

**DOES PUBLIC ACCESS COMPUTING *REALLY* CONTRIBUTE TO COMMUNITY
DEVELOPMENT?
LESSONS FROM LIBRARIES, TELECENTRES AND CYBERCAFÉS IN COLOMBIA¹**

Ricardo Gomez
Information School
University of Washington
Seattle, USA
rgomez@uw.edu

Luis Fernando Baron-Porras
Information School
University of Washington
Seattle, USA
lfbaron@uw.edu

Abstract

The use of information and communication technologies (ICT) can contribute to local community development and help connect local communities to global issues. Public access computing (PAC) venues such as telecenters, public libraries and cybercafés make ICT more broadly available and extend the benefits of ICT to underserved populations. This paper discusses findings from a study of the contribution of PAC to community development in Colombia, with particular attention to the town of Carmen de Bolívar. This town has a strong tradition of community organization for social development, and a long history of violence that has shaped its social fabric. While the introduction of PAC may not have contributed significantly to community development, use of ICT gives the local population a sense of belonging to a larger, global community, which in turn may help local activities in support of community development. We conclude that personal friendships and entertainment are perceived as stronger benefits of PAC, not community development or social transformation. Future research can explore if personal friendships and entertainment can be indirect contributors to community development.

1. INTRODUCTION

Information and Communication Technologies (ICT) have great potential to contribute to community development (Unwin 2009), especially for local communities of underserved and marginalized populations. Public Access Computing (PAC) experiences through venues such as telecenters and public libraries have taken root in Colombia and around the world as part of strategies for digital inclusion (Warschauer 2003; Amariles et al. 2006; Parkinson and Lauzon 2008). Cybercafés are also important PAC venues that can contribute to digital inclusion and community development. Empowerment is a key component of community development: empowerment is a process (rather than an event) by which individuals, organizations and communities gain control and mastery over their own social and economic conditions, over political processes that affect them, and over their own stories (Melkote and Steeves 2001).

In order to contribute effectively to community development, people not only need access (public or private) to ICT, but they also need strong community organizations and the ability to participate in social and political processes. Community organizations are critical to the construction of social capital (Putnam 2000; Putnam et al. 2003). Community organizations play a key role in the use of ICTs for development processes because they

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mediate between ICTs and the community, between local needs and global sources of information.

In areas where violence is widespread, community organization and effective mechanisms for communication are crucial to social transformation. In his analysis of the role of communication and power in the networked society, Castells (2009) concludes that “violence and the threat of violence always combine, at least in the contemporary context, with the construction of meaning in the production and reproduction of power relationships in all domains of social life. The process of constructing meaning operates in a cultural context that is simultaneously global and local”.

In this study, we build on Castells’ notion of communication as power to assess the contribution of PAC (a new and powerful communication tool) for community development, empowerment, and social transformation. In this sense the research questions that guide this paper are: In what ways does public access to ICT contribute to community development?

As part of a wider study about the state of PAC in Colombia, this paper analyzes the case of Carmen de Bolívar, a municipality on the Caribbean coast of Colombia, two hours south of the historic city of Cartagena. The national study also included other municipalities and capital cities in five regions of the county, where we sought to understand the role of PAC and its contribution to community development. We examined public libraries, telecenters, and cybercafés as the principal points of access to ICTs. Given resource constraints, this study did not include non-users of ICT, a topic that calls for additional research.

The rest of the paper is organized as follows: First, it offers a review of the literature on PAC for development, with a particular focus on Colombia. Then, we describe the unique characteristics of the municipality of Carmen de Bolívar, Colombia, with particular reference to violence and community organization. This is followed by a description of the research method in this study. Next, we discuss the principal findings of the study in Carmen de Bolívar and conclude with a discussion of the implications these findings have for PAC programs from a community development perspective.

