

Global Information Society Watch

2018



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This work was carried out with the aid of a grant from the International Development Research Centre (IDRC), Ottawa, Canada, as part of the APC project “Community access networks: How to connect the next billion to the Internet”. More information at: <https://www.apc.org/en/project/local-access-networks-can-unconnected-connect-themselves>
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Financial support provided by



This edition of GISWatch came into being alongside a brand new baby boy. Welcome to the world, Ronan Diga!

Published by APC
2018

Printed in USA

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Global Information Society Watch 2018 web and e-book
ISBN 978-92-95113-06-0
APC-201810-CIPP-R-EN-DIGITAL-296

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Community networks: Stories and power

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Introduction

In this report I consider some of the meanings embedded in community networks, and the way they work together with power relations. A critical awareness of the interplay of meanings and power can inspire us to create new meanings that might better contribute to achieving aspirations, such as promoting the agency of all community network users. I draw on my preliminary analysis of data generated in the past eight months about the social and gender impacts of community networks in the global South, and reflections on conversations within the Community Access Networks project, a research study into community networks globally that is led by the Association for Progressive Communications (APC) and funded by the International Development Research Centre (IDRC).¹ I refer to only a few of the many power relations at work in my research about community networks and focus on just four sets of meanings.

During my research so far at five community networks in Asia, Latin America and Africa, I generated data about people's everyday practices and opinions in relation to their network in focus groups and individual interviews. Adapting my methods to suit each community network, I was privileged to interview 119 men and 103 women, individually or in groups, some repeatedly and extensively. This included community network initiators, champions, members, users and non-users.

While all networks are rural, their socioeconomic and political contexts vary widely. They are located in countries that have, according to the UNDP's 2015 measures, gross national income per capita ranging from USD 1,670 to USD 20,945, and income distributions from 0.41 to 0.63 on the Gini index, where 0 represents total equality and 1 total inequality. Indices for the population's health, longevity, living standards and knowledge also vary

amongst the community networks; for instance, one is located in a country with very high human development, another in a country with high, two in countries with medium and one with low human development. These countries also differ in gender equality, one high, two medium-to-high, and two countries with low gender equality.

The intentions and the geographic scale of the operations of the initiatives I studied vary as widely as their socioeconomic and political contexts. Some initiatives prioritise ethics about human rights to communicate or net neutrality, some are driven by research about technical solutions to provide "first-mile" internet access to rural people, and others seek to integrate information and communications technologies (ICTs) into local culture to address significant humanitarian challenges. Some networks connect directly to individual people or homes, others connect via local not-for-profit or government centres; some are groups of local networks distributed over distances of 300 km, and others are geographically localised. However, all initiatives self-identify as community networks, and all aim to improve access to low-cost telecommunications for people in rural areas.

Power relations and narratives

Power relations between people enable one person, or group of people, to have more influence over another person or group. This influence operates through direct and indirect relationships between people and arises due to differences in socially agreed political or legal authority, or capability in certain domains, or economic status, or race, age or sexual orientation. In some community networks, people explicitly referred to differences that are institutionalised according to formal categories such as refugees, internally displaced persons, indigenous people, tribe, caste and "other backward" classes. For instance, members said "You don't come from our background" to a woman employed to support a group of networks. We must, however, avoid oversimplifying power relations to only particular categories, as power relations intersect, and often less explicit power hierarchies emerge within community networks.

¹ <https://www.apc.org/en/project/local-access-networks-can-unconnected-connect-themselves>

Inclusivity was central to the ethos of all the community networks I studied, yet, in all networks, differences between people affected their respective agency in shaping the meanings embedded in their network. Consider, for instance, one aspect of power relations in a community network in a country with a high equality ranking and traditions of solidarity. One man in this network described three groups of local inhabitants: people like him, who moved permanently from the nearest large city within the past five or six years and established their main activity locally; people with weekend homes; and people whose families had lived in the area for generations. In this network, I interviewed many more people who were newcomers, like this man, than people with historical local ties, primarily because most participants were recruited through the community network's initiators' closest social group. One network initiator had family connections in the area but moved to a city where they met other initiators through the free software movement.

