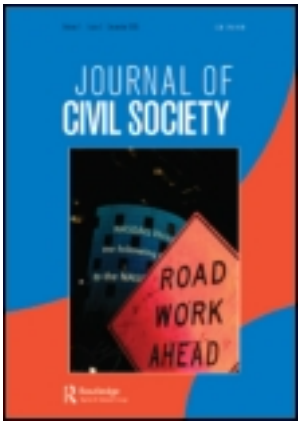

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Civic Networks and Community Resilience in Brazil, Canada, Chile, and Cuba

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ABSTRACT *This article explores the relationship between civil society and community resilience in coastal communities in Brazil, Canada, Chile and Cuba. In understanding the role of social capital in community development, we do not feel sufficient attention has been paid to the subtle micro-dynamics of civil network structure. Using social network analysis, we explore the link between community cohesion and resilience. Attention is given to conflicting interests that characterize these communities and how they manifest themselves in civic participation and factional affiliations. We find that organizational diversity is a necessary condition for community vitality, but organizations can become captive to factional interests. The critical factors for resilience are associated with a benign side of factions (a plurality of inclusive ties) and the presence of keystone bridging agents. Each offers hidden mechanisms for neutralizing the effects of fragmentation by providing a cohesive capability which remains latent until crises call for collective action.*

KEY WORDS: Bridging ties, Latin America, community-based development, social network analysis, factionalism, cohesion, resilience, coastal communities

Introduction

There is no shortage of practical guides to facilitate local community development (see, e.g. Dhamotharan, 2009; Frank & Smith, 1999). Identifying existing civil organizations and 'building leadership capacity' are common prescriptions designed to kick-start

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grassroots development, resource co-management, and democratic processes (Berkes *et al*., 2001; Chambers, 1983). A naïve view of the harmonious community seems to underlie much of this scholarship, however. Pomeroy and Rivera-Guieb (2006) caution that the many existing organizations and leaders may not necessarily be the best to initiate social change, but offer little advice as to how to differentiate good from bad or how to avoid just creating another community-based organization which reinforces the status quo (Hilhorst, 2001). Following Lee and Thomas (2010), we feel insufficient attention has been paid to the subtle micro-dynamics of civic networks in the community development literature.

A healthy community is not only a function of a robust civil society; it is not simply to be measured in the number and strength of particular organizations or leaders. Community resilience[1] is also a function of the mechanisms that are in place to overcome inevitable features of everyday life associated with social cleavages and conflicts (Mathbor & Rodgers, 2002). We argue that civic social networks are a lens into the dynamics of both exclusion and resilience. Utilizing aspects of social network analysis, our goal is to develop a methodology which communities can include in self-study toolkits to assess inclusionary and exclusionary dynamics in their civic networks.

We examine the micro-dynamics of civic networks[2] in four small coastal communities in north-east Brazil, Atlantic Canada, southern Chile, and south-central Cuba. We found that each community had an impressive recent history of resilience in the face of threats to their viability. Notwithstanding what at face value seemed to be strong civic networks, we found serious exclusion issues associated with religious- and occupationally based factions, gender and class biases, weak organizational diversity, and the marginalization of certain types of households. We concluded that resilience was a function of rather subtle bridging ties within the civic networks. Communities can show signs of a robust civic society, but be highly factionalized at the same time. The critical factors are the presence of, first, 'benign' factions with a plurality of inclusive, out-group ties, and, second, 'keystone' bridging agents, both organizational and individual, which cut across divides in the community. Each functions to stitch together the civic community providing a level of latent cohesion which becomes manifest during times of crisis.

Civil Society and Healthy Communities

Civil society is often cast as a panacea for all the ills that befall society. Collective efficacy and civic engagement are widely acknowledged to positively correlate with citizenship and participation in public goods (Ramsey, 1995), trust and social solidarity (Bell, 1998; Fukuyama, 1995), social capital (Coleman, 1988; Putnam, 1993), volunteering and community self-sufficiency (Ryan *et al*., 2005), community security and crisis responsiveness (Jack, 2005; Tolbert, 2005), health and well-being (Kutek, Turnbull, & Fairweather-Schmidt, 2011), low crime rates (Lee & Thomas, 2010), sustainable community development (Crowe, 2007; Lyson, 2003), and resource management (Jentoft, 1999; Jentoft & McCay, 2003; Thomson & Gray, 2009).

Civil society and community-based organizations are seen to be vital for articulating local voices and aspirations and interfacing with extra-local non-governmental organizations, state and bilateral institutions in the development process (United Nations Development Programme, 2001; World Bank, 2003).

A dualism characterizes this literature. If a healthy society is a function of a robust civic community, then the absence of endogenous organizations and low levels of civic participation are the source of community vulnerability; a social parallel to 'internally induced brittleness' in ecosystems (Gunderson *et al*., 2002). In his examination of civil society in the USA, Putnam (2000) laments the dramatic decline of traditional civic organizations since the 1960s. Blame rests with modernity and the atomizing and individualizing effects of consumerism, among other things. Rosenblatt *et al*., (2009) argue that social and physical mobility lead to residential instability and the loss of community. When people become less well connected, have less time to volunteer, and develop wider dispersed social networks, then civic society becomes fragmented.[3] We would argue that social marginalization also negatively affects civic participation. One of the most dramatic hidden injuries of class is associated with the stigma of being poor (Hooks, 2000; Ravensbergen & VanderPlaat, 2009; Sennett & Cobb, 1993).

But the vulnerability of civic networks is not just a function of low levels of individual engagement. It can reflect a number of features associated with the civic organizations themselves. Edwards (2005, p. 4) cautions that we should not presume local organizations are necessarily 'civil' or 'good': '[If] ... only certain truths are represented, if alternative viewpoints are silenced by exclusion or suppression, or if one set of voices are heard more loudly than those of others, the "public" interest inevitably suffers'. Community-based organizations will reflect the full spectrum of interests and social cleavages that divide any community: gender, class, ethnicity and race, religion, age, occupation, sexuality, and so on. In addition, organizational weakness can stem from weak conflict resolution strategies, cliquism, inept leadership, nepotism, suppression of women's participation, a lack of transparency, and volunteer burn-out (Flora *et al*., 1992; VanderPlaat & Barrett, 2006). Community-based organizations can be captured by narrow interests (Barrett & Okudaira, 1995) or 'hi-jacked' by external interests pursuing their own agendas (Mikalsen, Hernes, & Jentoft, 2007). Local people are not blind to any of this and will often limit their participation as a consequence (Barrett *et al*., 2005; Pratt & Wright-Revolledo, 2005).

