waiting time is long and the process somewhat opaque. Before the service centers arrived, minor tasks such as obtaining a land record could take more than one day.

A few other demographics about the employees and customers can be mentioned. Most people in lines are men and from low to middle-income people. Going to a government office is still primarily a man's job and the rich can afford to send their representatives or employees. However, many of the employees are women with advanced software and computer skills. At the Sugam centers there are two kinds of employees: government workers and contract employees. The government employees have secure jobs and they are usually the ones telling customers what to do. The contract

workers are employed with the para-statal SITEG, which collects the revenues from services, most of which is plowed back into the government. These contract workers are often the 'go-to' people at Sugam -- they know the technology and how it works. Moments of anxiety behind the counters come from computer and printers breaking down, and the servers and software malfunctioning.

The LMKs tell another narrative about service provision. They paid license fees to the government to set up their service centers. These fees are about Rs 17500-27000 (US $300-400). However, the LMK operators can charge 1.25-1.75 percent for payment of electricity bills, and upwards of Rs 10-100 (15 cents to $1.5) for printing land records that are online.[9] However, the business model with fixed fees only works in towns and cities. It is hard to generate enough revenues from 200-300 households in a village from small commission amounts. One LMK operator put it: "Kimat ek rupyaaa, aamdani adha rupaya" or "I earn half a rupee for every one rupee it costs me to provide the service." Apart from the fees to the government, the VLEs (Village Level Entrepreneurs) must purchase expensive equipment and despite, government's estimates, the business model for LMKs is broke. Therefore the VLEs have found ways to enhance their incomes: they sell charge cards for mobile phones, serve as cyber cafes, and impart training on computers.

Most VLE's also note that it is hard to run the software without a college degree. The LMKs get brief training from GNG or the government but on the job training and prior education count. They are also often the local knowledge brokers -- people come to

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[9] Land records are important: more than three-fourths of land in India may be in dispute. In the past, it could take a day or two to get land records. Their digitization has cut this time. It has not cut the past disputes but as one official told me it has significantly brought down duplicate or multiple sales of the same land.

them with issues ranging from how to operate their phones sot sending an email to a distant relative or friend.[10] The LMK operator, therefore, performs several tasks that multiple government offices would have performed in the past including the electricity office for bill payments, the land records office, or various administrative offices for birth and death certificates.

The Sugam and LMK implementation models were mostly top-down. UNDP carried out a needs assessment survey before establishing Sugam Centers. None of the government officials can recount anything that was found in the survey. They cannot recount any current customer suggestions or input. On the other hand, LMK operators are able to show emails that go unanswered. One VLE asks why the government portals are only available 10AM -5PM in a digital environment. Servers going down and Internet speeds are also frequently cited problems. Contrary to the government narrative, customers prefer the privately run centers for service provision.

There is disconnect between the government narrative about LMK profitability, and the problems that the LMK faced. In the Bilaspur District of Himachal Pradesh, they mobilized and persuaded the Bureau Chief of *Punjab Kesri*, the widely read Hindi newspaper, to publish an article about their difficulties, which was then picked up by other newspapers. This eventually reached the agenda of the state legislative assembly. The idea was to put pressure on the DoIT but "sarkar" does not budge easily in India. One of their demands was that as the LMKs provide government services, they should receive monthly salaries (they asked for Rs 3000 or US $50 per month). Demands like these make the government officials note that the LMKs want to act like the government.

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[10] One VLE got to know the entire village and is now the head of the Village Assembly (Panchayat).

Being the government is reserved for those who are formally admitted. Therefore, not even the contract workers in SITEG are government. People in Sugam centers carefully pointed out to me who was a government worker and who was not. *Sarkar* carries special meaning.

I also conducted an ethnography of a 'financial inclusion' project that sought to provide credit ratings for low-income households using a mobile technology application. The software team is based in New York and California. The project manager for India was located in Mumbai and the rollout happened around Chennai, Tamil Nadu. The California-based business InVenture is the creation of Indian-American Shivani Siroya, a former public health professional with the United Nations and an investment banker. InVenture started in 2011. Its rollout included projects in South Africa and Kenya (see next section). The India project entailed Insight, a mobile application, that allowed low to middle-income households to report on daily incomes, expenses, and financial transactions for 30 days, information then used for a credit score that would help small and medium businesses access loans, especially microfinance. USAID provided seed funding ($100,000), and the InVenture story was covered widely in media, microfinance, and trade periodicals including PBS, Huffington Post, Wall Street Journal, and Fortune. The USAID website describes the project goals best:

" ...InVenture will pilot the InSight tool in India, where it aims to serve 10 financial institutions and reach 500,000 individuals by 2014. InVenture will evaluate the tool's ability to increase financial literacy among users, as well as measure micro-business growth and savings rates. India's 145 microfinance institutions, with 31.7 million active borrowers, is a market that is projected to grow by 10% per year. As a first mover in the business of outfitting lenders to easily monitor small loan performance and help small businesses track their financial performance, InVenture plans to scale rapidly. Within five

years, InVenture aims to help 10 million people who currently rely on the informal financial sector obtain credit scores."[11]

InVenture represents the new development model where networks of individuals and organizations can leverage resources to undertake social development, while also operating, in many cases, as private entrepreneurs.[12] The pioneer was Grameen Bank starting in Bangladesh in the early 1980s and associated with Nobel Laureate Muhammad Yunus, which opened the possibility of a movement associated with microfinance, which led to the current term "financial inclusion."

InVenture's software team is located in Santa Monica and developed the Intuit's txtWeb platform that was termed Insight. Both the project manager in Mumbai and the regional manager in Chennai carried out a needs assessment through a survey and personal conversations involving 103 households, which helped them determine mobile phone use, average education (8th grade), and average income ($250), and several other demographic features. Jagan Selverai the Chennai manager worked in low-income low-caste slums north of Chennai around the Avadi area and persuaded households to start reporting their expenses.

InVenture and Insight were not successful in India. From 2011-2014, the InVenture website for India featured brochures, media packets, and donor testimonials. By December 2014, the India pages had disappeared, and the India project was closed. Two issues were paramount in the InVenture failure in India. First, financial inclusion in India is being mapped onto an existing financial imprint wherein accounts in traditionally

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[11] https://www.usaid.gov/div/portfolio/insight-mobile-accounting
[12] Kiva.org, the microfinance platform is well-known. Accounts such as Mortensoen and Relin (2006), Novogratz (2010), Solomon (2014)

run banks are still key to any financial services provision.[13] The government imprint

comes with a national plan -- InVenture could not work around the Indian banking

regulations.[14] The World Bank reports that only 2.4 percent of India's 888 million adults

with over 900 million phones had mobile money or mobile banking accounts (reported in

Financial Times August 23, 2015). Conversations with bankers also reveal that

traditional banks or even Micro Finance Institutions (MFIs) would be hesitant to accept

credit scores from an unknown organization such as Insight. The second issue relates to

the international development networks and the difficulties they experience in managing

projects such as InVenture. The team in Santa Monica was technically savvy but may not

have understood, or underestimated, the local realities in Tamil Nadu where it took door-

to-door effort to convince people to use Insight. Often the Indian staff felt that the Santa

Monica team was pushing them to do things that were unrealistic. As we will see in the

next section, InVenture worked with a different technology and network model in Kenya,

which seems to be working much better than the India experiment.

Ethnographic Evidence: Kenya[15]

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[13] The Indian government recently released data, which showed that 177.4 million bank accounts were opened in India in one year since Prime Minister Modi declared this to be a "national Priority" for a plan launched in August 2014. See
http://pmjdy.gov.in/account-statistics-country.aspx

[14] For example, mobile money platforms such as M-Pesa have been slow to rollout in India because the government requires everyone to have a bank account.

[15] Ethnographic research was conducted in Kenya in June 2015. By then, the coding exercise was mostly completed. Therefore, the purpose of the Kenya ethnography served as a form of external validity for the codes being developed. For example, the India case pointed toward commercial incentives being important. The Kenya case confirmed this supposition.

Kenya's ICT infrastructure follows the pattern in other countries, namely the transformation from a public utility to a liberalized market. The two key differences are that in late 1990s, Kenya was a relatively late entrant for liberalization, but subsequently it has fast emerged as an IT innovation hub in the developing world. In doing so, Kenya has captured the ICT development imagination in various ways, both in terms of the private enterprise but also in the networked creative commons.

The current policy and regulatory framework in Kenya came into place with the Kenya Information and Communication Act of 1998, which created the independent regulator Communication Commission of Kenya (renamed Communication Authority of Kenya in 2014). Historically, a public corporation and a utility, the Kenyan Posts and Telecommunications Corporation (KP&TC), had provided phone service. Despite more than doubling its direct exchange lines (household connections) since 1980, there were only 290,000 DELs in 1999 giving a teledensity rate of 0.95 percent for the population.[16] Private providers were allowed into Kenya in 2000 and by December 2014, three mobile operators divided the 33.6 million mobile subscriptions among themselves: Safaricom (67.4%), Airtel (22.6) and Orange (10.0%) [Communications Authority of Kenya December 2014, 10). In 1999 the mobile penetration rate was 0.08 percent.   By 2014, this rate was 74 percent. Internet penetration increased from 0.11 percent in 1999 to 43.4 in 2014.