Like other newcomers, the network initiators had greater physical and virtual mobility by virtue of their education, class, and varied income sources, as writers, teachers and software developers. Interview participants with historical local ties, on the other hand, were working-class and had manual jobs. A woman user of the network, with historical local ties, explained that there had always been people from far away staying in weekend homes but recently a dramatic increase in newcomers had elevated property prices and filled the area with "strangers" who displayed an unwarranted ownership of the little town.

The community network acts as a bridge between inhabitants, and people with historical local ties said that it had facilitated connections that contributed to new opportunities for business and socialising. People with historical local ties chose to associate with this community network and, as for some other community networks I studied, there were alternative providers of the same services. Interviews also illustrated that the network's initiators actively encouraged members with historical local ties to host meetings to decide about the community network and lead the technical workshops that are more or less mandatory for membership. Nonetheless, people with historical local ties were more reluctant to be interviewed and, unlike the network's initiators, were less forthcoming about certain views, which suggests that the network's initiators have greater influence over the meanings associated with the network.

Some meanings associated with community networks repeated across the networks I studied,

and this report illustrates how these meanings inherit from other stories, through elements such as narratives and tropes. Such story elements are recognisable concepts and patterns of ordering that help us understand and communicate about new situations. Narrative selects and puts events and thoughts together into some coherent sequence to convey a particular perspective on a story. Tropes are archetypal narratives that use other familiar stories to make a perspective clear; for instance, the trope of David and Goliath is about competition in which the little guy is the hero.

Whose story counts?

A David and Goliath trope permeates narratives about resisting concentrations of power. Across my research, champions, and some network members, referred to the role of community networks in opposing domination by technology and telecommunications giants, which often linked to other critical attitudes about multinational corporations and monopolistic control. Some of my data, however, suggests that airing views that might be tagged politically liberal and progressive was more comfortable for community network members with greater cultural capital, such as people with university educations or professional jobs. For instance, in the community network that illustrated power relations between newcomers and people with historical local ties, it was the initiators who emphasised resisting, or perhaps evading, aggressive or unaccountable control by technology companies. People with historical local ties, on the other hand, more often associated the network with affordability, and its not-for-profit or communal ethos. In fact, interviews with people in this network revealed different perspectives with respect to corporations and control; for example, newcomers opposed the possible location of a new mine in the area, linked to contesting the extractive nature of transnational companies in general, but people with historical local ties were more likely to mention that a mine brings employment. That is, despite this network's considerable efforts towards inclusivity, a foundational narrative that relates community networks to resisting concentrations of power did not have similar relevance to all network members.

The community network philosophy, as summarised in the Declaration on Community Connectivity,² addresses the use of technology to

² The Declaration on Community Connectivity was developed at the Internet Governance Forum, Guadalajara, Mexico, December 2016, and the GAIA Workshop, Cambridge, England, January 2017. <https://www.comconnectivity.org/article/dc3-working-definitions-and-principles>

concentrate power, and this overlaps with a larger political project about autonomy, self-determination, emancipation and decoloniality in relation to telecommunications. However, the meaning of concepts such as emancipation varies amongst people at the grassroots in community networks. In one set of networks, in a highly resource-constrained setting, a major transnational technology consulting company funded solar and other infrastructure. In another set, in a country that favours both capitalist development and government involvement in digital participation, the ability of low-income rural women to shop with Amazon.com marked their internet inclusion. Meanwhile, impoverished members of a cooperative that founded yet another community network hoped the network's growth would directly profit their families. The agency of diverse people in effecting narratives about community networks and meanings about, say, autonomy, emancipation and decoloniality in relation to telecommunications, differs. Unequal agency in shaping narratives about community networks can compromise some of the freedoms and rights pursued by the overarching community network movement.

The worth of human connectedness

The next narrative that repeated in the community networks I studied values human connectedness in a certain way. Participants' stories, in interviews and focus groups, often referred to the role of social ties, sociality and sociability in obtaining or achieving something else, such as economic improvements or safety. Accessible communications had enhanced some participants' job prospects through studying for formal qualifications or improving their English language skills, and real-time business-to-customer or business-to-business relationships, such as sharing information about agricultural market prices amongst sustenance farmers, and about components amongst electronic repair businesses. Members of different community networks also mentioned the impact of solidarity on their safety; in one network different people explained that they were able to coordinate to apprehend a burglar; in another, that they had been able to call a taxi to take an old man who had fainted back to the village from a remote field, and coordinate together to save a donkey cart, full of provisions, when it fell down a mountain. That is, participants tended to frame human connectedness instrumentally.