To understand the hidden dynamics of civic participation, we need to examine the nature of the social ties and the networks which underlie them. Scholars have stressed that social networks generate tangible outcomes called 'social capital'. Strong bonding ties emerge among individuals with frequent face-to-face interaction (Coleman, 1988; Portes & Sensenbrenner, 1993). Close interpersonal ties generate trust, low transaction costs, fair and more effective resource allocation, and conflict resolution (Bridger & Luloff, 1999; Coleman, 1988; Lin, 1999; Moody & Paxton, 2009; Ostrom, 1990; Svendsen & Svendsen, 2004; Wilkinson, 1991).[4]

Given the divisions that characterize small communities the world over however, a more nuanced perspective is that interaction and social capital are circumscribed by social cleavages. Mannarini and Fedi (2009) and Day (1998) distinguish 'communities within communities'. Civic networks include not only 'bonding ties' but 'bridging ties' that cut across these gaps—'structural holes'—in networks and link disparate groups (Burt, 1992). These ties are thought to be weak, but provide important communication channels; hence the term 'the strength of weak ties' (Granovetter, 1973).[5] Civic networks therefore can potentially reduce jealousy, suspicion, and mistrust (Edwards & Onyx, 2007; Leonard & Onyx, 2003).

There is a difference of emphasis about which types of ties—strong bonding ties or weak bridging ties—provide the greatest robustness to communities (Gargiulo &

Benassi, 2000; Woolcott & Narayan, 2001). For example, Crowe (2010) argues a 'complete network structure' of dense connections and strong ties is vital for robustness, while communities with a 'factional network structure' of heterogeneous groups, sparse connections, and weak ties are more vulnerable (Ryan *et al*., 2005). An alternative view is that robustness is a function of flexibility in an ever-changing world. Weak external links provide actors with access to information and opportunities which would otherwise not be available to insulated networks (Granovetter, 1985).[6]

Most social network research is on friendship and business-related networks where the individual is the unit of analysis (Gargiulo & Benassi, 2000). Less research has focused on the emergent features of organizational networks (Crowe, 2010; Sharp, 2001), and fewer studies still examine bimodal networks with both organizational and individual features.[7] A number of the emergent structural features of civic networks provide a glimpse into cohesiveness and factionalism (Lee & Thomas, 2010). In this sense, the functions of certain kinds of structural ties can be quite independent of the motivations of particular individuals involved (Edwards & Onyx, 2007; Jack, 2005).

Our study addresses the structural features of civil society in small coastal communities. We want to explore the validity of the dualistic view of civic robustness: Is a 'complete network structure' of dense connections a necessary feature of community resilience? Does factionalism spell the fragmentation of civil society and community vulnerability? Alternatively, can bridging ties reinforce civic robustness in spite of factional divisions? If so, what can be said about the relationship between community cohesion and resilience?

Methodology

The project incorporated a partnership between universities and community organizations in north-eastern Brazil, Atlantic Canada, southern Chile, and south-central Cuba.

Our community study sites[8] (Figure 1) were chosen using a 'purposive sampling' method designed to explore the relationship between resilience and civic network structure. Study sites were chosen by each partner country team for their explanatory power rather than their typicality (Mitchell, 2000; Silverman, 2000). Each of the community sites had faced

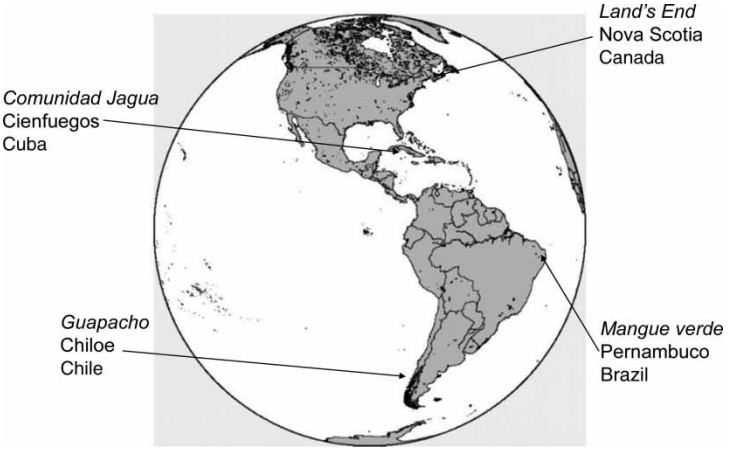


Figure 1. Community study sites.

a variety of challenges related to state regulation of resources, tourism and industrial development, in- and out-migration, and environmental degradation. Each of the four sites also shared a remarkable history of responsiveness to these challenges. As such, they offered the opportunity to study the dynamics of resilience within very different contexts.

The lead Canadian team did not impose a rigid methodology on its partners. To a large extent, local conditions determined what precise techniques were employed in each site although the same basic questions were asked in each case relating to the range of groups and organizations existing in the community, who was associated with them, and the specific group/organizational ties of the individuals being interviewed. We sought to identify those individuals who considered themselves, and were considered by others, to be 'associated' with particular groups or organizations (Crowe, 2010). We did not assess motivations behind individual volunteerism or their religious, occupational, peer, or familial connections to each other.

In the Brazilian and Chilean cases, our university partners conducted censuses of the communities as a diagnostic tool for a variety of purposes related to community development, housing, environmental, and community health issues. In the Brazilian study, the initial survey was followed up with a focus group interview of a sub-sample of active individuals. Based on meetings with our community partner, in the Canadian case, we realized that mapping their civic network involved at least 13 contiguous communities. A full census was beyond the scope of our resources. Therefore, we conducted key informant and focus group interviews based on a snowball sample of active individuals in the civic network. In the Cuban case, a census was also not feasible, and our university partners conducted two in-depth surveys of individuals in the community based on an initial opportunistic sample and follow-up in-depth interviews.

Our research builds on a body of scholarship in social science which utilizes social network analysis to uncover the structural dimensions of networks in different spheres of social life (Arora & Sanditov, 2009; Beall, 2001; Moody & White, 2003; Park, 1996; Schafft & Brown, 2003; Schweizer, 1997; Sharp, 2001; Sobels, Curtis, & Lockie, 2001; Stoebenau & Valente, 2003). We assessed two-mode networks in each study site. The first node was organizational. In operational terms, we took a broad view of civil society. We included any informal group or formal organization that was regular in frequency and which brought together people from different families and households. The exceptions to this rule were places and occasions of work. We also excluded events which were periodic or seasonal in nature and had open-ended participation. The second node was individual, specifically 'active participants'. The structural properties of the networks which we examined were: cohesion, fragmentation, and isolation (Scott, 2001; Wasserman & Faust, 1994; Wasserman & Galaskiewicz, 1994).[9] Table 1 presents an overall summary of the groups and organizations and active individuals sampled in each community site.

