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Rethinking Digital Cultures and Divides: The Case for Reflective Media

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Research exploring the means by which new media technologies can shape development within marginalized communities worldwide has began to move away from discussion limited to technical and infrastructural, to consider the interactions, beliefs, and values of local communities. Yet most projects continue to focus on enabling communities to access external information, rather than on the possibility of using media to catalyze community reflection and thereby developmental activity from within. This article shows how this promise can be actualized by providing an overview of an experimental project that made available a set of video cameras to a carefully selected group of community members in a ritualized, largely nonliterate village in Andhra Pradesh, India. It concludes that policymakers, researchers, and practitioners would benefit from considering the possibilities that reflective media hold to generate collective action and consensus building, and that these possibilities can synergize with the need to develop scalable projects.

Keywords appropriation, digital cultures, ICTD, networks, new media, development, social media

CENTERS, MARGINS, AND DIVIDES

With the dramatic increase in urbanization worldwide, potentially distance-bridging technologies enable the concentration of economic, educational, and political opportunities in nodes of power within the global network of flows (Barabasi 2000; Castells 1996; Grewal 2009; Lovink & Schneider 2004; Sassen 1998; 2000). Appadurai (1990) reminds us that even with the de-centering of power into what he describes as "–scapes," these flows of finance, image making, populations, and more are characterized by their disjunctures, that is, their uneven relationships to sites of power and control worldwide.

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Even when a particular population has migrated away from its homeland into diasporic networks worldwide, the ability of a community to extract life-empowering opportunities from this network are limited if they are not a middle-/upper-middle-class urban group. Moreover, while urban sites continue to attract massive amounts of migration, particularly in the developing world, within these environments gaping stratification persists as evinced by deepening slums and problems with physical infrastructure. The spiraling growth of cities reflects the concentration of economic, social, and educational networks that are potentially accessible via cities, and the dire marginalization for those structurally distanced from these opportunities.

> This is a world of flows. It is also a world of structures, organizations, and other stable social forms . . .. The various flows we see are not coeval, convergent, isomorphic, or spatially consistent. They are in what I have called elsewhere relations of disjuncture . . .. Indeed, it is the disjunctures between the various vectors characterizing this world-in-motion that produce fundamental problems of livelihood, equity, suffering, justice, and governance. (Appadurai 2000a, 5)

Similarly, Castells (2009) observes that new media technologies do not erode existing geographies of power but perpetuate them by reinforcing the structural advantages of the metropoles (and emergence of new elites). In effect, despite the mythologization of the loss of local place in an era of digital networks, resources within social systems are best accessed from points of centrality, and they are located within cities because of better infrastructure, information access, collocation of different labor and economic sectors, and more. Alongside the "network-wealthy" elites has emerged a new class of workers who, though better paid, have been subject to the peculiarities and performativities of networked time and geography (Aneesh 2006; Shome 2006), and occupy generally subordinate positions in transnational, horizontally distributed companies (Ansell 2000; Castells 1996; Sassen 1998). Indeed, today's power divides cannot be traced

merely to inequities between nation-states but instead to the uneven movement of high-skill "digital argonauts" (Saxenian 2006) between cities worldwide, enabling historically poorer nations to realize great economic benefits in specific, urban elite spaces.

Thus, populations excluded by technology-mediated networks are further reinforced as marginal. Sassen (1996a; 1996b; 1998; 2000; 2003) has argued for the importance of developing communication networks that enable the "neighborhood" to become part of the global city, explaining that those excluded face a "democratic deficit" (2003) in terms of their ability to voice their social, cultural, economic, and political agendas. Therefore, scholars and practitioners need to consider (a) the position of the village, slum, or community within a set of economic and social networks, and (b) the ability of that community to act with agency, pragmatism, and strategic directionality within these networks (Emirbayer and Goodwin 1994).

Because of the poverty generated by networked exclusion, governments and professionals have attempted to "bridge the digital divide" via the introduction of "access-driven" mobile and wired information infrastructures into rural villages, which Heeks (2009) has called ICTD (Information Communication Technologies and Development) 1.0. At one extreme, some projects have been developed on the assumption that the mere presence of access-oriented information technologies and portals can generate learning critical for development (Warschauer 2002). Access-oriented approaches, though scalable because they can be repeated across different communities, have been criticized for their lack of contextualization or engagement with local community participation (Warschauer 2002). While access to networks from a dependent position tends to present better economic opportunities than the contrasting costs of network exclusion (Tongia and Wilson 2007), these efforts may still fail to cultivate agency, decision making, and collective action from within the community. In the context of telecommunications, Samarajiva and Shields (1990) point out that the effort to engage rural communities within information access initiatives is inclusive in a manner that perpetuates their subordinate position, as the focus is on developing connections with the nearby urban center, as opposed to lateral links with nearby villages. The latter could foster constructive communication and organization between equals that can counter the hegemony of the metropole. Sawhney and Suri (2009) also call for a new way of thinking that does not privilege vertical connections over lateral ones, as has been traditionally the case. They focus on challenges of translating lateral connectivity, once that is made available, into lateral discursive spaces.

In contrast to infrastructure-focused and access-oriented projects to bridge the divide, many grassroots initiatives have emerged that consider the subtleties of subcultures, moving away from the homogenization of community, and attempt to develop projects from the "bottom up." These "contest, interrogate . . . and create forms of knowledge transfer and social mobilization that proceed independently of the actions of corporate capital and the nation state system . . . on behalf of the poor that can be characterized as a 'grassroots globalization' or 'globalization from below'" (Appadurai 2000a, 3).