2. LITERATURE REVIEW

In a recent, extensive review of the literature about the impact of public access to ICT, University of Washington researchers Sey & Fellows (2009) concluded that even though ICT are widely acknowledged as important resources for socio-economic advancement in both developed and developing countries, there is limited definitive evidence of downstream impacts of public access to ICT. This is not necessarily because public access has had no impact, but because it is particularly difficult to identify and measure. Their report contributes valuable insight to the ongoing debate about the continued relevance of public access ICTs, particularly in cases that receive public funding.

Furthermore recent studies of free access to computers through public libraries in US show that in 2008 about 77 million people visited public libraries to get on the Internet; of these, a large proportion are low-income individuals looking for jobs or doing homework at computer centers in the library, or bringing their own laptops and using wireless connections. According to that study, computers in libraries are used primarily for social connections, education, employment, health and wellness, e-government, community engagement, and managing finances (Becker et al. 2010).

In Colombia there are three types of venues that make up the public access ecosystem in the country: libraries, telecenters and cybercafés. Public libraries are increasingly offering (or planning to offer) access to computers and the internet. Community telecenters are non-profit centers that offer PAC as part of a development program or other community activities such as health, agriculture or education activities. Cybercafés are for-profit centers that offer

PAC as a business, frequently coupled with other services such as food, beverages, photocopies, etc. By our definition, computer labs in schools are not part of the PAC ecosystem, as they are generally not open to the public. Use of mobile phones, while growing in importance, is not included in this study.

- **Telecenters:** The first telecenters in Colombia were established as early as 1998 by non-profit organizations. There are today 1,062 telecenters operated by non-government organizations, community organizations and corporate social responsibility initiatives, and 1,490 operated by government-sponsored programs, primarily the national government's Compartel program, for a total estimate of 2,550 telecenters documented by the National Telecenter Network (Colnodo Septiembre de 2007).
- **Libraries:** According to the National Library, there are 1,563 libraries affiliated with the National Network of Public Libraries². The majority of public libraries are municipal libraries (1,437). The 2010 Library Act marks an important milestone as it mandates the Ministry of Culture, in charge of public libraries, to collaborate with the Ministry of ICT for the successful implementation of public access to ICT in all public libraries by 2015. With only 16% of public libraries offering PAC in 2010, there is lots of room to grow, learning from the experiences of telecenters, and Compartel in particular.
- **Cybercafés:** While there is no official registry or count of cybercafés in the country, one study mentions about 1,500 cybercafés in Colombia 2009 (Universidad de los Andes 2009). But our extrapolation of data from official reports suggests there were 14,166 cybercafés in the country at the beginning of 2010³.

Based on user surveys from the National Department of Statistics, a recent study found that most Internet users in the country were located in large cities. According to this study, the **most frequent type of access to the Internet was through public access venues**, especially paid venues (47.2%), followed by access at home (43.8%), at school (26.6%), at work (24.6%), or at someone else's home (16.3%). Free PAC was least used (only 4.1%) (Colnodo; Asociación para el Progreso de las Comunicaciones - APC; Corporación Colombia Digital; Observatorio de Sociedad Octubre de 2007). In sum, PAC is a key player in use of computers and the Internet in Colombia (almost half the Internet use in the country is through PAC venues).

3. THE CONTEXT OF CARMEN DE BOLÍVAR

El Carmen de Bolívar is a town with a population of 70,000, about two hours south of the city of Cartagena, on the Caribbean of Colombia. The region has a paradoxical history of social organization, agricultural development, and violence. In the past five to ten years the town has experienced a dramatic transformation of its ICT resources, with the introduction of mobile phones, broadband Internet access available for homes and businesses, computers in

² <http://www.bibliotecanacional.gov.co/?idcategoria=27552>

³ Based on Quarterly report of Ministry of ICT, first quarter of 2010 (<http://www.mintic.gov.co/mincom/faces/index.jsp?id=14580>), which cites number of broadband connections to the Internet for shared access, separate from home and business access, and subtracting the know totals for libraries and telecenters.

schools, and PAC venues including one public library, two telecenters, and between seven and ten cybercafés.