Kenyan telecommunications have evolved through clarifying policy, moving toward independent regulation, and allowing in private firms. A National ICT Policy was created in 2004-06 after consultations with private, public, and multilateral stakeholders

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[16] Statistics from World Bank World Development Indictors available at
http://data.worldbank.org/country/kenya

(Etta and Elder 2005). The Ministry of Information, Communications and Technology was also separated at that time from the Ministry of Information, Transport, and Communications. The Communications Act of 2006 and that of 2013 clarified the policy and regulatory framework for Kenyan telecommunications. These moves are familiar: they allow national policy-makers to prioritize ICT sectors.

The latest iteration of Kenyan national policy is The Kenya National ICT MasterPlan (2014-2017).[17] It has three key points: development of human resources, a sophisticated and integrated ICT infrastructure, and e-government Services. Unlike India, Kenya's e-governance services infrastructure has evolved late and slowly. The 2006 National ICT Policy envisioned community service centers known as Pasha Centers (Pasha means "to inform" in Swahili) in each of the 290 Kenyan Parliamentary constituencies. By 2013 there were only 63 Pasha Centers in place and most of them were not economically sustainable, and closed down subsequently. The loans from the Kenyan ICT Board, which governed the Pasha Centers, failed to jump start private entrepreneurship and the centers experienced numerous technical problems (Akoth et al 2014). The next phase of the e-government services delivery is the setting up of Huduma Centers in Kenya where several government services can be accessed from one point. There were 17 Huduma Centers in 2015, which were coordinated through the Ministry of Devolution and Planning.

I visited the Nairobi Huduma Center located on the ground floor of the old General Post Office building and housing several ministries upstairs including the

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[17] Available at
https://www.kenet.or.ke/sites/default/files/Final%20ICT%20Masterplan%20Apr%202014.pdf

Ministry of Information and Communications. The Nairobi Huduma Center provides 18 services from 10 government agencies and caters to about 500 people daily. The Huduma website mentions that 2500 customers visit national Huduma Centers daily. The services include payment of utility bills, land records, police and parking, business registration, and health (social security and insurance) cards. Officials note that Pasha Centers were not well-promoted and people were not making money, but Huduma envisages a different kind of delivery platform, where government officials rather than private entrepreneurs provide the service. Interestingly, on the day I visited one of the most crowded service stations was Search and Registration of Business Names. Two women entrepreneurs told me that before the Huduma Center opened they would have gone to the Sheria House, a government building which housed the Registrar of Companies, where it could take a whole day to get a business name approved which now takes only a couple of hours. Coincidentally, that same week there was an editorial from Anne Waiguru, the Cabinet Secretary for the Ministry of Devolution and Planning, where she emphasized that "Kenya's liberal property rights regime incentivises investors and entrepreneurs to pursue business opportunities" (Waiguru 4 June 2015).

The dominant language of private entrepreneurship distinguishes Kenya from India. The country is neither beyond government control nor corruption, and is not that far ahead of India in the rankings of doing business, but its officials repeat the mantra of private capital in ways that Indian government officials do not. The "Desired Outcomes by 2017" in the Kenya National ICT Master Plan include establishing 55 ICT companies, recognition of Kenya as a regional ICT Hub, and the development of at least 10 commercial applications that are along the lines of Kenya's vaunted mobile money

platform M-Pesa. Officials in the Ministry of Information, Communication and Technology in the GPO building upstairs from the Huduma Center praised M-Pesa for many reasons, and also speak of 'Enterprise Kenya' that will propel Kenya's ICT revolution forward. [18]

Mobile money, which works via transfer of credit from one SIM card to another, is ubiquitous in Kenya. Nearly 122,000 agents provided mobile money subscriptions to over 26 million mobile subscribers in October 2014. Of these, Safaricom's M-Pesa is the pioneer and most popular. M-Pesa has nearly 84,000 agents and over 20 million subscriptions (Communications Authority of Kenya 2014, 11). M-Pesa was launched in March 2007, partly with funding from UK's international development agency DFID and assistance from Vodapahone. M-Pesa initially targeted urban workers in Nairobi who wanted to transfer money to their families in other parts of Kenya; it was marketed as "Send Money Home" (Hughes and Lonie 2007). The service grew exponentially and, despite attempts from traditional banks to slow it down, M-Pesa is now accepted in every part of Kenya. A letter of exemption from the Communication Commission of Kenya allowed Safaricom to operate and innovate. "We can't stop M-Pesa," said one high level official to me, "It's its own force."