While even these participatory approaches are criticized by some because their existence legitimates the "development project" (Cleaver 1999), it is notable that many of these efforts start from the ethnographic frame, considering whether ICTs are really relevant, what value they add, and whose voices within communities are privileged. Yet these efforts have also been critiqued for their lack of scalability and their inability to be absorbed into the logic of the state, which is charged in theory with the role of providing distributed, larger scale solutions and policies (Banerjee et al 2007; Scott 1998; Wallack and Srinivasan 2009). Complementing this critique is the argument that while many participatory initiatives are framed, designed, and contextualized via active dialogue with the community, they fail to consider scale, precluding the possibility for the the community to articulate its voice and priorities to external parties and networks. Deeper contextualization does not in itself generate "voice" and may be at odds with projects that are focused on generating collective action, agency, and an indigenous voice from within the communities. Thus, the existing binary between participatory and scalable arguments may perpetuate an unhelpful elite discourse that further marginalizes the community voice (Hirschman 1970; Srinivasan 2006), creating what Appadurai terms a "double apartheid" (2000a).

This article argues that while both network inclusion and participatory approaches hold complementary merit, a bridging possibility starting with the concept of voice has been pushed to the side. This possibility is investigated by considering how information and communication technologies (ICTs) and low-cost media technologies that can be scalably distributed can catalyze community reflection, enabling both contextualization and the establishment of voice and collective action from within. It shows how this promise can be actualized by providing an overview of a 2-year experimental project that made available a set of video cameras to a group of community members in a largely nonliterate village in Andhra Pradesh, India. We see how the ability to create and share videos within this community (relative to a demographically similar control village) impacted consensus building, collective and political action, and the ability to produce the type of social imaginings for a future that is collective and negotiated, characterized by both consent and dissent.

EXPLORING THE LANDSCAPE OF ICT DEVELOPMENT PROJECTS

Before advancing further into the theoretical insights that motivate this article, this section briefly discusses the basic approaches taken within the ICTD field. In an important "bird's-eye view" chapter, Keniston (2003) idenifies four closely interrelated "digital divides": (1) between the rich and poor *within* every country, (2) between those who speak English or that nation's lingua franca versus those who do not, pointing to the importance of creating and sharing digital content in languages other than the dominant ones, (3) between rich and poor nations, speaking to the power of wealthier nations to profit from their strategic positions within economic, political, and other resource-providing networks, and (4) between technocrats in super-high-paying, knowledge-intensive fields such as computer science, biotechnology, and pharmaceuticals, and the other professional groups. He urges ICTD researchers to consider multiple technologies, the actual uses/practices enabled by them (rather than their mere presence), and local needs.

Debate persist about the appropriateness of particular measurements and indicators (Dimaggio and Hargitai 2001, Grigorovici, Schement and Taylor 2002, Hargittai and Walejko 2008). Barzilai-Nahon (2006) argues that researchers need to construct their definitions of the "divide" or the capacities they wish to optimize a priori, and then develop measurements that are incremental. Heeks (2009) usefully extends the preceding point. He explains that the data collection process in the extraction of "best practices" should triangulate ethnographies, interviews, and surveys to better consider incremental process, improvisation, and longer term capacity-building, institutions, and sustainability. It would also recognize that direct user statistics may not be the most suitable form of understanding the "social life" of the project, and that instead the cultural and social discourses engendered around the project may frame a more situated, sociotechnically rich manner. This approach is illustrated in Burrell's (in press) study of the changes brought about by the introduction of Internet cafés in Ghana.

Generally speaking, ICTD efforts tend to focus on bridging isolation and divides around:

- Economic barriers: lack of access to information, markets, economic opportunities.
- Physical barriers: bridging distance, geographic barriers.
- Political barriers: transparency of governance, access to legal relief, accountability.
- Social and health barriers: language and literacy, gender issues, health issues, computer literacy.

Within these, projects have proliferated, ranging from providing farmers with crop prices, to providing content delivery using same-language subtitling (Kothari 1999), developing e-governance portals, providing telemedicine advice, developing more sophisticated mobile and wireless infrastructures, sharing farmer-created videos across a distributed community (Gandhi et al 2007), and bridging ontological gaps in understanding between citizens and states (Wallack and Srinivasan 2009). Notable projects have also sought to both localize information in "folkforms" as well as to cultivate voice from within the community by explicitly considering the means by which local communities themselves share information on an everyday basis, allowing them to generate greater awareness over how they had been represented by governments, and external organizations. One notable project in this vein was Jana Sahayog, described by Madon and Sahay (2002) as having had the following effects:

> Basic information about the slums was produced by the government and was neither shared with other organizations nor made available to slum dwellers in a way that they could understand or respond to . . .. Since Jana Sahayog came into existence, information flow has gradually increased in the direction of the slum dwellers. (Madon and Sahay 2002, 18).

Heeks identifies three agendas that run across these projects: sustainability, scalability, and impact. Sustainability considers the long-term potential of the project and appropriation, voice, and design/authorship from a broad perspective. Scalability considers economic, policymaking, and viral outreach. Impact considers appropriate indicators and measurement models that can be articulated to investors and funders.

Heeks points out that little has been done to explore how communities can use ICTs to produce their own ideas, visions, and strategic agendas. A new "productive view" would consider the community as an active creator, rather than passive receiver, of information (Hargittai 2008). This stands in contrast to participatory projects that solely focus on feedback and localizing a project, with little attention paid to "participation in policy-making and shaping of environments and communities through direct action and self-reflection" (Arora 2008). The productive view for Heeks would consider both (a) the local community and (b) the long-term evolution of the ICTD project.