Instrumental narratives about human connectedness also featured in a set of networks in a region that endured war for many years and hosts millions of refugees and displaced people. Severe conflict, and some post-conflict actions, have undermined

people's trust in institutions, neighbours and even family members, and the network's initiator prioritised peaceful coexistence in all activities, emphasising traditional practices of people coming together in dialogues to manage disputes, such as about land or water, and organising host-refugee events, such as football matches. The initiator rationalised cohesion and inclusion by explaining that "You won't go anywhere with excluding because tomorrow you might need the people that you exclude." Such a narrative resonates with an, albeit controversial, argument in international development discourse which proposes that social capital, resulting from social ties, enables people to satisfy everyday socioeconomic needs, such as access to advice or money.

Instrumentalist interpretations can be applied not only to social ties but also to people's felt experience of human connectedness, or the emotions, intuitions and morals a person senses in social relationships. At this level, a person's felt experience of collectivity, such as in setting up a network with others, might function in building trust; and a person's felt experience of social expectations about digital participation, say through social media, might function in accruing cultural capital and mobilising social assets. Facilitators in one set of networks, for instance, noticed that feelings of connectedness with children powerfully motivated women to learn to use technology.

Narratives that emphasise the worth of felt experiences of human connectedness according to their utility in solving certain problems or efficacy in predicting certain states of development are useful for justifying in wider arenas, such as evaluating community networks against the Sustainable Development Goals.³ However, the nuances of participants' more ordinary stories also tell that human connectedness has a different type of worth. Mundane human decision making is not mostly rational, and the intrinsic worth of felt experiences of human connectedness in everyday life is that such feelings exist. Participants told how community networks contributed to averting loneliness, sharing joy with remote family, feeling the presence of intimates through phatic contact, and feeling pride in caring for their community. Users in two networks said that they supported the network not because it enhanced their own access to telecommunications but, rather, because it enabled access for more disadvantaged local inhabitants. Meanwhile, the majority of cooperative members that founded another network said that their achievements

³ <https://sustainabledevelopment.un.org/?menu=1300>

benefited their children and other youth of their impoverished area, since they do not own phones able to access the Wi-Fi themselves, and they asked with pride that a book be written about this legacy.

In driving the community network agenda, we do not make explicit the intrinsic value of felt experiences when humans connect to other humans. Perhaps a trope of sentimentality discourages us from expressing that the worth of sociality and sociability is quite simply that they exist, and encourages instead the use of rhetoric common in discussions of so-called “last mile” connectivity, such as impacts on poverty, health, education, employment and economic growth. Ironically, this lack of emphasis contrasts with commercial telecommunications providers who readily market products and services, including to low-income populations, by depicting emotional qualities of human connectedness as much as affordability, convenience or mobility. The intrinsic worth of human connectedness is vital to developing and sustaining community networks, with or without supportive policy and legislation and, across the networks I studied, members implicitly or explicitly indicated the felt experience of their contributions, and acknowledgement of their contributions, be they doing technical tasks or reliably attending meetings.

Hidden skills

Clearly the meanings embedded in community networks are influenced by narratives that do not come via one ideology or any coherent set of stories. To the contrary; for instance, international development discourse as often conflicts as overlaps with opposition to neoliberalism and globalisation. The next narrative I find that influences meanings in community networks is, in fact, directly inherited from the telecommunications industry. It concerns the visibility of, and values ascribed to, different types of creative and coordination work in setting up, maintaining and expanding a network; and it actively performs in excluding women. Indeed, this narrative might qualify as a “master narrative”, in Susan Leigh Star’s terms,⁴ or “a single voice that does not problematize diversity, and speaks unconsciously from the presumed center of things.” In the education and industry sectors of telecommunications, stories about creative and coordination achievements are dominated by large-scale engineering feats, like satellite technology, as well as software development, and they are acutely gendered; consider how long it takes

to find the 10 women amongst 130 men in images returned by Google to the query “telecommunications engineer”! The dominance of men in activities associated with these achievements contrasts with the dominance of women on factory production lines manufacturing phones, or in customer service divisions of telecom companies; and the disparity in pay and labour conditions of these employment areas tells of the value of these women’s work.