Table 1. Sample composition, community sites

Community sites	Groups and organizations	Active individuals
Mangue Verde, BR	11	164
Land's End, CA	53	135
Guapacho, CH	18	48
Comunidad Jagua, CU	30	80

Study Sites

Mangue Verde, Brazil

The Brazilian community is located approximately 100 km from the city of Recife, capital of the state of Pernambuco in the Brazilian north-east. The community has a population of 630 individuals living in 118 separate households.

The coastal zone of Pernambuco has a rich history associated with slavery and slave rebellions going back to the 1800s. Sugar and its products remain a dominant feature of the regional economy of north-east Brazil, recently reinvigorated by demand for biofuel. There has been a dramatic mechanization of sugar refineries and a consolidation of small independent *Engenhos* (sugar estates) into large conglomerates. One such firm, Usina Trapiche, is the dominant landholder in the area. Dozens of communities and the local labour force are dependent on it for employment, earning a poverty-level daily wage of R$10 reais (CDN $5.20).

Mangue Verde is a coastal fishing community with less than 5% of its labour force working as sugar cane cutters and high levels of home and land ownership. Until 20 years ago, these people were landless squatters on a nearby beach. They worked as seasonal labour in the coconut plantation of the area. The plantation's Portuguese owner was finally convinced to allow the families to purchase some marginal land on the edge of a mangrove. Formerly landless families have been able to break the cycle of poverty and dependence other communities still face. After 20 years, they have been able to earn enough income to purchase land and build homes of good quality.

Although formal unemployment figures are high, households are pluri-active in petty commerce, fishing and services. Women are employed mainly in services and miscellaneous activities. Men work mainly in construction, transport, and fishing. Those working in the fishing industry staff the crews of medium and large vessels that are based in a nearby community with a good harbour. There is one wealthy fisherman in the *Mangue Verde* community who owns and fishes, using one of these large vessels. The adjacent mangrove is central to the life of the community. Many products come from the mangrove, providing for subsistence needs for families and income. Seasonal service activities such as house cleaning, sewing, washing, selling harina, *tapioca*, sandwiches, ice, juices, and operating beach bars for tourists and holiday-makers offer many in the community other opportunities.

Most residents own their own small houses which are generally of brick construction and of a better grade than those in neighbouring communities. The community is marginally literate and different in this respect from most of the impoverished communities in the larger municipality. The community has been able to open a two-room elementary school and adjoining health clinic. There are now paved roads, electricity, and mobile telephone and satellite service.

In the context of one of the most impoverished regions in the western hemisphere, *Mangue Verde* stands out as an example of the relationship between land and home ownership and community vitality. Looking forward, community leaders have a very clear understanding of the kinds of environmental threats faced by the community. The community faces ongoing challenges in terms of holiday-makers who are buying up tracts of beach-front property and building large homes. They also face a major environmental threat from effluent and chemical residues flushed into their mangrove by a nearby shrimp farm which the government has allowed to triple in size in recent years.

Land's End, Canada

Our Canadian study site is a civic network composed of people and organizations from 13 contiguous villages and settlements in the province of Nova Scotia. Approximately, 900 people live in these communities.

Historically the area has been fishery dependent. The fishing fleet is highly differentiated into medium-scale draggers; long liners; small boat hook and line; and lobster trap boats. Thirty years of chronic overfishing led to the collapse of the cod fishery in the 1980s. This has led to a severe reduction in fishing capacity and the loss of many small independently owned fish plants. The communities in the area have experienced ongoing challenges associated with unemployment, low incomes, and the out-migration of especially young locals. State cutbacks have compounded matters with the closure of a nearby regional healthcare facility and community post office. More recently, however, small-scale tourist ventures have sprung up on a seasonal basis. The area has a significant number of newcomers who have moved in seeking a pastoral lifestyle.

Efforts by the government to close the one elementary school galvanized the community to have it redesignated a 'community school' and prevent its closure. The issue brought together a broad section of community members cutting across class, gender, age, and religious lines. The protest became a lightening rod for an outpouring of simmering populist sentiments against big government and big city domination. The protest was successful in saving the school. In turn, it became a focal point for community identity and has infused new life into civil society.

A second crisis hit the communities shortly thereafter. Ostensibly to reduce overcapacity in the fishing industry, the Canadian government introduced a policy known as individual transferrable quotas (ITQs) to privatize access to certain fish stocks (Apostle, McCay, & Mikalsen, 2003). Chief among a number of unforeseen consequences of the policy was a concentration of capital in the industry and rising levels of inequality within coastal communities. Small boat fishers outside the ITQ system found themselves facing drastically reduced quotas. Livelihoods and a way of life were threatened. Other fishers who gained an ITQ saw their incomes and standards of living rise. Meetings held at the community school were characterized by rancour and open conflict never before seen. The small boat fishers mobilized, and through protests and sit-ins had an alternative 'community quota' system approved by the government. Their efforts galvanized other fishers in the region, and they were also instrumental in establishing a research centre dedicated to resource conservation and community-based co-management. However, all of these outcomes came at the cost of a new social cleavage in the communities based on income and status (Stiegman, 2009).

And yet people in the communities continued to attend the same churches; their children attended the same schools and played sports together; the men still volunteered for the fire department, the women at the school; people on both sides of the divide saw each other at hockey games and in stores. Even though interests had fundamentally changed and new fractures had been introduced, a collective identity based on shared histories remained intact.

A proposal by a US multinational to develop an open-pit aggregate quarry in the area brought the people out again. The community was ready for a fight with a deep well-experienced grassroots leadership tempered by the previous struggles. Another popular mobilization brought locals and newcomers, fishers on both sides of the ITQ divide, and external

non-governmental organizations together in a united front against the company. Notwithstanding law suits and negative press reports, they forced the provincial government to hold environmental hearings. In the end, the development application by the corporation was denied. The communities emerged stronger and more cohesive than ever.

Guapacho, Chile

The community of *Guapacho* is located on the Pacific coast of the island of Chiloé in the Xth Chilean Region of Los Lagos. The community is located an hour's drive from the nearby town of Ancud. It is composed of 151 individuals in 46 households. The community does not have a paved road and the nearest health centre is in the town of Ancud.