CAPACITY AND ASPIRATION

The productive view that Heeks urges motivates my interest in studying how an ICT can generate voice from *within* a community, through the act of creation and reflection. To assist with this, I turn to Appadurai's discussion of the emancipatory power of grassroots imagination in the context of development.

> It is in and through imagination that modern citizens are disciplined and controlled—by states, markets, and other

> powerful interests. But it is also the faculty by which powerful collective patterns of dissent and new designs for collective life emerge . . . we see the beginnings of social forms without either the predatory mobility of unregulated capital or the predatory stability of many states . . .. One task of a newly alert social science is to name and analyse these mobile civil forms and to rethink the meaning of research styles and networks appropriate to this mobility. (Appadurai 2000a, 6)

Appadurai's point is that within the culture of the community itself lies an articulation for a collective future that can enable sustainable developmental activities. He argues therefore that aspiration must be considered an invaluable capacity side-by-side with other capacities outlined by many development scholars. What is often missing from both top-down and participatory projects is the cultivation of aspiration from within the community. The project is neither envisioned nor brainstormed by the community, but is instead either scalably distributed or contextualized by the researcher or practitioner. These readings of communities via an interpretation of their specific needs (in participatory research) or general resources (in top-down policy) both run the risk of developing an essentialized reading of community that places the interpreter, whether a field researcher, nongovernmental organization (NGO), or policymaker, in a position of power and bias. In contrast, an approach that starts with grassroots reflection, content creation, and collective sharing would allow community goals, aspirations, and/or needs to emerge, rather than be subject to prior instrumentalization. What would be important then would be the study of interventions that empower emergent grassroots voices and aspiration.

Cultivating aspiration necessitates interrupting the fatalism rife within such communities due to the fact that they are rarely provided the resources and opportunities that can generate the space to imagine.

> More concretely, the poor are frequently in a position where they are encouraged to subscribe to norms whose social effect is to further diminish their dignity, exacerbate their inequality, and deepen their lack of access to material goods and services . . .. In the Indian case, these norms take a variety of forms: some have to do with fate. (Appadurai 2000a, p. 66)

Aspiration is therefore not passive agreement but inextricably linked with the previously introduced notion of voice, which encompasses consensus building as well as respectful dissensus and interrogation. It is formed through the act of *reflection,* a luxury that within daily life is rarely afforded to those on the margins of society. Appadurai explains:

> The relatively rich and powerful invariably have a more fully developed capacity to aspire . . . the better off by definition have a more complex experience of the relation between a wide range of ends and means, because they have a bigger stock of available experiences of the relationship of aspirations and outcomes . . . opportunities to produce justifications, narratives, metaphors, and pathways through which bundles of goods and services are actually tied to *wider social scenes and contexts.* (Appadurai 2000a, 65, emphasis added)

Thus, the goal of a reflective ICT project would have to involve interrupting this fatalism by providing a set of tools that can enable aspiration to emerge from within the community.

> Any developmental project . . . should develop a set of tools for identifying the cultural map of aspirations that surround the specific intervention that is contemplated. This requires a method of placing specific technologies or material inputs in their aspirational contexts for the people most affected by them. This will require careful and thoughtful surveys, which can move from specific goods and technologies to the narratives within which they are understood and thence to the norms which guide these narratives. (Appadurai 2004, 83)

Appadurai's insights resonate deeply with the powerful work of Paulo Freire, who pointed out that often well-meaning, information-transfer-oriented initiatives actually disable the student (in this case the community member engaged with the ICT), by placing him in a necessarily subordinate position of passively accessing/absorbing information authored elsewhere. Freire (1968/2002) argued for the importance of educational initiatives built around *praxis*, whereby voice comes from community members as active creators rather than subjects. This view conceives the "student" as equal to the teacher, such that through a reflexive process of sharing, creating, actively listening, and committing to equality, grassroots learning, mobilization, and change can occur.

> For apart from inquiry apart from the praxis, individuals cannot be truly human. Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry, human beings pursue in the world, with the world, and with each other. (Freire 1968/2002, 72)

Together, Appadurai and Freire urge us to conceive of a tool and its social integration that can speak to the goal of cultivating aspiration and voice. The presented project, inspired by such ideas, thus differs from most ICTD research in that it (a) is not a scalable access or infrastructure effort, (b) is not creating a contextualized technology for a particular community, and (c) is not presenting a technology with a didactic protocol of how it should be used.

Moreover, substantial research accompanies Appadurai's arguments in support of focusing on tools of reflection and aspiration. Within visual anthropology, specifically the field of "indigenous media," studies have uncovered the potential for communities to articulate/rearticulate visions, priorities, and strategic objectives through an active appropriation of the technology. Research spans work studying video within political and social movements

amongst indigenous peoples in Brazil (Turner 1992), Inuit communities and video/television in Canada (Ginsburg et al 2002), database-driven systems with Native American and Yolngu Aboriginal communities (Srinivasan 2006b; Boast et al 2007), networks that connect previously peripheral communities to one spanning television/micropower generators (Michaels 1994), and Web communities/networks (Sawhney and Suri 2009). Together these efforts point to the potential of indigenous media projects to catalyze practices of self-determination and strategic articulation, rather than being subject to the problematic binary described by Ginsburg as a "Faustian contract or Global Village" (1991). Across these projects, communities are repositioned as authors and producers, inverting a technocratic history of imposing technologies on local populations (Ginsburg 1991).