The region is rich in natural resources: farming and ranching industries are complemented by a prosperous mining industry (coal and nickel). Nonetheless, there are also high levels of unemployment and informal employment in the region, and the country as a whole (11.8% unemployment in the country in March 2010, according to official statistics⁴). Three types of informal businesses are symptomatic of the local needs in the community: the sale of minutes (mobile phone calls) by street vendors, transportation (mototaxi rides) by informal taxi drivers on motorcycles, and water (clean water or potable water that is by street vendors sold door to door). There is no aqueduct in Carmen de Bolivar. These three activities illustrate some of what is missing in the municipality: basic necessities that people resolve by resorting to the informal economy.

The region of Carmen de Bolivar is also known, sadly, as one of the regions most affected by the long history of political violence in Colombia. In the 1990s, this region became the site of a territorial dispute between all of the armed groups in the country: guerilla organizations, paramilitary groups, drug traffickers, and the National Army, with grave consequences for the civilian population caught in the middle of the conflict. During that time, leftist guerrillas fought right-wing paramilitary groups for control over the region, also a corridor for supplies in the drug traffic business, in an unprecedented escalation of violence that is epitomized by the massacre of El Salado, a small village 10 km from El Carmen de Bolivar, in February 2000. During three days, between 300 and 450 armed paramilitaries took over the town and publicly assassinated between 70 and 100 civilians and caused the displacement of over 4,000 people. According to official reports, between 1999 and 2001, paramilitaries committed 42 massacres in the region of Carmen de Bolívar, leaving at least 354 people dead (Grupo Memoria Historica 2009). This history of violence has left deep scars in the social fabric of the community.

In addition to the history of violence in the region of El Carmen de Bolivar, there is also a long tradition of community organization and social development activities in the region, which makes it a unique context to examine the contribution of ICT, and PAC in particular, to strengthening social capital and contributing to community development. Community organization activities in the Carmen de Bolivar region have been supported by international donors, the State, the Catholic Church, and, to a lesser degree, by private businesses. Development projects promoted by organizations such as Montes de Maria Communications Collective have made important contributions to community empowerment and wellbeing in the region (Rodriguez 2008). The Communications Collective provides a good example of how communication and culture can become tools of cultural resistance against the negative effects of armed conflict. This grassroots organization offers training in radio production for children, teenagers and young adults in El Carmen and in neighboring communities; they also offer training in radio and television for groups of displaced women in local communities, as well as a travelling street cinema project and a cable television channel (Rodriguez 2008; Vega and Bayuelo 2008). In 2003, the Communications Collective received a prestigious National Peace Prize in recognition of the group's work contributing to the reconciliation and peaceful coexistence by strengthening the social fabric of the region (Rodriguez 2008).

The existence of strong organizations for community development in the context of political violence, together with the relatively recent arrival of PAC through library, telecenters and cybercafés, make Carmen de Bolivar a unique site to understand the contribution of PAC to community development in Colombia.

⁴ http://www.dane.gov.co/daneweb_V09/

4. RESEARCH METHODS

The Colombia study builds on previous work on the research project, *Landscape of Public Access to ICT in 25 Countries*, conducted between 2007 and 2009 by the University of Washington (Gomez 2011). In particular, we used the Access, Capacity & Environment (ACE) framework developed in that study. The three pillars of the ACE are: (1) **equitable access**: physical access to the venue and to technology in it, suitability of the venue, and affordability of the services it provides; (2) **human capacity and relevance**: human capacity and training of both users and staff, meeting local needs, and social appropriation of the venue and services it offers; and (3) **enabling environment**: socio-cultural factors, political will and legal and regulatory framework, as well as popular support. (Gomez 2010).