In a country without an adequate transport infrastructure, and violence in the slums, M-Pesa fulfills many needs. A Masai man in the Olamutiai village in the Mara region of eastern Kenya said he prefers payments in M-Pesa, because it is easy to use, safe, and transportable. In the slums of Kibera and Mathare, I heard individual accounts

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[18] Enterprise Kenya refers to 'Vision 2030', developed through a participatory multi-stakeholder process, that seeks to propel Kenya into a thriving middle-income country: see www.vision2030.go.ke

of how M-Pesa is safe but carrying liquid cash is not. A recent history of mobile money in Kenya described Kibera as a "beehive of M-Pesa activity" where "M-Pesa agents line the dirt streets; people queque up to fill their phones with e-money and/or collect cash" (Omwansa and Sullivan 2012, 11).[19] Hughes and Lonie (2007), who were involved with M-Pesa from its inception, recount the story of the M-Pesa start-up and how the service improved with successive customer concerns and input. One difficulty was that agents would not easily give out cash because they were afraid to run out of liquidity. Eventually the problem resolved itself as the network grew and everyone accepted M-Pesa rather than cash as a form of payment.

M-Pesa dominates Safaricom operations at its two corporate headquarter buildings in Nairobi. Its officials speak to the permissive regulatory environment which enabled M-Pesa. There is constant innovation and development of new interfaces with user involvement. M-Shwari was launched in 2012 as a saving and loans platform and nearly 15 percent of the M-Pesa subscribers now also use M-Shwari. It operates in partnership with Bank of Africa. A new M-Shwari platform, which promises seamless connectivity with banks will be launched in late 2015. While describing entrepreneurship, one M-Pesa official recounted a personal story: "All Kenyans are entrepreneurs. Everyone has a side business."

Once a platform becomes ubiquitous, it can be either copied or used for further innovations. Other networks provide their own mobile money as recounted above. However, availability of liquidity and transfers has enabled electronic services to grow. One of these is M-Kopa (Kopa means "to borrow"), which provides "pay-as-you-go"

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[19] Morawczynski (2009) provides an early ethnography of M-Pesa users in Nairobi and Western Kenya bin terms of the social networks and the financial assets that M-Pesa engenders.

solar energy to over 210,000 homes with almost 500 people added everyday. Customers

buy a solar energy kit through installments and pay with an M-Pesa chip for

approximately $0.45 per day. M-Kopa has a state-of-the-art customer services facility in

Nairobi and its management (including two Americans who met in Oxford, UK, while

doing their MBA) speak of the early days of the Sears entry in America as their model for

customers owning their appliances. Nick Hughes, who pioneered M-Pesa, is also a

shareholder in M-Kopa and helped to start the business. M-Kopa management is careful

to point out that it is a business but is also aware that ICTs and social entrepreneurship

are part of its business model. "I don't know what you mean by participation," said one

of its top management, "I'm just doing business."

InVenture that operated with difficulty in India has had some success in Kenya.

The application in Kenya is called M-KopoRahisi, which generates credit scores for

customers through customer permitted access to their Facebook profiles.[20] The manager

in Nairobi notes that more than 60 percent of the Kenyan mobile subscribers have smart

phones and Facebook use is so high that people regularly refer to the internet as

Facebook or Whatsapp. The M-KopoRahisi (Kopo mean loan and Rahisi means easy)

loans are a maximum of 4000 Kenyan shillings (US $40), given for 21 days, and made

through M-Pesa. As I prepared to do research in Kenya, CEO Shivani Siroya sent an

email asking me to take a look at MKopo Rahisi's "Wall of Love" that lists hundreds of

unsolicited testimonials from satisfied customers.[21] MKopoRahisi had 14,000 unique

customers to whom 20,000 loans were made as of June 2015 and many had taken loans

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[20] MKopaRahisi uses an algorithm to generate credit scores from Facebook, which
includes customer posts about their education, the kinds of media they access (those who
read newspapers generate higher scores), and also their browsing history.
[21] See MKopo Rahisi Wall of Love at http://inventure.com/love

for the fourth or fifth time.[22] Inventure teams work round the clock in New York, Los

Angeles, and Nairobi to approve loans applications (InVenture utilizes virtual profiles--

Lucy, Mary and Joseph -- to answer customer questions). MKoparahisi's strategy has

been to rely on word of mouth from its customers, and reach out to existing social

networks, including Facebook. Ronald Maira, Inventure's Ugandan-born manager in

Nairobi, also spoke of "chamma" or informal investment clubs to which most Kenyans

belong. Everyone contributes a small amount to a "kitty" from which members can draw

funds.