PROJECT AND DATA

The preceding discussion motivated a comparative, empirical and triangulated study to assess the impacts of reflective media in rural Andhra Pradesh, India. Based on a close partnership I had developed with the Byrraju Foundation, one of South India's leading development nongovernmental organizations (NGOs), two demographically similar villages, Kesavaram and Ardhavaram, were selected to comparatively evaluate the impact of video creation and sharing over a 2-year period between 2006 and 2008, involving initial ethnographies for the first 8 months to introduce 16 months of data collection. The Byrraju Foundation has developed a strong rapport within the region based on its initiatives involving agriculture, corruption reform, public health and sanitation, and education, though it had yet to develop an ICT project in the region.

Both villages have a similar demographic makeup in terms of size, gender, religion, caste, and age, and similar income-level distribution. While little interaction has occurred (as studied previously via social network studies by the foundation) between the two, their relatively similar demographic positions justified a comparative study that would analyze the relative effects of community-created and shared video in Ardhavaram versus the "control" of Kesavaram. Generally speaking, rural communities in India (and particularly in Andhra Pradesh) often engage in "development visioning and brainstorming," where they meet to "orally" discuss collective aspirations, priorities, and efforts to empower their communities. What is often missing from these meetings has been the introduction of a reflective media component. This study measures the contrasting effects of Ardhavaram's video-focused meetings versus Kesavaram's oral, verbal meetings.

Video creation, sharing, and collective reflection therefore serve as the main intervention, not only because of the previously discussed arguments of Appadurai, but also because of the possibilities reflective media offer to enable "media literacy" to emerge within Ardhavaram. Research on literacy has described the sociocultural shift that literacy enabled. In oral societies, memory is embedded within experience and is transient with sound, while in literate societies the ability for an experience to be recorded and re-viewed empowers the type of critical, strategic thinking that is largely absent within ritualized and fatalistic communities, as per Appadurai's discussions of aspiration and Freire's discussions of praxis and voice (Ong 1988). Scribner and Cole (1978) elaborate upon this point, arguing that the socially organized practices literacy make possible allow for skills to be harnessed and applied for specific purposes and within specific situations.

It is important to note that the authors just mentioned discuss textual literacy, which clearly differs from the ability to record and reflect on an experience in visual form, whether via photograph or video. Yet with cheaper and simpler technologies more present across socioeconomic spectra in India, I was motivated to understand whether the low barrier to entry provided by lower-end video cameras could enable "voice" to emerge and shape Ardhavaram's development practices. Via previous projects with Somali refugees in New England and Native Americans in Southern California, I observed the power of community-created videos to generate discussion, dialogue, and strategic choices within communities that had previously seen themselves as largely passive and subject to the actions of others (Srinivasan 2006b).

This study was intentionally designed to intervene within two villages where advanced textual literacy was absent, and notes that there are gradations of literacy present within different communities based on how it is socially constructed and measured. Based on various measurements by the Byrraju partners, both Ardhavaram and Kesavaram were 45–50% literate, as was replicated in the focus group demographics. But it could be safely said that with the exception of two participants per community, the majority of focus-group members had never received an education that would allow them to read or write at a level of sophistication that meets India's eighth-grade basic standards.

With this introduction, the study was launched by first conducting 6 initial months of ethnography in both villages, using techniques of participant observation (Spradley 1980), where the researcher, Byrraju employee T. L. S. Bhaskar and later Satish Kumar, would write down detailed field notes recording observations and words directly spoken in his presence. From the analysis of these notes and conversations, the research team extracted several key demographics that it noted were critical for understanding everyday life practices within each village. Both age and gender were identified to be important in

both villages, as they informed the identity of community members. However, while income-level distribution was seen as an important factor in Kesavaram, occupation seemed to be an important in Ardhavaram. Based on these insights, focus groups with 12–15 people were created, which is considered to be an optimal size for both moderating the discussion and enabling the emergence of diverse voices. The groups were split as close as possible to 50–50 with men/women and age range (between 18 and 50 years) and also were inclusive of the demographic factors identified for each village.

At the beginning of the seventh month, these groups were finalized, following ethical approaches toward informed consent. The Ardhavaram focus-group members were provided with two video cameras to be shared among them. To minimize any influence from the team that would bias the nature of the videos created or how they were made, no production or editing training was given. Ardhavaram participants were only shown how to turn the camera on and off, zoom and pan, and recharge the battery. Kesavaram focus-group members met to build rapport but were not given any technology training.

From the eighth month onward, nine bimonthly meetings in total were conducted with both focus groups (from month 8 to month 24). In both groups, the Byrraju-employed field researcher would moderate a discussion on different possibilities and ideas of "development" held by participants and the village more largely. The focus groups followed a semistructured set of questions that would ask individuals to talk about their visions, goals, and realities, and try to stimulate a discussion that included all the focus-group members from there, often by asking "why" or gently introducing devil's advocate types of questions. The moderator would ask individuals to discuss successes and shortcomings in both their lives as well as the larger community, and encourage participants to look at the present as well as the past, to see whether aspirations would emerge from these collective reflections.