Conversations with members of different community networks about their achievements in establishing physical infrastructure were dominated by references to certain activities. For instance, erecting structures like towers and poles, and negotiating roofs, mountains and trees has a prominence, partly because the outdoor work involved is publicly visible and the conspicuousness of the equipment makes them accessible referents in conversation. The material visibility of tasks conflates with gender, and the worth attributed to creative work. Women in networks in three countries described perceptions about physical work that excluded women. In a network in the country ranked highest in gender equality of those I studied, women members explained how one was scolded for climbing a ladder while pregnant, and another refrained from ascending a tower because she was concerned that this might be perceived as hindering an important team activity. In a network in the country ranked lower in gender equality of those I studied, one young man technology intern explained that women’s strength made them less able to climb towers – I did not resist asking him how, then, did women in this setting routinely manage to walk for miles carrying huge loads of firewood on their heads.

The relevance here is not about particular physical capabilities in building networks, rather it is about visibility, value and gendered roles. For instance, when we asked a group in one network whether it was only men who cleared the land for erecting an antenna, one man said: “Some women helped carrying sand, water and alcohol. It was both community [voluntary] and paid work; the carpenter [a man] had paid work.” Meanwhile, a woman in another network observed that dexterity and care in finer physical assembly meant women were better than men in soldering, crimping wires and assembling components; and a woman researcher in yet another network enthusiastically displayed the circuitry of a router prototype. Indeed, in four networks studied, women referred to their own creativity, from weaving baskets and rugs, to sewing and upcycling fabrics, from crocheting to pom-pom making and many other crafts. However, women’s finer physical work in networks often disappears

⁴ Star, S. L. (1999). The Ethnography of Infrastructure. *American Behavioral Scientist*, 43(3), 377-391.

inside homes, fitted between many other tasks, whereas when men undertake finer physical work it is more obvious and focal. For instance, men who use the solar electricity their network provides in electronic repair businesses display their skills in fixing in the open fronts of little shops and promote their business locally, in jingles on the radio. The men also promote their businesses nationally, by inserting adverts into movies they distribute; one of the men overlays African movies with audio in local language, speaking through a female voice synthesiser for characters that are women.

While people in the community networks I visited mostly acknowledged the importance of social coordination, they rarely spoke of it with the reverence or heroism they attached to software and network engineering tasks. In several networks, and even amongst our project research team, men refer to the monetary market value of their technical skills. Women employed by one group of networks explained how the members of a local, traditional, male-dominated governance authority overseeing one network were determined to speak only with technicians, who were men, including about non-technical aspects of network. Such valuing is, perhaps, the reason why young women engineers in a university that instigated another group of networks are reluctant to work at the network's rural sites and prefer to develop software in the lab.

Paradoxically, the worth ascribed to work may offer new opportunities for women's agency in technology. Nearly 40% of the group of community networks in which traditional, male-dominated governance authorities make decisions allocated local administration to young women because the most visible everyday work is secretarial, such as registering subscribers and record keeping. Yet these roles also provide opportunities to develop technical skills, meet others in different villages and, according to one woman employee, had fostered self-confidence in the women who participate. This situation is analogous to the prevalence of women in the field of computing in the 1960s because programming tasks were perceived as comparable to typing or filing; which provokes asking what we need to do to ensure that all types of creative and coordination work are valued, and that diverse people can do all types of creative and coordination work.

Meshworks not networks

The final trope is about our emphasis when we use the word "network". Featuring as much in common speech as in business, and fields of science and the humanities, the "network" is one of the

most prominent metaphors of the past 25 years. In telecommunications we apply it to connecting discrete technical and organisational components, like nodes and links, content and services, administrators and users. When we talk and teach about community networks we also tend to describe them as structures in summative and static ways. In one community network, for instance, people learned about lines of sight by holding hands with people whose homes they can see from their own, and I watched members of another initiative visualise the values that their networks are based on by drawing lines to join together points on a large paper graphic. The focus in these activities is on the connection itself, rather than the many ongoing movements that make and sustain those connections, such as the movements of bodies that join hands or the pen that links points on paper. We focus more on the net, and less on the work; we think of network as noun rather than verb. In reality, of course, the technical and social fabric of a community network emerges from, and is embedded in, the details of people's ongoing lives. Connections are made as people move along in life, never stationary in the passage of time. People's paths, as they move along, thread and loop through and between each other, diverging and converging, and twisting and knotting together. Even when community networks are connected to each other across vast distances, and travel between them requires a car, the processes of interconnecting them always involves humans' lives.