The two dominant ICT4D narratives in Kenya are those of business and social

entrepreneurship. M-Pesa, M-Kopa and MKoporahisi represent the former. The nexus

for the latter is an innovation lab known as I-Hub. Erik Hersman, a Kenyan-born and a

Silicon Valley type technology entrepreneur, started iHub in 2010 to help technology

start-ups network and innovate. iHub tapped both into Kenyan entrepreneurship and the

social networks to which Kenyans belong. "Much of what makes the Nairobi tech scene

a success comes from its spirit of harambee—a cultural dichotomy of competitive

entrepreneurialism joined with a community that works together—that is so much a part

of Kenyan life" (Hersman 2013, 61). iHub 's four-floor glass building on Ngong road

provides a home to about over 200 startups at any time and boasts of a wide network of

members (over 10,000) and support from the technology world including Microsoft,

Google, and Nokia. Several applications have developed out of iHub, which provides

almost a University-like atmosphere with speakers and events held regularly. I spoke

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[22] Its Facebook Page listed 11,400 "Likes" on 29 August 2014 and lists MKopoRahisi as
a Bank/Financial Institution. Customer commentaries list questions and feedback, and all
queries are answered on the page.

with several entrepreneurs including one of the founders of M-Farm, which provided

prices for agricultural products to farmers from all across Kenya. The application sought

to diminish the power of middlemen who often held farmers hostage to one price. While

M-Kopa distances itself from iHub and social entrepreneurship, iHUb can claim its own

business followers who speak positively of the iHub model. One of them is Spatial

Collective located across the street. Spatial Collective employs geo-mapping and

crowdsourcing technologies to provide a variety of survey and mapping services to

development organizations and businesses.

The most well-known firm located within iHub is Ushahidi, named after the

Swahili word for testimony or witness. It was tried out first in the stalemate following the

December 2007 Kenyan elections and violence between Kikuyu and Luo ethnic groups.

A small group of Kenyan software developers assembled and launched the Ushahidi

platform in a few days. It allowed citizens to use a variety of media such as mobile

phone, landlines, radio, or Internet, to monitor elections and report cases of violence,

which were then centrally collected and reported on Google maps. These maps allowed

people to avoid areas of violence, and journalists also picked up eyewitness accounts

being reported on Ushahidi: it contributed to conflict de-escalation and helped to create

conditions for peace— a power-sharing arrangement was worked out between the two

electoral contenders. Since then, the Ushahidi platform has had a variety of applications,

including reporting from conflict and disaster zones such as anti-immigrant

violence in South Africa in mid-2008 and the Haiti earthquake in 2010.

Taken together the two narratives of ICT4D in Kenya paint a picture of

entrepreneurship but also that of intense participation through spaces such as iHub or

interactivity and inclusion through applications such as Ushahidi or M-Pesa. A few

officials in Kenyan ministries view iHub as a boutique model that may not be scalable

while looking at M-Pesa as a viable enterprise for Kenya to move forward. That depends

on whether one analyzes iHub as a space or as a network. The iHub community

meanwhile sees M-Pesa as corporation, but everyone admits to the value of utilizing M-

Pesa or mobile money. There are connections between the two narratives. Nick Hughes

was head of social entrepreneurship at Vodaphone when he conceived M-Pesa and

convinced senior management and DFID to fund it. In terms of service provision, the

difference in the two narratives may be that of the scale of businesses, rather than the

content of their services.

An Assessment of Participation and World Bank Projects

The field research in India and Kenya provided two sets of understandings. The

first relates to participation, which carries varied meanings ranging from who was

involved in needs assessment or stakeholder analysis at the time of the project's

conception, to a sense of inclusion among those affected when the project has been

implemented. ICTs engender their own networks and often the inclusion at the

implementation stage comes from being part of the connected network. Facebook is an

example, as also MKopoRahisi's Wall of Love, but even M-Pesa provides a cultural

narrative about a network and connections in Kenya. In India, such networks are hard to

locate.