We used a mixed-methods approach for data collection and analysis, which gives the study added relevance and credibility (Creswell et al. 2002), by combining the breadth of a statistically representative survey, with the depth and insight of semi-structured interviews, and the context and interaction of focus group workshops in different communities.

The data collection strategy was based on the following activities: user surveys (1,182), semi-structured expert interviews (10), semi-structured user interviews (10), structured operator⁵ interviews (100), personal history conversational interviews with users (10) and focus group workshops (6) with operators and users in six parts of the country. The main purpose of these workshops was to understand the PAC ecosystem in the community with more depth than what the individual interviews afforded in earlier studies.

To better reflect the diversity of the population in Colombia, we adopted the regional distribution criteria used in the National Survey of Community Television (Angel 1998), which divides the country into five regions based on cultural and demographic characteristics: the Caribbean coast, Santanderes, Antioquia and Eje Cafetero, Central region, and Southwest region. In each of these regions, we studied a large city and a small town. This regional distribution model allowed us to have national representation and to distribute the aggregate sample proportionally and statistically in the selected regions, based on the 2005 Census⁶. In the Caribbean coast of the country, we included the municipality of El Carmen de Bolívar as part of the sample for the study. In-depth data collected there during site visits and a focus group workshop in February 2010 informs the majority of this paper, complemented with results from 31 user surveys, 20 operator interviews, and one in-depth personal history interview, all of them conducted in this municipality. Results are also contrasted with findings from research in the rest of the country.

5. FINDINGS AND DISCUSSION

The PAC ecosystem in Carmen de Bolivar is comprised of two telecenters that are run out of an educational institution that provides after-school training; the municipal library, which offers limited-but-free public access to computers and the Internet; and several cybercafés located in the center of town. Focus group participants also mentioned several people who offer Internet access in their houses in remote neighborhoods, as well as a commercial (and expensive) wireless Internet service that covers nearly all of the municipal capital.

5.1 Uses of PAC

The majority of PAC users are young people between 16 and 35 years of age. Patterns of PAC use in Carmen de Bolivar are convergent with national trends. Results of the national

⁵ In this research, “operator” is the person in charge of helping people and providing support to users in public libraries, telecenters, and cybercafés.

⁶ The National Administrative Department of Statistics – NADS (DANE in Spanish) – is the entity responsible for the planning, processing, analysis, and distribution of official statistics in Colombia.
http://www.dane.gov.co/daneweb_V09/index.php?option=com_content&view=article&id=175&Itemid=28

survey showed people who attend PAC venues (in the country, not limited to Carmen de Bolivar) are generally men and women between 18 and 35 years of age (77%), and they are mostly students (42%). They frequently go to these venues to use email (42%), to browse the web (20%), to use social networks (19%), and for online chat (14%). They also responded they mainly attend those places to look for information related to education (30%), for personal issues (25%), for entertainment (19%), for news (8%) and (6%) to conduct transactions or find information about jobs.

Each venue focused on a particular audience, although all the centers offer services to all types of users. The **Library** is the first option for younger people because of free service and the emphasis on using the equipment for educational purposes. However the users underlined the restrictions involved due to shared time (few computers, but many users) and connectivity problems.

In **telecenters** participants emphasized the existence of lower prices, personal attention, and training offered to people of various ages. They indicated that Internet use in telecenters often has different goals than that of cybercafés, mainly for learning, "not just to pass the time," "Telecenters are proof...a vision of what is possible with the Internet." For example, "community mothers" (mothers who set up and operate community-based daycare centers) have benefited greatly from training, because they are able to learn from others, they appear to have incorporated their training into instruction they pass onto their young children.

However the majority prefer using **cybercafés**. They generally offer comfortable furniture, good Internet connections, current equipment, and include computer accessories (webcam, headphones, CD burner). In addition, participants noted the privacy and freedom offered in these venues, as there are no restrictions placed on the types of sites one can visit. Cybercafés often have additional services, such as transcriptions, printing, and copying.