Many aspects of fastening and maintaining the social connections underlying a community network cannot be described using the rational and explicit terms of telecommunications vocabularies. These fastenings have emotional and dynamic qualities that are the stuff of human lives. Indeed, the way people lay paths through the world when they produce and experience the material and social infrastructure of community-based telecommunications, suggests that a "meshwork" is a more appropriate word. A community meshwork comprises paths lived by people, and a flow of engagements with the circumstances that they produce and experience. It does not comprise fixed connections between human and non-human components. A "community meshwork" helps to anchor descriptions, plans and actions about connectivity to human temporal and spatial scales, and may help to avoid the ways that monolithic telecommunication systems underserve populations and erase the existence and agency of people, regardless of the sentiments they draw on to market their products and services. The contrast of "community network"

and “community meshwork” resonates with different depictions of development; one that links more or less distinct inputs, outputs, outcomes and impacts together in straight lines of causation, and another that notices emergent qualities and interactions of complex systems. The former depiction represents neither the complicated, relational character of a community meshwork, nor the potential agility enabled in the movements people make.

Making new meanings

A narrative about community meshworks, rather than networks, is an alternative that recognises the capacity for new meanings to emerge. Similarly, with regards to the other three stories that I used to illustrate the way narratives work together with power relations, I propose that we may create new meanings by tuning our awareness to their manifestation.

A narrow focus in resisting concentrations of power by telecommunications giants may limit the ability of community networks to respond to the way autonomy, self-determination, emancipation or decoloniality mean different things to different people in different places. Undoubtedly, an enabling policy and regulatory environment is essential for community networks to flourish and achieve more for people in the global South. Yet, strategies to oppose the status quo according to particular political interpretations about the use of technology to concentrate power also function to maintain particular hegemonies of doing, knowing and being. Or in Audre Lorde’s words, “The master’s tools will never dismantle the master’s house.”

An example of hegemonic thinking and doing is a tendency to deploy instrumental narratives about

human connectedness in claims about community networks’ impacts, at the expense of narratives about the intrinsic value of human connectedness. Attending to the nuances of members’ and users’ felt experiences of human connectedness, and articulating these feelings, intuitions and morals in operational and strategic decisions, may be vital in creating new narratives about community networks.

Another example of hegemonic thinking and doing concerns the worth ascribed to different types of work involved in setting up and maintaining community networks, where a dominant narrative illuminates and values technical tasks. The efforts of some community networks to develop members’ and users’ technical skills, and the proliferation of devices that are easier to set up and maintain, can help in revising the relative value ascribed to social and technical work.

However, to realise a new narrative about technical and social work in these new reconfigurations, we need to be vigilant to the ways that power relations will constantly act to manifest worth according to existing hierarchies, such as gender or education, and how we are never passive in this process.

During the eight months while I conducted my studies, a great many people in a great many places created new prospects for community networks in general, such as by raising awareness and advocating for more supportive policy, and created new prospects for diverse people to develop them. Perhaps this will yield the time and space for us to enrich narratives about power and telecommunications by better encompassing the ways that people at the grassroots understand and relate to government, transnational corporations, or local entrepreneurialism.

Community Networks

THE 43 COUNTRY REPORTS included in this year's Global Information Society Watch (GISWatch) capture the different experiences and approaches in setting up community networks across the globe. They show that key ideas, such as participatory governance systems, community ownership and skills transfer, as well as the "do-it-yourself" spirit that drives community networks in many different contexts, are characteristics that lend them a shared purpose and approach.

The country reports are framed by eight thematic reports that deal with critical issues such as the regulatory framework necessary to support community networks, sustainability, local content, feminist infrastructure and community networks, and the importance of being aware of "community stories" and the power structures embedded in those stories.

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