The second understanding relates to the economic viability of projects. In India,

ICT4D projects studied were hardly viable economically, and government regulations

seemed to thwart economic incentives. In Kenya's more 'permissive' environment, the two dominant narratives of ICT4D are both about economic viability. Both speak to profitability, and both contain elements of solving social entrepreneurship. The only way to distinguish the narratives is in terms of the cultures and the networks they foster, and the size of the enterprises. The business narrative is thus made up of medium to large scale firms (MKopa, Safaricom) while the iHub narrative is made up of start-ups and small scale firms with avowed social missions such as those of Ushahidi and MFarm.

India represents a traditional narrative of ICT4D, while Kenya represents more of an emergent one with networks and entrepreneurship. The primary stakeholder in India is the government and its habits of authority often stifle social entrepreneurship. In the case of Sugam, the government stepped in itself instead of private entrepreneurs that UNDP had envisaged for the community centers. The story of Pasha Centers in Kenya is similar. There the government could not jumpstart entrepreneurship but eventually stepped in itself at the Huduma Centers. Nevertheless, Kenya features emergent platforms such as M-Pesa and Ushahidi that have captured the pubic imaginaries and allowed for a variety of applications to develop.

The next step in this study was to examine the extent to which the narratives from India and Kenya are reflected in other ICT4D projects worldwide, especially those embracing participatory development. The World Bank was chosen as the most-likely case because of the many ICT4D projects it has implemented that may be termed Development 1.0 (infrastructural) and 2.0 (interactive) in this essay. Second, in response to the critique of its top-down model of development, the World Bank and the International Monetary Fund began to craft a participatory development agenda starting

in the early 1990s. This agenda eventually resulted in the Bank's chief policy guidance

instrument in each country being called Poverty Reduction Strategy Papers (PRSP) that

governments were to prepare through widespread consultations, including those with

civil society, before applying for loans at the World Bank. The Kenyan national ICT

policy in 2006 developed out of its PRSP. The World Bank has also pioneered the

development of participatory development techniques and related publications.[23]

   I worked with three research assistants to determine the ways in which the World

Bank's ICT projects are participatory and the extent to which they contain commercial

incentives for economic viability. We selected 301 projects falling in the ICT sector for

the 1990-2010 period from the World Bank's online database of Projects and

Operations.[24] The project documents that were available online were coded in several

categories. Of these, the Project Completion Report (PCR) was the primary document for

coding.[25] The resulting database contains only 206 projects. Of the 301 projects that

came up in the ICT Sector database, 95 were excluded for one or more of the following

reasons: they were only nominally about ICT (the World Bank database lists each project

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[23] See, Rietbergen-McCracken and Narayan-Parker (1998), Mansuri and Rao (2012), and Heller and Rao (2015)

[24] Available at
http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,menuPK:41389~pagePK:95863~piPK:95983~tgDetMenuPK:228424~tgProjDetPK:73230~tgProjResPK:95917~tgResMenuPK:224076~theSitePK:40941,00.html

[25] Other documents coded were: President's Report, Project Performance Assessment Report, Credit Agreement, Implementation Status & Results Report, Environmental Assessment, Project Paper, Project Appraisal Document / Staff Appraisal Report , Technical Annex, Project Information Document, Implementation Completion Results Report, Tranche Release Document, Program Document, Grant or Trust Fund Agreement, Procurement Plan, and Integrated Safeguards Data Sheet.

in multiple sectors), they were canceled or not implemented at all, or they had not been completed yet.

The RAs worked through a participatory coding design practice with me throughout the 2014-15 academic year. During Fall 2014, we discussed telecommunications and ICT4D with relevant readings and began to develop a coding instrument. We revised definitions and codes on several occasions due to inter-coder reliability issues. Once we reached an inter-coder reliability of above 80 percent for coding, we opted for a technique called "calibration" that allows coders to talk to each other when their codes differ (Albin and Druckman 2014). Each project was coded by at least two RAs. During Spring 2015, they met each week for calibration sessions. Less than three percent of the codes for the entire project needed calibration. If the calibration did not resolve the issue, I intervened and usually chose the lower number assigned to the code (less participation, less commercial incentives).

The coding scheme was elaborate but the main codes fell into the following five categories:

- *Type of Development Objectives*: Material and/or socio-political and whether they were strong or weak in each category.
- *Number of Stakeholders* involved in each stage of project implementation (formulation, implementation, post-implementation). We coded for presence of four types of stakeholders were: international organizations, government officials, commercial enterprises, and civil society organizations or individuals (activists, unaffiliated persons, experts)
- *Type of participation* coded for number of stakeholders but paid attention to their activity, from nominal inclusion to their active participation in problem-solving
- *Presence of commercial incentives* and whether they were strong or weak
- *Achievement of objectives* as described in project document in three categories (negligible, partial, and substantial). I generated a binary category from this analysis, coded as 1 for substantial and 0 for negligible or partial achievement of objectives. Of the 206 projects, 26 achieved negligible objectives, 76 partial, and 102 substantial.