These differences notwithstanding, the workshop participants indicated that the most important features of public access venues are good customer service, convenient location and operating hours, good equipment and fast connection, and in the tropical weather of Carmen de Bolivar, air conditioning.

5.2 Perceived Benefits of PAC

The national survey (n=1182) included an open-ended question about how use of PAC has changed users' lives. Analysis of the responses yielded twelve themes, grouped into four broad categories: more information (42%), relationships (25%), learning (20%), and transactions (10%). All of these can have potential negative consequences as well, which were identified by a small proportion of respondents (3%). Negative consequences are mostly related to increased dependency or addiction, less time available, more superficial interactions or knowledge, more expensive (new costs), problems with virus or hackers, and lack of privacy.

In the Relationships category there are three different emerging themes: **(1) Friends and Family** (16%): PAC is perceived to enable closer contact and communication with friends and family, and to shorten distances with those who are away. For many respondents this is not limited to maintaining existing friends, but offers opportunities to meet new people and make new friends as well. **(2) Connectedness** (5%): PAC gives users a stronger sense of belonging, of being part of a larger world; it offers users better connections and relationship

with clients, friends and organizations; new opportunities for advancement, teamwork and collaboration; and an increased sense of ownership of their destiny and their future. There is an important nuance in the way some respondents describe a transformation in the sense of connection and relationship afforded by use of ICT that goes beyond the mere cultivation of friendship: respondents express an added quality of depth and connection, and a stronger sense of belonging to a larger, broader world. **(3) Entertainment (4%)**: a small proportion of users emphasize how PAC has opened new avenues for entertainment, spending time with friends mostly sharing games and music. friends and family. The distribution of responses about the perceived benefits of PAC, with the detailed components for the “relationships” category, are summarized in the following figure:

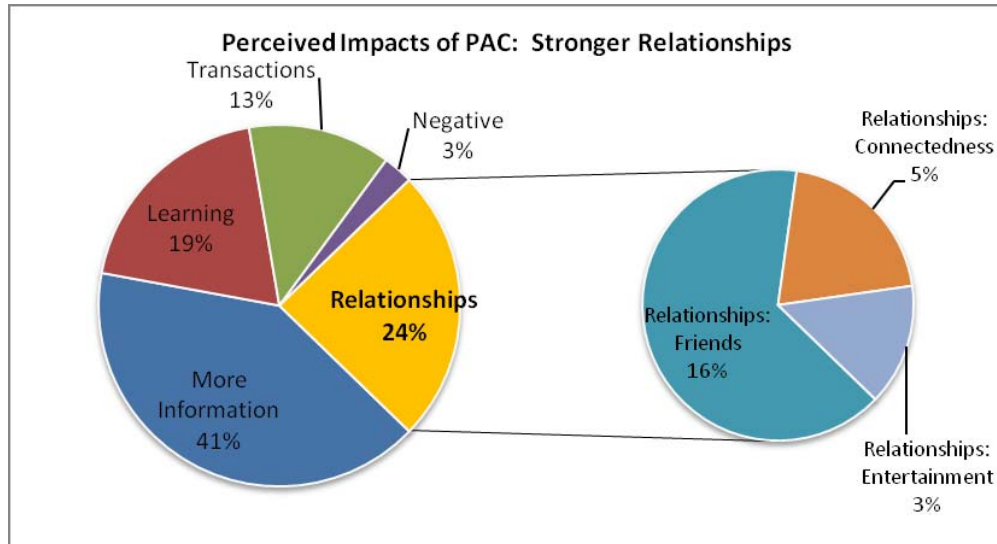


Figure 1: Perceived Impacts of PAC: stronger relationships

The perceived benefit we called “connectedness,” which refers to a heightened sense of belonging to a broader, larger world, with more opportunities for interaction and understanding of other realities and other practices, is of salient significance to PAC’s potential contribution to community development. Connectedness has to do with: 1) users’ greater awareness of what is going on in other places, nationally or internationally; 2) the ability to communicate with people in other places (other regions or other countries); and 3) opportunities for learning new things, being informed and learning about new things in the world worlds. This sense of connectedness is strengthened by the speed and ease with which people can now access multiple sources of information, and it results in a sense of empowerment and confidence-building on the part of users of ICT. A small proportion of respondents also highlight work-related benefits of this sense of connectedness, either in maintaining relations with clients, finding new business opportunities, or gathering ideas for new products and services to offer. For example:

“It is amazing to see the peasants to come in and they know more or less how to use the Internet. [...] they come to see what kind of plague is affecting their crops, or where they can get more information about it. It is beautiful, beautiful to see that they come to find out whether their subsidy is arrived, because they sometimes come from far away in the countryside, and they come to ask if their payment is arrived and if it has not, then they come back

later and keep on checking.” (Operator Interview, Carmen de Bolivar, Colombia).

It is also important to point out that libraries, telecenters and cybercafés have all turned into places for meeting and socializing of different sectors of the population. PAC venues become places where local meets local, where individuals and groups meet to share and exchange with peers and colleagues, both face to face and remotely, in town and in the rest of the country and of the world.

PAC venues are also enabling other kinds of relations between ICT and the social context in which they are inserted, relations that may need further study with interdisciplinary tools and approaches. This may include new forms of social organization, as with the “community mothers” and organizations of displaced persons, who meet in telecenters as part of digital literacy courses and may develop new bonds and relations that go beyond the ICT training alone; new forms of relating to State institutions, as may happen as a result of workshops on digital citizenship, or as a result of vulnerable groups gaining access to online payments and subsidies; or new forms of relationship with economic opportunities, as evidenced with an incipient evidence of looking for and applying to jobs online, as well as the growing use of ICT for distance education, which is perceived to open new opportunities to improve people’s lives. While we found early indications of these new relations between ICT and society in Carmen de Bolivar, they were not strong themes but subtle, emerging themes that may warrant further investigation and better understanding.

5.3 PAC Disconnected from Local Context

However one of the most surprising findings from the study in Carmen de Bolívar is the absence of context, or rather, the silence with respect to the extremely strong presences in the region's history: war and community organizing. Only one of the users, who had previous ties with the Communication Collective, indicated that ICT served to generate solidarity with those in other places. ICT had also helped disseminate alternative information about a region that had been highly stigmatized:

“It has helped me to use my free time, because here in El Carmen there are few spaces for sports, and the Internet seduces the youth, it fills the free time. And we, in the Collective, we are starting to think that we can take advantage of the new technologies, to maintain the communication among the communities, to exchange experiences and memories, and to work with education institutions where we have groups that are part of the Collective.”(Focus group participant, Carmen de Bolivar, Feb 2010).

But this single statement was not corroborated by other participants, interviewees, or survey respondents in Carmen de Bolivar. Apart from this isolated comment, in the focus group discussion we did not hear of any other indication of social fabric being strengthened by public access to ICT, and only limited evidence of this process came out in interviews and survey responses.

In addition, users consider that there are very few sources of local information provided by government institutions, social organizations, or by the local media on the Internet. This absence has discouraged their interest not only to look for information about local events and situations, but has also limited their opportunity to build new links with other local issues and social actors. In this particular aspect, ICTs are not providing them other alternatives to get informed on local topics, or to engage with other people away from their local environments.

In sum, El Carmen de Bolívar is a place where the informal economy of poverty rules, with cheap calls through cell phone vendors of minutes on the street, cheap rides on informal mototaxis, and expensive water sold by street vendors for drinking and daily use. It is also a region scarred by violence, with 42 massacres between 1999 and 2001, including one of the most cruel in the country's recent history, the El Salado massacre of 2000. Although community organization in Carmen de Bolívar reinvents forms of communication and celebrates life with the creativity and inventiveness of groups such as the Communications Collective, deserving of the National Peace Prize in 2003, public access to ICT, through the municipal library, telecenters, or cybercafés does not appear to have helped strengthen citizen initiatives, give voice to community organizations, or open avenues for community development in this poor, war-torn region.