Because it was anticipated that the focus-group meeting notes might be biased because of existing inequities within the focus group, including toward those with more vocal personalities, individualized interview and survey data were also collected, and maintained separately from the larger focus groups, to encourage open sharing by individual participants. The combined collective and individual data would stitch together an interesting narrative, the team hypothesized, of the effects of the intervention on the level of the individual, some of which might not be observable, given the group dynamics. Half the focus group would take the interview each month, alternating by meeting. Interviews and surveys were administered verbally by the field researcher, who collected open-ended answers (for the interview questions) and numerical scores (for the survey questions).

Survey and interview questions measured the level of connectivity experienced by participants to the larger village, the level of positivity felt toward the village and focus group, sense of knowledge about development, level of agency toward making decisions that would impact his or her life, and imagination about the future.

In total, the following data were collected:

- Eight focus-group transcripts.
- Continuous and ongoing ethnographic field notes, using techniques of participant observation by the field researcher who spent three days per week in each village.
- Eight individual surveys per participant (given to focus-group members after each meeting).
- Four individual interviews per participant (administered to half of the focus-group members at each meeting).

Data collected were qualitative, except for the numerical data, and stored on a common spreadsheet repository for the research team. As per human subjects protocols, only the lead field researcher and this author had access to data that linked the identity of each villager with the data provided. However, after the study was completed, in accordance with the study protocols, selected data were released by the participants for the purposes of this article. The qualitative data were analyzed using techniques of thematic analysis (Aronson 1994; Taylor & Bogdan 1989; Leininger 1985), a multistep model for identifying categorical patterns in ethnographic data. Induced patterns were shared with the field researcher for his or her own sense of their appropriateness. Moreover, these patterns were subject to change over the course of the study, and were iteratively created and modified, allowing emergent themes to surface, as discussed earlier. This process for gathering longitudinal data, bridging qualitative and quantitative data sources, enabled triangulation, which Lievrouw et al. (1987) urge as an important mode of uncovering the shared truth across multiple modes of data collection and analysis.

The study focused on answering the following questions via a longitudinal comparison between the two villages: (a) How would development projects be conceptualized and acted upon by each village and would that be impacted by video creation and reflection? (b) Would Appadurai's theorized notions of proactive aspiration emerge within Ardhavaram moreso than in Kesavaram? (c) Would consensus-building and collective action begin to emerge and if so to what degree? Apart from these questions, the goal was to open-endedly observe the relative effects of the reflective media intervention, and through this process to inductively uncover a set of comparative effects that speak to the potentialities and shortcomings of the study.

Together, the focus-group, survey, and interview questions dealt with some of the following:

- Asking participants in an open-ended way to discuss their lives, families, occupations.
- Asking them to reflect on their participation (a more explicit focus of the individual surveys and interviews).
- Asking participants about development efforts within the village—earlier, ongoing, and forthcoming—and their opinions about these.
- Asking participants what development means to them and for their community more largely, including discussing what kinds of progress they consider to be development.
- Asking participants to discuss projects that fail to achieve developmental goals, and more generally a discussion about assets that have yet to be mobilized versus needs that have yet to be fulfilled.
- Asking participants about mobilization and awareness, and what affected awareness both currently and in the past.
- Discussing the relationship between some subgroups in the village and others.
- Discussing the relationship between their village and neighboring ones, cities, the region, and the nation.

To minimize any possibility of bias created by the researcher's presence, the project required that the same researcher be present in both villages, the order by which the villages were visited every 2 months was reversed each time, no leading questions were asked, and the questions asked were identical and related to developmental visions rather than the oral or video-based media around which meetings were structured.

AN INTRODUCTION: ARDHAVARAM AND KESAVARAM

Located near the coast in the West Godavari district of Andhra Pradesh, Ardhavaram and Kesavaram are 15 km away from one another (Figures 1 and 2). Both are prawn-farming and agricultural communities and have basic schools that train students to the eighth standard (grade). For further schooling, villagers have to leave both villages and (often) the Godavari region. Because there are hardly any employment opportunities beyond the agricultural and occasional construction sectors, younger and more highly educated villagers have begun to migrate to cities in the province, many heading to Hyderabad, the provincial capital 425 km away. Both villages maintain relatively robust electricity and local television infrastructures, and mobile phones have begun to penetrate both communities with uneven access, though for servicing and purchases villagers have to travel to the district's main city, Bhimavaram. Both villages face similar challenges, as uncovered in initial ethnographies, with regard to issues such as inadequate medical facilities (public health), public sanitation, job availability, political unrest and dissatisfaction with local politicians, and divisions between castes, genders, and across religious lines (the villages are approximately 80%

FIG. 1. Focus-group meeting in Ardhavaram with field researcher (viewing community-created videos).

FIG. 2. Focus-group meeting in Kesavaram (oral discussion of development).

Hindu and 20% Christian). Over the first 8 months, the research team found that villagers commonly expressed fatalism about the future, or a sense of complacency about the present, despite often mentioning the many problems they face.

Fieldwork was conducted in the local language, Telugu, and the fieldworker had good rapport with members of the communities due to previous experiences with health, sanitation, and educational initiatives sponsored by the Byrraju Foundation. Based on the detailed field notes and interviews with the researcher, the following criteria were articulated for the formation of focus groups: (1) They were inclusive of key social strata that existed within the village (identified via the ethnography), (2) they did not include any existing community leaders or power brokers so they would not perpetuate existing biases, (3) they would be comprised of members who did not have previous clashes with one another, and (4) they were of a manageable size and would include members who could pledge to attend monthly meetings and fully participate in the project. Following these criteria, focus groups were created that within Kesavaram bridged key variables of generation, caste, and education level, and within Ardhavaram bridged income level, generation, and gender.