Achievement of objectives serves as my dependent variable for the following analysis while the other four were to provide the independent variables. However, the type of participation variable is not that meaningful in the early stages. Of the 206 projects included, 179 were coded as 1 for project formulation, which means the project included only two stakeholders who consulted with each other. In other words of the 206 projects studied, nearly 80 percent were formulated by the World Bank and governments with little or no input from civil society and commercial enterprises. However, the RAs also coded for overall participation across the three stages of the project and assigned a value higher than one if more stakeholders were present in later stages of the project. As we will see later, the use of the overall participation variable does provide some interesting results. It also makes sense given the ethnography that forms of participation increase as projects get implemented and people join the network.

Tables 2-4 summarize the logistic regression results, and the important findings are underlined. Table 2 presents the model with all the variables. The strongest finding here is that as the number of stakeholders involved increases in project formulation stage, the odds of project success increase by a factor of 3.32. This finding is significant at the 98 percent level. Table 2 also shows that projects with strong socio-political objectives were less likely to account for success. However, the odds of *decreasing* success through including strong socio-political objectives is only by a factor of 0.13, significant at the 99 percent level.

[TABLES 2-4 HERE: SEE END OF PAPER]

The World Bank projects are often critiqued for caring more about economic and material objectives than social ones. The weak finding on socio-political objectives in

Table 2 validates this claim. On the other hand, table 3 reports findings for 71 projects

with strong material objectives. The presence of strong commercial considerations

increases the odds of success of development projects by a factor of 3.36, a finding

significant at the 97 percent level.

Finally, the ethnography demonstrated that as projects are implemented, the

success of the project increases as participation increases. This is a difficult claim to test

empirically. Table 2 showed that overall participation in the project from various

stakeholders was not statistically significant. The overall participation measures forms of

participation with successively higher values for inclusion, consultation, and problem-

solving across the project implementation period. Table 3 reports findings from a slightly

different empirical strategy. Table 3A shows that the effectiveness of increasing

stakeholder participation remains strong, and statistically significant at 95 percent level,

for the 104 projects whose overall participation increased as the project was

implemented. However, for the 103 projects where the participation of stakeholders did

not increase as the project was implemented did not show a statistically significant

relationship (these results are shown in table 3B). In other words stakeholder inclusion

is only effective where they are progressively more involved in successive stages of the

project implementation.

These preliminary results indicate that increasing the number of stakeholders and

forms of participation are effective strategies. Similarly, at least for the projects with

strong material considerations, creating commercial incentives make the project viable.

Separate results showed that commercial considerations are not important (or statistically

significant for projects with strong socio-political considerations). Table 2 also suggests

some weak evidence, which shows odds of success decrease for World Bank projects

with strong socio-political considerations. For the purposes of this paper, specific

projects are not discussed. However, further analysis of individual projects can shed

some light and help to trace the process of stakeholder consultation and participation, and

commercial incentives that make projects successful.[26]

Conclusion

In building theory from the ground-up, this paper reverses the methodological

sequence from a large-N to comparative cases, which produce macro conclusions first,

whose causal inferences are then explored further in comparative cases. Instead, this

study does some process-tracing for causal inferences through an ethnography and then

explores the logic in a large-N dataset prepared specifically from the coding's generated

through an ethnography. Brady and Collier (2004) critique the logic of causal inference

found in quantitative studies (King, Keohane, and Verba 1994) as lacking in studying the

conditions which produce particular outcomes. By generating theoretical codings from

the ground-up, this study attends to this important critique while also now avoiding the

logic of a large-N study.