6. CONCLUSIONS

These findings lead us to conclude that, for the most part, there is little or no connection between the new information and communication opportunities people have gained through PAC, and the community development needs in their contexts. Furthermore, despite the strength of community organizations, and despite the potential of stronger relationships and a heightened sense of connectedness afforded through PAC, personal friendships and entertainment are perceived as stronger benefits of PAC, not community development or social transformation.

It is possible that the seeds of ICT-enabled community empowerment were present and we did not see them in spite of the variety of mechanisms we used to gather our data. It is possible that the scars of war are too deep, and that the public space created by libraries, telecenters, and cybercafés is still too young to handle the memories of death and destruction. It is possible that use of computers and the Internet for social change is not happening in public spaces, but rather in the private spaces of organizations, schools, houses, and workplaces. Any of these possibilities is better than the most disheartening one: the violence of the war has defeated community organizations and their potential.

The situation in El Carmen shows that PAC venues are indispensable. This is especially true in communities where residents first need to pay for expensive water before being able to pay for local transportation or phone calls, all of which are offered as part of an informal economy of poverty. Furthermore, the results of this study show that public access venues are very useful in introducing disadvantaged students and young people to ICT: for training those who are unemployed and are looking for other work, and to provide opportunities to the services and information provided by State institutions and social programs run by NGOs and private foundations to people and communities (vulnerable and excluded).

Other uses emphasized in public access venues are communication and entertainment. Through chats and videoconferences, users communicate with friends and family, form groups and communities around common interests, and explore and communicate with others: other cities and municipalities, exploring other affairs around the country and the planet. Furthermore, public access venues seem to be interesting spaces for social interaction: places to hang out and meet with friends, for enjoyment and socializing. And this is particularly important to enrich and to reactivate the life of Carmen de Bolívar, where social life and communication have been strongly affected by violence.

Our findings show there is a strong perception of empowerment among PAC users. They expressed they have gained control in their own lives in the context of participating with others. It also has involved process of self-esteem and self-efficacy. In many cases it also has implicated a proactive approach to life and in some cases a critical understanding of the sociopolitical environment. Taking into account the empowerment perspective of Kabear

(1999), the responses also reflect the expansion in people's ability to make strategic life choices, to acquire resources through social and institutional relationships, and to define goals and act upon them (which Kabeer defines as agency). However, according to Zimmerman's categories of empowerment (1995), the kind of empowerment we identified among PAC users in Carmen de Bolivar is more comprised of intrapersonal and behavioral components rather than interactional ones. In other words, it is more related with personal interactions than with organizational and institutional ones. We found very little evidence of processes of empowering communities to participate in the construction/consolidation of larger social arenas and public spheres where representations and resources are disputed. Furthermore there are few indications of process to exert pressure on channels of decision making and institutional power to respond to their needs, which are other important characterizations of empowerment (Campbell & Jovchelovitch 2000).

In a context like El Carmen, it is necessary to help reconstruct the social fabric and trust. The richness of spaces for organization and communication processes in the region can be a fertile area to generate processes for the use and adoption of ICT, transforming these venues into spaces for local information and communication. They can be the effective mediators in the complex process and situation in El Carmen is demanding, not just providers of more windows for personal friendships and entertainment, no matter how important friendships and entertainment may be. PAC venues can become spaces for meeting and coexistence, places for innovation and creative undertakings, and centers of job creation and alternative income-generation opportunities that offer alternatives and opportunities to take people away from violence, unemployment and hopelessness. PAC venues can be something more than providers of, as one respondent put it, just Facebook and Porn.

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