Each group meeting included focus-group discussion, interviews, and surveys. Ardhavaram focus-group participants were provided with two Sony video cameras. They were to be used for a month by a three-member team and then passed on to the next team and so on. Little instruction in either technique or storytelling was provided so as to avoid biasing the nature of the created content or add any pressure. Instruction was limited to matters such as how to turn on the camera, pan and zoom, and charge the battery. Both focus groups were informed that over the following 16 months they would collectively work together to develop shared visions and priorities for their community.

DATA PRESENTATION AND ANALYSES

Ardhavaram's use of video surprised researchers, both in the sustained interest in the technology and in its creative application. The research team noted the following:

- Ardhavaram focus-group members developed their own system of sharing video cameras, democratizing access with regard to who created and used the cameras, despite not being told to do so by the field researchers.
- Interest in video was initially high, as one finds with many innovations, yet did not recede over the 16 months of data collection.
- Topics around which videos were made went from very specific "pet peeves" of focus-group members to a focus on larger aspirational scenarios over time. For example, videos were made discussing a possible future of education that would be more inclusive and well supported.
- The camera was treated with great respect, but not fear, as video makers began to experiment with its capabilities outside of the simple instruction they were given by the research team.
- Video making and sharing went "viral" within the first 3 months of its introduction. Created videos were shared outside of the focus group, in different people's homes, in essence serving as spontaneous village meetings. The cameras also left the hands of focus-group members and were absorbed into the larger village. More videos began to be created from perspectives beyond the focus group, and were more widely shared in the community.
- Videos were more equitably created by men and women, and elderly and youth, than corresponding participation in the focus group, which was male and elderly-heavy.
- Field researchers noted that focus-group participants felt confident sharing their individual and collective reflections during monthly meetings, partly because they had already seen and discussed these videos throughout the village. The process of reflection involved not just an individual viewing of the video, but also discussions and dialogues that occurred as the camera and different clips traveled within Ardhavaram.
- Villagers asked the field research team whether they could show these videos via the local television network (with discussions underway to do so), and one villager even asked whether videos documenting undelivered promises from the government could be placed onto YouTube so as to attract attention. This emergent interest in "social documentation"[1] surprised the field researcher, and was never introduced as a potential use of video during 8 months, when the bimonthly meetings started.

Over 16 months, Kesavaram and Ardhavaram focus groups met monthly to have open-ended discussions on individual and collective priorities and aspirations, ranging from specific discussions on a particular topic in the village to more general, holistic themes.

The focus-group data, coded transcriptions of the meetings, were analyzed alongside the interview and survey data to present a triangulated perspective on the differences between the experiences of Ardhavaram and Kesavaram participants (and the community more largely) and the "oral control," which was not given video cameras or trained in their use over the study period. By engaging two demographically similar villages with little

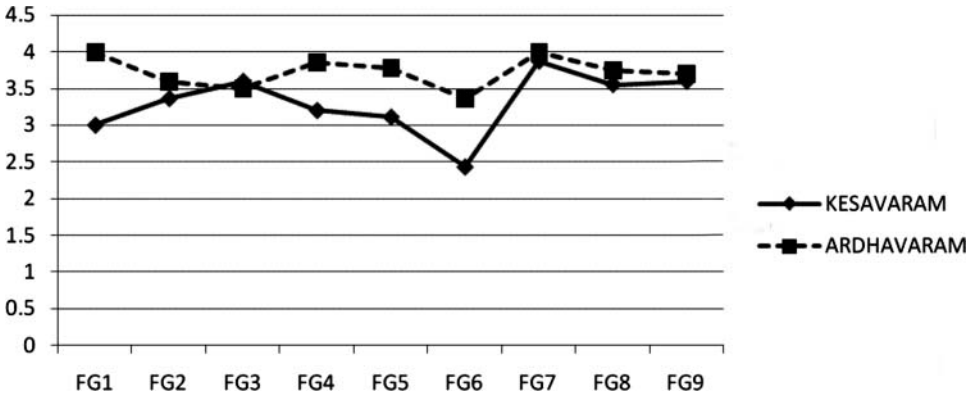

FIG. 3. Your willingness to work in the group (FG refers to focus-group session, and the vertical axis refers to the level of willingness expressed from 1, minimum, to 5, maximum).

interaction with one another, insights could be drawn into the relative effects of the cameras in enabling community reflection and consensus building. Key insights include the following:

Agency in Shortcomings and Solutions

Despite common issues faced within both communities with regard to sanitation, literacy, public health, political corruption, and more, the sense of ownership and agency about developmental goals differed significantly over time between the two villages. Within Ardhavaram, the focus group identified its *own ability* to develop and act upon solutions for the community. In contrast, focus-group members in Kesavaram developed comfort in discussing development topics and questions over time but failed to identify their own role in resolving these issues in a strategic and proactive manner. Both focus groups initially stated that solutions and problems lay outside of the community, specifically in the hands of local governments and NGOs. However, with the creation and viewing of videos starting with the third focus-group meeting, Ardhavaram participants began to discuss their own capacity to resolve problems and further their village's goals. A number of members started taking partial responsibility for the problems the village currently faced, particularly with regard to issues such as public sanitation, maintenance of educational standards, and public dialogue with the larger village. Instead of only improving in-group communication as in Kesavaram, the focus-group members sensed a personal connection to the content being recorded and felt empowered to articulate solutions to the problems their community was facing. In Kesavaram, however, the finger remained firmly pointed to the local government and outside, with focus-group members repeatedly expressing their desire for a better government, more money, or the blessings of God. Kesavaram participant V. Suryakanthan, a local teacher, explained with each focus-group interview that "development has been and always be satisfactory, but this is not in our hands." And participant Suryakumari, a housewife, explained that development efforts must be defined by what's already been done in the past and by organizations outside of the village, explaining simply that "the important activities were taken up in the past and just need to be continued." Ardhavaram in contrast was catalyzed to approach development from a less ritualized perspective, understanding that problems and solutions can be formed from both within and outside of their community. Survey data presented in Figures 3 and 4 corroborate these insights.