Turning now to the two main hypotheses in this paper, the ethnography finds that

habits of authority remain strong in India and weak in Kenya. Similarly commercial

incentives are strong in Kenya and weak in India. The ethnographies are meant to

generate and validate coding and, therefore, they only make preliminary claims about the

success or failure of projects. However, in both cases weak habits of authority and strong

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[26] This enquiry is underway for the book version of this paper, Singh (forthcoming)

commercial incentives do validate innovation and, to some extent, project success. The large-n study validates these codings at a preliminary level. Stakeholder participation makes a difference to all project outcomes, and it remains effective as participation increases through the project implementation period. Commercial incentives matter for projects with strong material objectives, while World Banks projects may be less likely to be effective when they include strong socio-political objectives. Further process-tracing work is needed to explain these results fully

TABLE 1: KEY DEVELOPMENT INDICATORS: INDIA AND KENYA		
	India (2014)	**Kenya (2014)**
GNI Per Capita (Current, Atlas Method)	1610	1280
GNI Per Capital (PPP)	5760	2890
Mobile Penetration per 100 population	74	74
Internet Penetration per 100 population	18	43
Electric Consumption kwH per capital	760 (2012)	157 (2012)
Access to electricity (percentage population)	79 (2012)	23 (2012)
Rural electric access (percentage population)		7
Life Expectancy	66 (2013)	62 (2013)
Literacy rate (15 years or older)	62.75 (2006)	72 (2007)

Source: World Bank, *World Development Indicators*. Available at databank.wordbank.org Accessed 1 August 2015.

TABLE 2:

EFFECTS OF STAKEHOLDERS AND COMMERICAL CONSIDERATION ON

PROJECT EFFECTIVENESS

```
Logistic regression                    Number of obs   =        206

                                       LR chi2(5)      =      16.51

                                       Prob > chi2     =     0.0055

Log likelihood = -134.49588            Pseudo R2       =     0.0578
```

objectives~y	b	z	P>|z|	e^b	e^bStdX	SDofX
sociopol_s~k	-2.03424	-2.785	0.005	0.1308	0.5622	0.2831
matdev_str~k	-0.00202	-0.006	0.995	0.9980	0.9990	0.4764
stake_anal~r	1.20286	2.461	0.014	3.3296	1.5867	0.3838
commconsid~k	0.31016	0.900	0.368	1.3636	1.1670	0.4978
partoverall	-0.09733	-0.527	0.598	0.9073	0.9114	0.9527

KEY:
objectives: binary variable. 0=negligible or partial; 1=substantial
sociopol: binary variable: 0=weak socio-political objectives, 1=strong
                 socio-pol objectives
matdev: binary variable: 0=weak material objectives,
                 1=strong material objectives
stake_numbers: Number of stakeholders form 1 to 4 involved in
                 stakeholder analysis/needs assessment
commconsider: 0=weak commercial considerations,
                 1=strong commercial consideration

TABLE 3:
EFFECTS OF STAKEHOLDER PARTICIPATION AND COMMERCIAL INCENTIVES FOR PROJECTS WITH MATERIAL DEVELOPMENT OBJECTIVES

```
Logistic regression                        Number of obs   =        71

                                           LR chi2(2)      =      7.99

                                           Prob > chi2     =    0.0184

Log likelihood = -44.870966                Pseudo R2       =    0.0818




-----------------------------------------------------------------------
objectives~y |     b         z      P>|z|    e^b     e^bStdX    SDofX

-------------+---------------------------------------------------------
commconsid~k |  1.21333    2.310    0.021   3.3647   1.8412    0.5031

stake_anal~r |  1.20392    1.810    0.070   3.3332   1.6452    0.4136

-----------------------------------------------------------------------
```

TABLE 4A: EFFECTS OF STAKHOLDER PARTICIPATION ON PROJECT EFFECTIVENESS FOR THOSE PROJECTS WHERE OVERALL PARTICIPATION INCREASED AS PROJECT WAS IMPLEMENTED

```
Logistic regression                          Number of obs   =        104

                                             LR chi2(2)      =       4.78

                                             Prob > chi2     =     0.0915

Log likelihood = -69.618596                  Pseudo R2       =     0.0332
```

objectives~y	b	z	P>|z|	e^b	e^bStdX	SDofX
stake_anal~r	0.95630	1.993	0.046	2.6021	1.6093	0.4976
commconsid~k	0.52914	1.204	0.229	1.6975	1.2993	0.4948

TABLE 4B: EFFECTS OF STAKHOLDER PARTICIPATION ON PROJECT EFFECTIVENESS FOR THOSE PROJECTS WHERE OVERALL PARTICIPATION DECREASED AS PROJECT WAS IMPLEMENTED

```
Logistic regression                          Number of obs   =        103

                                             LR chi2(2)      =       0.01

                                             Prob > chi2     =     0.9953

Log likelihood = -71.151388                  Pseudo R2       =     0.0001
```

objectives~y	b	z	P>|z|	e^b	e^bStdX	SDofX
stake_anal~r	0.13864	0.097	0.923	1.1487	1.0194	0.1387
commconsid~k	0.00094	0.002	0.998	1.0009	1.0004	0.4566

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