Chiloé is made up of the Isla Grande and more than 30 smaller islands. The population of Chiloé is 140,000, of which just over 50% is rural. In the rural areas, 23% of the population lives in poverty. The Xth Region of Chile, particularly the Archipelago of Chiloé, experienced a foreign investment bonanza in the salmon farming and processing sectors since the 1980s. Cheap labour lies at the heart of this boom. Once self-sufficient communities have been hit hard as land has been sold and labour has migrated to towns and cities seeking wage employment. The environmental impact on the small-boat fishery has been massive: escapement of alien species, diseased fish, drug and hormone contamination, toxic anti-fowling agents on nets and equipment, and shoreline waste contamination, to name a few. Fishers have lost traditional fishing and diving territories. These difficulties have spurned both fisher organizations and state authorities to delimit maritime concessions for artisanal fishers under self-management regulations. The Xth Region was the last region in the country to adopt such policies due to strenuous industry opposition. Artisan fishing territories were seen as a significant potential threat to the freedom enjoyed by the salmon farming companies in locating and expanding their sites. Fishers face daunting financial costs and bureaucratic red tape and legalities in trying to gain such concessions.

In the community of *Guapacho*, each household is pluri-active and engaged in a substantial degree of self-provisioning. Common lands are important for household subsistence activities. For example, forests are used for firewood and the gathering of medicinal plants; shorelines are used for shellfish and gathering algae. Communities like Guapacho are renowned for centuries-old indigenous *Hueiche* traditions of communal co-operative labour such as the *Minga*. The artisanal fishery is differentiated into shellfish aquaculture (mussels and oysters) and a dive fishery (abalone). When the Chilean state mandated fisher organizations to develop resource management plans for certain sea bottom resources, the fisher organization in Guapacho became a model for other communities in the area developing a forward thinking plan that balanced economic with conservation. This system has been based on equal distributions of rewards among members of the association.

The community faces ongoing challenges associated with geographic isolation, poor transportation infrastructure, and a shortage of capital, credit, and information about new opportunities and the possibilities of economic diversification and venture development particularly for women. New opportunities are being pursued particularly by women's artisanal organizations related to traditional products and ecotourism. Various community organizations came together to attempt to save a dilapidated elementary school but were unsuccessful in their efforts due largely to declining student enrolment.

However, the community has been successful in building a large new community centre and gymnasium through ties with the municipality of Ancud. This facility is the envy of nearby communities.

Comunidad Jagua, Cuba

Comunidad Jagua is a historic town established by the Spanish at the entrance to a large bay on the south coast of Cuba. We estimate the population to be roughly 1500 inhabitants among approximately 500 households, although this is difficult to certify, given the proximity of a new planned town.

The region has historically been dominated by sugar cane. The nearby city of Cienfuegos is one of the most industrialized in the country with sugar refining, shipbuilding, a fertilizer factory, cement works, oil refinery, paper mill, and thermoelectric power plant. It is an hour away by boat from Comunidad Jagua. The travel time by road is no faster, given its state of disrepair. In 1982, the state with Soviet assistance decided to build a nuclear reactor nearby the community. It designated the area for large-scale industrial development and hundreds of new migrants were settled into a 'model' town composed of apartment blocks located on the outskirts of the original community. With the Soviet pullout in the 1991, the project remains unfinished.

The tradition of fishing and an intimate relationship with the coastal environment are strong in *Comunidad Jagua*, but the impact of industrialization has been severe. It was a vibrant fishing community until 40 years ago when the adjacent bay became severely polluted by heavy industry from the industrial zone of Cienfuegos. Pollution levels led to an official ban on fishing, although it is a way of life for the people and, coupled with economic hardships, has not easily disappeared. A local marine biology laboratory has initiated conservation education programmes in the local school to help reverse this situation. The economic downturn associated with the five-year 'Special Period' of the 1990s and a succession of direct hits from hurricanes—'Lily' in 1996, 'Mitchell' in 2001, and 'Dennis' in 2005—have led to the deterioration of the village's infrastructure. Years later it is still painfully evident.

Notwithstanding these difficulties, the community exhibits a strong sense of local identity and cohesion. Community members have been active in the past few years attempting to revitalize their historic and cultural assets to build up tourism and new commercial opportunities. While the fishers have no official organization, their 'sports' team is the largest non-state group in the community. They have partnered with a local medical clinic to utilize local knowledge of shark liver oil in the treatment of respiratory disease. Videos and advertisements have been produced, and they are test marketing their product widely. The curator of the local museum has also been instrumental in bringing together the community members to develop exhibits and an interpretive centre to broaden the museum's appeal. Other efforts include coordination with the local hotel/restaurant and fishers to improve its menu and the sponsorship of dramatic and musical presentations about the history of the town's historic fortress, much along the lines of a dinner theatre.

Civil Society and Participation

We measured the robustness of civic networks in our case studies in terms of the diversity or scope of organizations and levels of civic participation. Fourteen types of community

groups and organizations were identified in our study: community development, environmental, educational, health, cultural, occupational (fisher and other), political, religious, residential, service, social, women, and youth. As indicated in the four charts presented in Figure 2, while no single study site had all 14, the diversity represented for such small communities was impressive to say the least.

Three of the community sites had over 70% of the full range of organizational types. On average, 57% of individual civic types were characterized by a single organization. In the Canadian site, however, 82% of types had more than one organization associated with it. This difference reflects the scale of the Canadian study site, but more importantly, we think it reflects a 'mobility effect' related to modernity and institutional fragmentation. This point will be explored further below.

A second indicator of robustness was the level of civic involvement by active individuals in the communities. Women's activity in all four sites was conditioned by domestic responsibilities and the family cycle. However, women in the Brazilian, Chilean, and Cuban communities were as involved as men in income-earning opportunities through involvement in productive organizations, and far more so than women in the Canadian site. Here the participation of women was predominantly in organizations with a 'caring' mandate (e.g. health, education, religious) while men's civic participation was highly skewed towards organizations and groups with an economic, political, sports, or leisure orientation (Porter, 1985). Some interviewed respondents in the Canadian