Prioritization for the Community Versus the Individual

Ardhavaram survey data revealed a marked shift in the identification of focus-group members with the larger community and its priorities. Focus-group members not only began to see their own ability to act upon larger community goals, but also identified their own visions as resonant with those of the larger community. They noted in focus groups, from the fourth focus group onward, that the betterment of the community directly bore on their own well-being and started to articulate visions that were agreed upon by others in the meeting, rather than insist on their own initial thoughts. In contrast, Kesavaram participants maintained the view that their own goals were more important than those of others and in some cases expressed the opinion throughout the study period that other focus group members held priorities that were counterproductive to their own well-being. They also maintained their initial answers about developmental priorities throughout the process without changing these

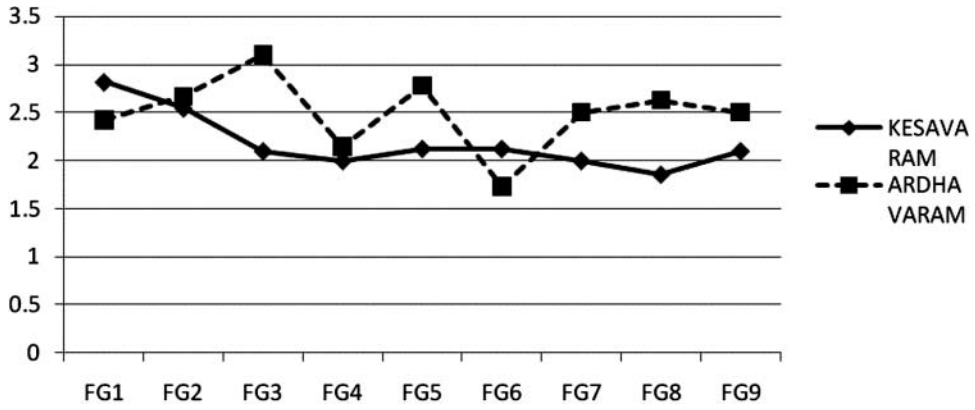

FIG. 4. Your sense of agency in enabling developmental goals to occur in your community (FG refers to focus-group session, and the vertical axis refers to the level of agency expressed from 1, minimum, to 5, maximum).

based on the discussions they had with others over the 18 months. In contrast, as Ardhavaram participants began to see their lives and those of their larger community as fundamentally interwoven, their ability to believe they could enable shared visions to be realized only grew.

Aspiration and Process

Over the nine focus-group meetings, Ardhavaram participants developed greater optimism about the direction of development within their communities relative to Kesavaram. In Kesavaram, the focus group held an initially more complacent and positive perspective toward the state of development in their community, and though the group developed better communication over time, it maintained the position that solutions would have to be provided and implemented outside of the community, by those with money and power on the local government level. Initially, both focus groups identified general developmental goals (with neither expressing confidence in their ability to develop and maintain realistic visions for their community) such as more money, better rains, and greater political transparency. Over time and with repeated meetings, this translated to more specific topics that were discussed either orally in Kesavaram or via the created videos within Kesavaram. Yet the ability of video to interrupt the ritualized, everyday lives of Ardhavaram participants became clear when from the third focus group onward they began to more proactively discuss the *processes* by which, for example, better literacy could be enabled within the community. According to the interview data, videos began to be tactically selected by focus-group members, focusing on specific topics that creators guessed would inspire sustained discussions around solutions and their viability by the larger group. One Ardhavaram focus group member, V. Sujatha, who expressed significant skepticism about the uses of video in the first meeting, explained at the eighth focus group that "Our village is [now] progressing in the right direction as all of us discuss and exchange each other's ideas about village development [in specific, practical and longer term manners]."

Capacities and Assets

Both focus groups centered their initial discussions around general developmental problems, the culpability of the local government and outsiders, and their general sense that even if they were able to articulate visions, the ability to realize these was unrealistic because of this external dependence. These three points discussed touch upon the use of video by community members to question their own agency, their relationship to their larger community's well-being, their ability to articulate aspirations, and the process by which they could contribute to solutions and visions for their community. Notably, there was little discussion in either focus group of the capacities held *within the community,* until the sixth focus group in Ardhavaram where videos were created that were focused less on problems in the village and more around talents and assets (Kretzmann and Mcknight 1993) held by villagers that could contribute to the larger community's well-being. Videos began to be created around such topics as a new farming practice developed by a family, the new temple that was constructed through the cooperation of villagers, and a new technology program developed in partnership with an outside NGO. Instead of highlighting negative, undelivered promises, Ardhavaram participants and their videos discussed the capabilities they had to enable a positive economic, educational, and social future for their community. The shift to focusing on capacities instead of needs and dysfunctions speaks to Sen's writings (2004) on how human development relates to the ability of individuals to make choices, fundamentally determined by their own potential, agency, and the capacities that they have to