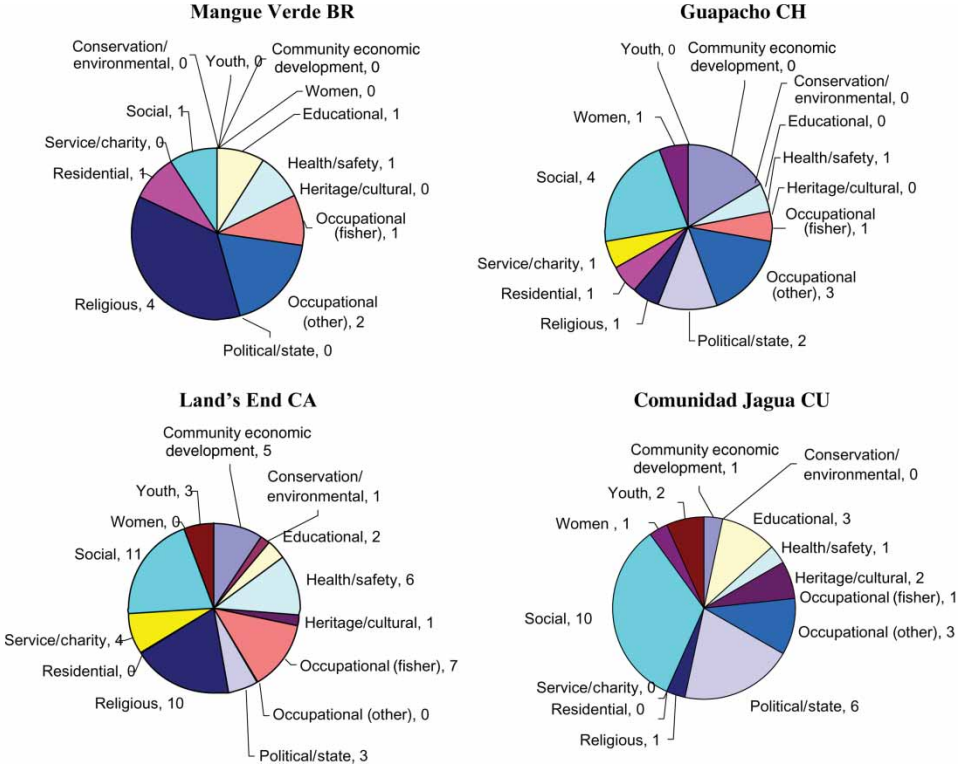


Figure 2. Organizational spectrums, community sites.

Table 2. Civic involvement, community sites

Community	No. of active individuals	Civic involvement				
		One group only	Two to four groups	Five or more groups	Total group involved	Mean
Mangue Verde, BR	164	72.0%	25.6%	2.4%	251	1.53
Land's End, CA	135	63.7%	27.4%	6.1%	284	2.1
Guapacho, CH	48	29.5%	56.8%	13.6%	118	2.46
Comunidad Jagua, CU	80	0.0%	19.2%	80.8%	714	8.93
Total	427	66.5%	27.4%	6.1%	1367	3.2

community intimated that this gender difference was a derivative of class. It was mainly middle-class women who participated in church, educational, and service organizations. Poor and working-class women were less likely to participate in these civic organizations.

Table 2 reveals that, irrespective of gender, roughly two-thirds of active individuals in the four sites participated in just one group. Just over one-quarter were active in two to four groups, while 6% were engaged in five or more groups.

We also looked in detail at civic involvement according to the various organizational types that were identified. As shown in Table 3, the distribution of civic involvement in *Mangue Verde* (Brazil) was skewed towards certain types of religious and occupationally centred groups. Civic involvement by community members in the *Land's End* study site (Canada) revealed a more solitary pattern reflecting the diverse nature of the civic network itself. Active individuals there were more likely to be involved in just one group or organization (Table 2) and the overall pattern of civic involvement was highly dispersed, with no type of organization capturing more than 20% of participation. In the case of *Guapacho* (Chile), over 70% of active individuals were involved in more than one group or organization (Table 2). Moreover, this involvement was broad based in nature: it had the most robust levels of civic involvement across the full spectrum of organizations.

The Cuban community had levels of active participation in groups which were four to eight orders of magnitude higher than other communities (Table 2). This remarkable level of civic participation was concentrated in mass state organizations and informal sites for social networking such as the bakery, pharmacy, market, hotel, and video room. This duality speaks to two issues. The first is the role of state-based mass organizations in commanding the heights of civic society in Cuban society.[10] Mass organizations are a central feature of centrally planned socialist societies and an integral feature of civic participation at the community level in Cuba. These organizations are vital conduits for social mobility. As an individual, one can ignore them, but at the cost of any real social advancement. The second issue is that there is an intangible side to civic participation in Cuba. The shortages of the post-Soviet 'Special Period', coupled with the ongoing American trade embargo, have transformed the role and function of social networks in Cuban society. We were told 'it is not what you have, but the friends you know'. There is so little money, and even with it, there is nothing to buy, so what makes a marginal difference in peoples' lives stems from their social networks and opportunities for reciprocal exchanges. On any given day in *Comunidad Jagua*, different members of the family would make sure they drop by the pharmacy, the market, the clinic, the 'open-air' hotel, the bakery, the

Table 3. Civic involvement and organizational type, community sites

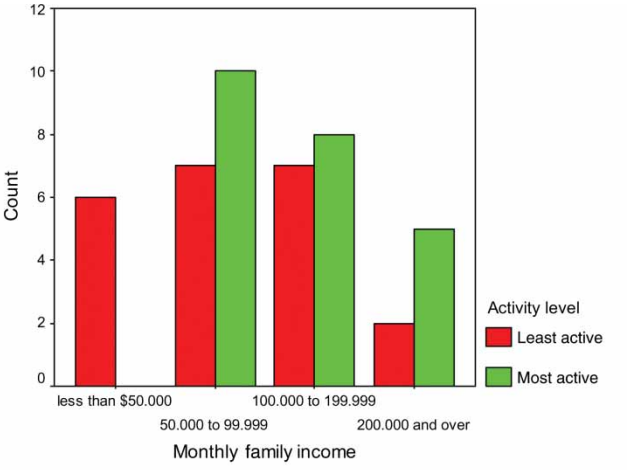
Organizational type	Mangue Verde, BR		Land's End, CA		Guapacho, CH		Comunidad Jagua, CU	
	No. of groups	% Civic involvement	No. of groups	% Civic involvement	No. of groups	% Civic involvement	No. of groups	% Civic involvement
Community economic development	0	0.00	5	13.73	3	8.47	1	0.13
Conservation/ environmental	0	0.00	1	5.88	0	0.00	0	0.00
Educational	1	2.79	2	18.82	0	0.00	3	6.20
Health/safety	1	14.74	6	12.55	1	3.39	1	8.44
Heritage/cultural	0	0.00	1	1.57	0	0.00	2	8.05
Occupational (fisher)	1	15.14	7	7.45	1	5.08	0	0.00
Occupational (other)	2	14.34	0	0.00	3	13.56	3	0.40
Political/state	0	0.00	3	2.35	2	14.41	6	25.20
Religious	4	39.04	10	17.65	1	29.66	1	1.72
Residential	1	0.00	0	0.00	1	0.00	0	0.00
Service/charity	0	0.00	4	5.10	1	3.39	0	0.00
Social	1	13.94	11	13.73	4	16.10	10	45.12
Women	0	0.00	0	0.00	1	5.93	1	4.49
Youth	0	0.00	3	1.18	0	0.00	2	0.26

video salon, the wharf not just in the hope of buying something but encountering an opportunity such as a ride to town, or news about someone looking to exchange something. These could be the most insignificant things. People always carried a bag or two just in case opportunities came up. While civic networks have become shamelessly opportunistic as a result, the daily interaction cements trust, and builds social ties. Isolation and apathy are luxuries no household can afford in Cuba.

The household census we conducted in the Chilean community provided a good opportunity for us to explore the factors underlying participation in civil society. Figure 3 reveals how household income levels correlate with the likelihood of civic involvement. Using this as a proxy for class (Crompton, 2006), we are able to uncover another dimension of civic involvement, reflecting the ability of some to have the free time to be involved and, as importantly, the confidence to do so.

In *Guapacho*, the income differences between households reflect a fundamental schism in the community between fishers and farmers, which is graphically represented in network diagram in Figure 4. Owing to the success of the fisher's association in implementing a co-management plan, fisher households are better off and dominate the civic affairs of the community, with more ties to more organizations. Farmer households tend to self-isolation and non-participation. This division represents the 'Achilles heel' of an otherwise strongly cohesive community.

Based on interview data with a number of active individuals, we would also argue that the civic involvement of people in two specific communities in the *Land's End* (CA) study site also reflects class factors. Consider the contrast between the two images in Figure 5.[11] The first image is of civic involvement of active individuals from the community of *Big Pond*. The majority of civically active individuals come from this community. It is the wealthiest community in the area reflecting its historic role as the centre of the fishery



Symmetric measures

	Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by interval pearson's R	0.305	0.130	2.101	0.042[c]
Ordinal by ordinal spearman correlation	0.285	0.138	1.946	0.058[c]
N of valid cases	45			

[a] Not assuming the null hypothesis.

[b] Using the asymptotic standard error assuming the null hypothesis.

[c] Based on normal approximation.

Figure 3. Civic activity levels by household income, Guapacho, CH.

with the best harbour. Of late, its position has been enhanced by the government introduction of an ITQ regime. Other communities in the area do not share these advantages and therefore have more low-income households and higher levels of out-migration. The differences in civic participation between Big Pond and six other communities in the study site are remarkable and reflect a middle-class bias in civic participation.

Structural Features of the Civic Network

The four communities in our study seemed to have the vital civic networks and levels of participation which would explain their respective histories of resilience. We wanted to see if the structural characteristics of the civic networks in each community reflected this reading: did the civic networks have high levels of structural cohesion? We measured structural cohesion by examining the density of the social networks, using Euclidean distance to assess the degree of proximity or distance between each organization in the civic network.[12] We computed a 'proximity index' which distinguished among organizational ties which were low (distant), moderate, or highly proximate. The communities with the highest proportion of moderate to highly proximate organizational ties therefore had the greatest structural cohesion. We found that *Mangue Verde* (BR) had the greatest distance between organizations and consequently the lowest density and structural cohesion. While *Comunidad Jagua* (CU) had high structural density, this was concentrated in two types of groups only, leaving others significantly distant from the core and giving the community as a whole weak structural cohesion. *Land's End* (CA) and *Guapacho* (CH) had the highest

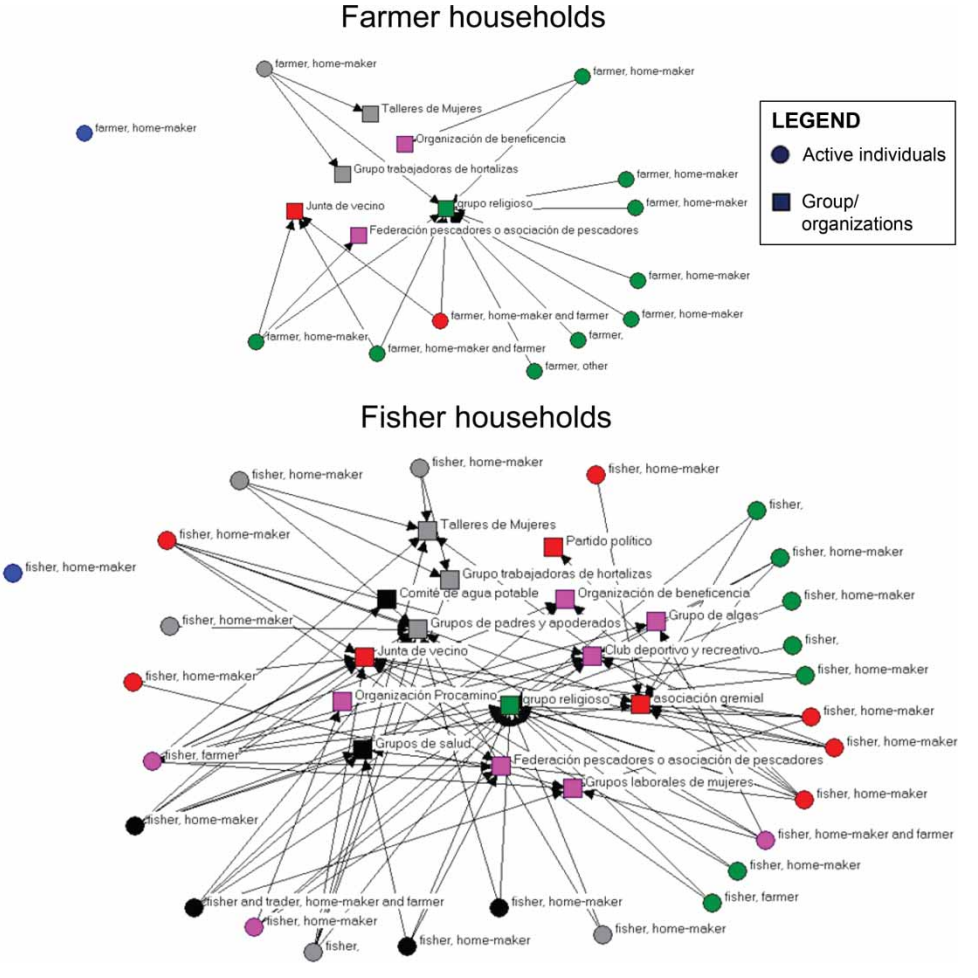


Figure 4. Fisher and farmer household civic involvement, Guapacho, CH.

densities of ties between organizations and very similar 'proximity indices'. As compelling as this index of cohesion was in the latter two instances, it belied important underlying patterns which come to light only when we started to unravel each network. It became clear that in fact all civic networks were fragmented.

Fragmentation

Civic network vulnerability stems from fragmentation into disconnected subgroups that share little or nothing in common. Such structures are commonly referred to as 'factions' or 'cliques'. Fragmentation can also refer to a network that lacks any subgroups whatsoever and is comprised of many disconnected nodes termed 'isolates'.