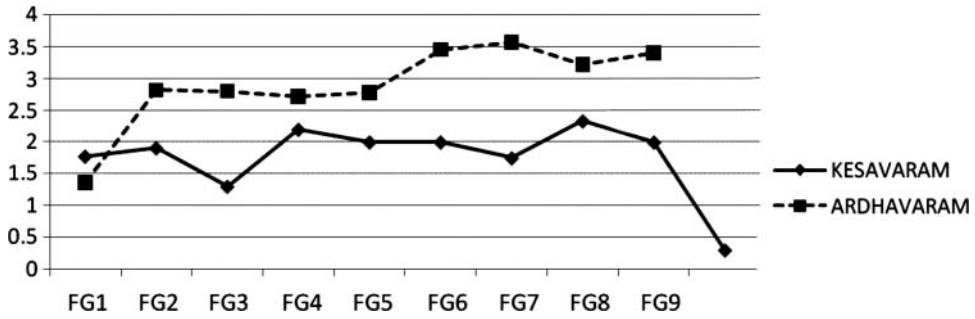

FIG. 5. Your level of motivation to continue to participate in this focus group and the developmental activities of this project (FG refers to focus-group session, and the vertical axis refers to a subjective score of level of motivation from 1, minimum, to 5, maximum).

better the lives of their own and their community. An identification of development with capacity enables rational choice, social organization, and the disruption of the fatalistic ritualism. Aspiration is one such capacity, and speaks to the positive possibilities around Ardhavaram's appropriation of video. Focus-group members in Ardhavaram observed greater value from the focus groups, and, as Figure 5 shows, demonstrate greater interest in continuing to attend the group meetings and participate in the video creating and sharing, despite initially being skeptical about their participation in the focus group.

Collective Action

The video camera as a mobile, portable, and rugged technology was unpredictably and virally appropriated within Ardhavaram to generate a public presence outside of the focus group and within the larger village. As no instruction was given to isolate the camera to focus-group participants, video makers took the initiative to interview fellow community members for pieces they would create and then began to enlist the help of others to create videos, starting during the fourth focus group. As videos began to be created by the larger community, they were also shown in the larger village context, submitted to the local television network, and also screened at one community meeting (during the eighth focus group) via projector at the community center, with plans for an outdoor screening under a banyan tree within the village. Villagers also discussed with the field researcher the possibility of submitting several videos related to undelivered promises from the government and NGOs to YouTube with the hope of forcing action. Finally, non-focus-group members asked to join the focus group and also enquired as to how they could purchase cameras for the purposes of documenting and organizing development activities for their village. Ardhavaram participant Bangar Raju, a farmer, explained via interview that already in terms of everyday life there is "a significant change in the *entire* village." Also, tracing the responses of another focus-group member, P. Ramesh, a local laborer, speaks to this longitudinal shift. While initial interviews with this participant emphasized the unfulfilled promises of NGOs and the local government, stating that "little has been initiated," his later focus-group comments began to focus further around the "significant effect that the development activities [our community has begun] have had on our collective life." These developments spoke to the ability for video to catalyze a shared, emergent collective action within Ardhavaram, where individuals began to adopt what Searle has described as "we-intentions" (rather than I-intentions) (Searle 1990), wherein a group of actors coordinates and collaborates in an emergent rather than pre-decided manner to change some aspect of their social life (Diani and McAdam 2003). Kesavaram showed little such behavior, with discussions staying largely within the focus group. Participant V. V. Sharma, a wealthier landowner, stated throughout that there was little that the focus group could do to resolve developmental issues, and that resolving these would just depend "on hope and time." In contrast, instead of either perpetuating fatalism or relying on bureaucratic, corrupt actors outside the village, there was clear evidence within Ardhavaram of collective action.

CONCLUSIONS

This article began with a detailed reading of developmental challenges associated with networks and ICTs, noting that networks tend to place rural and urban poor in marginal positions, and that policymakers are impelled to introduce projects that achieve scalable results, rather than investing in action-based, participatory approaches. Yet neither top-down nor bottom-up strategies consider the importance of aspiration, agency, and emergent community voices, which are often stifled due to ritualization and historical exclusion. Rather than assuming an inevitable

paradox between top-down and bottom-up approaches, this article argues that projects that engage communities to reflect and act on the challenges facing their communities can enable poorer, ritualized, fatalistic communities to uncover their own "capacities to aspire."

For collective action for development to emerge *from the grassroots* rather than at the behest of an NGO or researcher, aspiration is a key capacity. Moreover, if voice were to emerge through grassroots creation and negotiation within the local networks of the village, it could circumvent an essentialized, reflexive reading of community from the field researcher and allow the effects of the intervention to stand on their own. Accordingly, this article introduced an experiment around whether voice could emerge from an intervention village—Ardhavaram—through a "reflective media" process of creating and sharing video. It was based on the belief that providing access to video cameras would resonate with the top-down need for scalable solutions, yet would differ from most information access initiatives, by serving as a more active conduit for cultivation and sharing of perspectives through video creation and reflection.

This study demonstrates that community-created and shared video can inspire agency, collective action, and consensus building. It points to the need for further research on the long-term potential of reflective media, its applicability to enable particular developmental activities, and its impacts relative to traditional literacy. Continued work on these issues may prompt policymakers in ministries of information technology, education, and rural development to adopt solutions that consider the potential of new media technologies to catalyze community reflection.

NOTE

1. One graduate program focusing on social documentation and audio/video can be found here: http://socdoc.ucsc.edu/about.

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