Factionalism was strongest where the overall civic network could be divided into coherent subsets that incorporated a significant proportion of organizations, groups, and

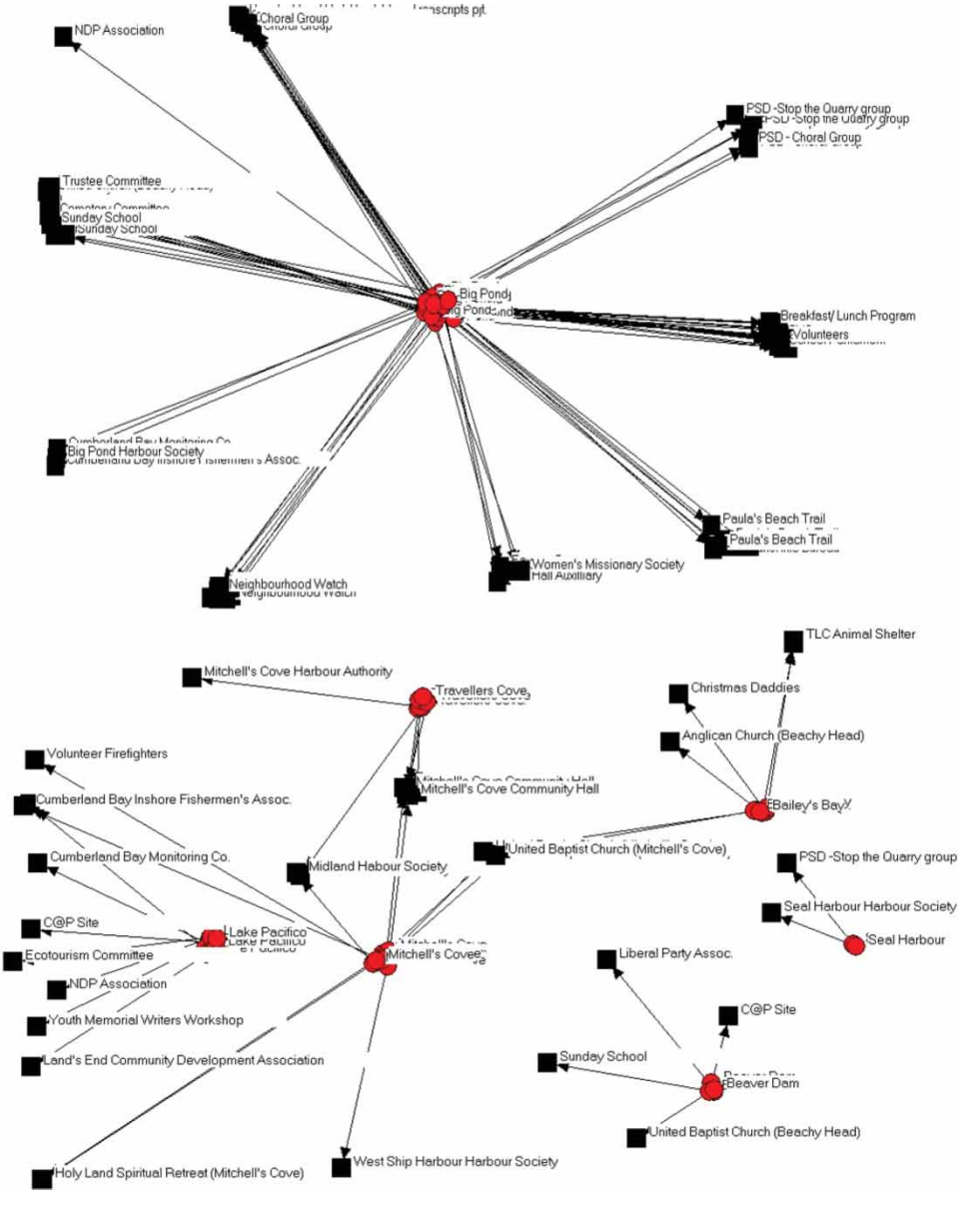


Figure 5. Community-based civic involvement, Land's End, CA.

individuals in the system. The UCINET programme (Borgatti, Everett, & Freeman, 2002) facilitated identification of a number of coherent subsets circled in the diagrams in Figure 6. *Mangue Verde* (BR), *Land's End* (CA), and *Guapacho* (CH) had five factions each, and *Comunidad Jagua* (CU) had four, although one consisted of only a single 'group' entity.

The danger that factions represent for community cohesion stems from an exclusivist tendency: everything and everyone become captive of one or another clique which

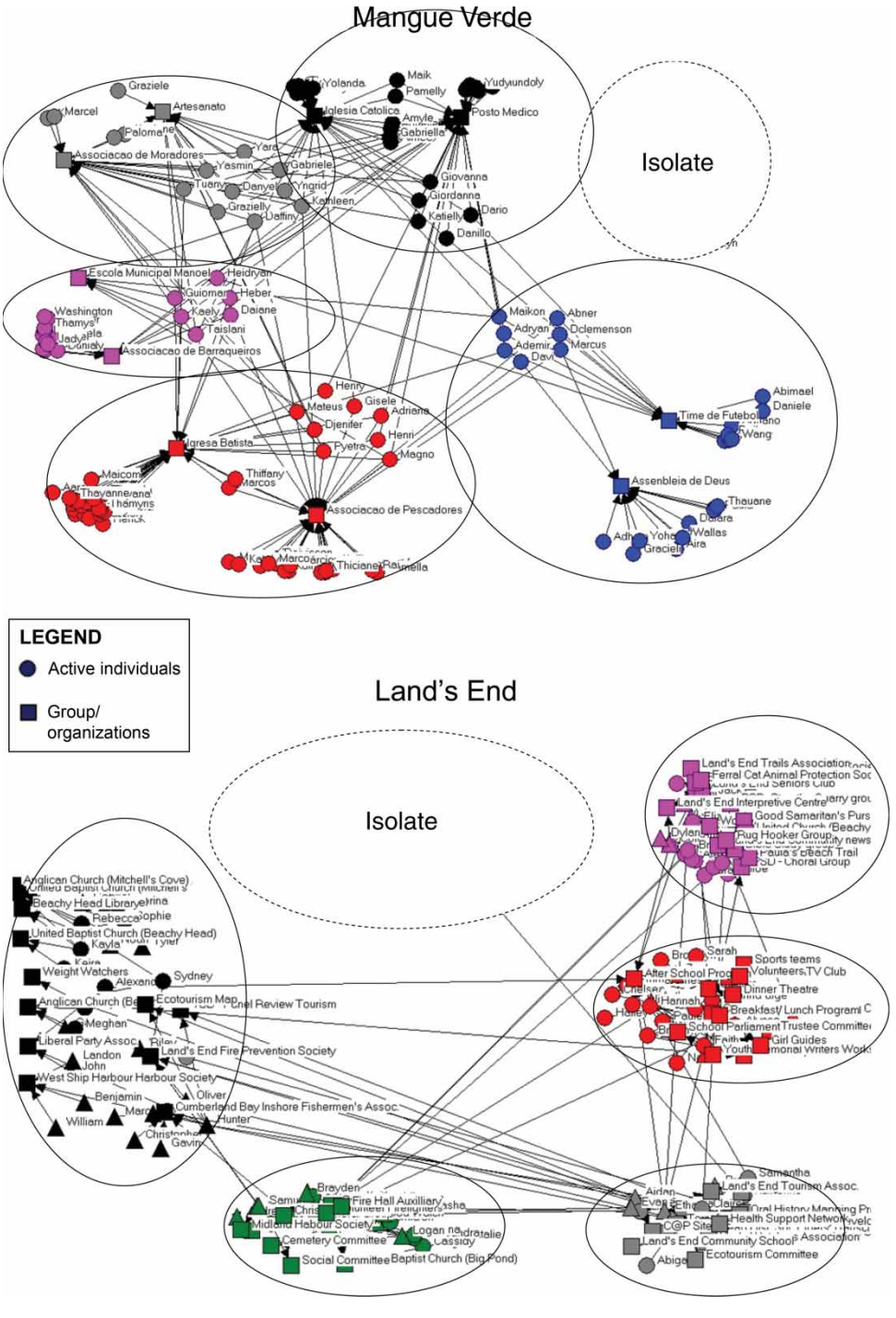


Figure 6. Factions and isolates, community sites.

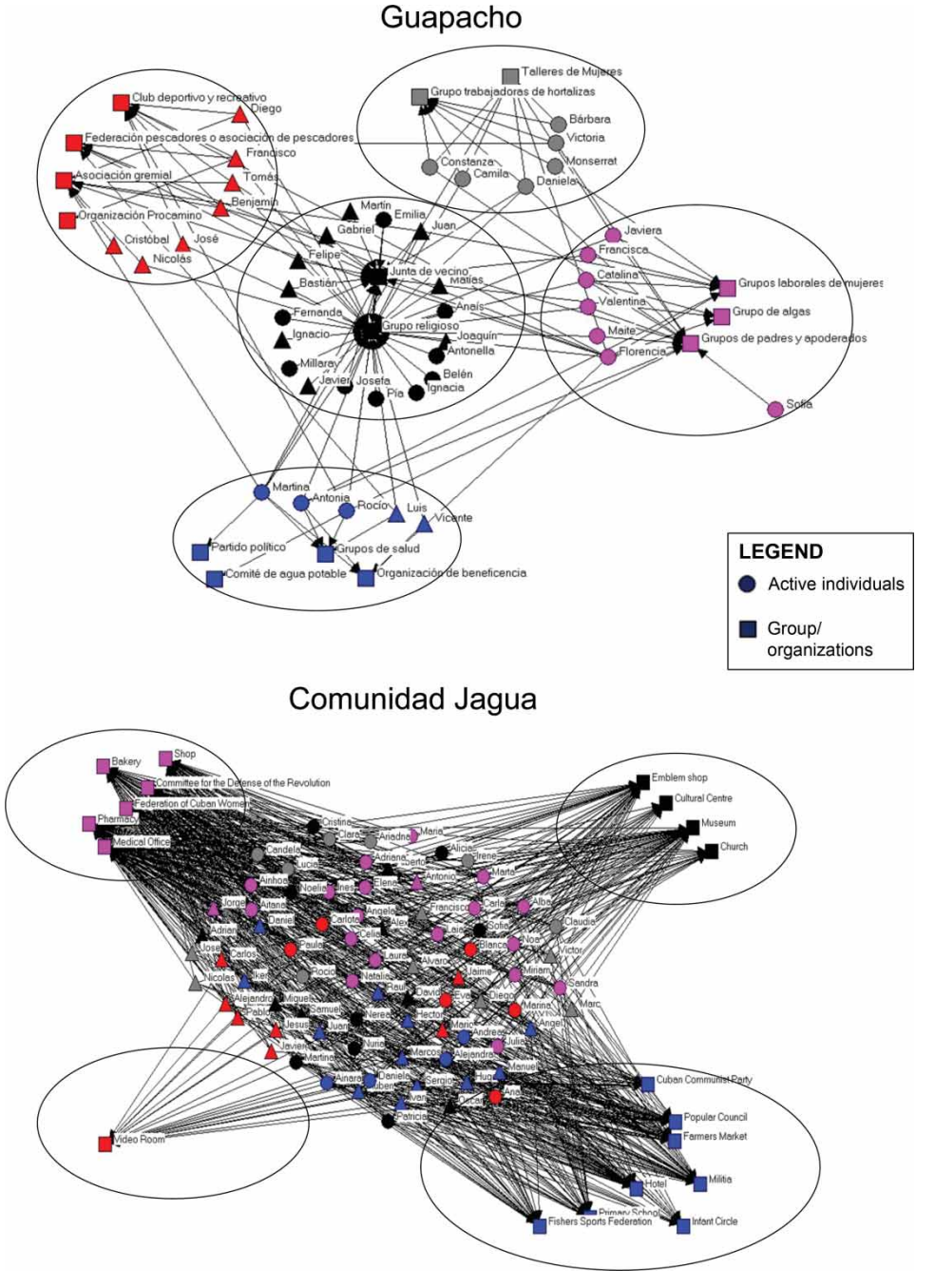


Figure 6. Continued.

promotes particularistic interests at the expense of the community as a whole. To explore this trend, we contrasted the proportion of ties among individuals within each faction which were in-group or out-group in orientation. Any faction which had out-group ties which were less than 25% of in-group ties was deemed exclusivist.

This method drew some striking contrasts between the community sites ostensibly with the highest levels of cohesion. Overall, the Canadian community was the most divided. All four factions had high levels of exclusivity. By contrast, in the Chilean case, we found that four of its five factions were inclusive in orientation.

We looked to see if there were any obvious commonalities between the types of organizations in terms of a predisposition towards exclusivism. Religious, fisher occupational organizations, and those associated with politics and the state stood out in this respect. Religious identity, ideological beliefs, and instrumental interests clearly affected the choices individuals made in terms of organizational affiliation and interpersonal associations. Anecdotally, we became aware in our Canadian research about how subtle these factors could be. Religious affiliations cast an invisible cloak over interaction and friendships in all manner of other groups and settings.

We find the 'inclusive'–'exclusive' distinction captures an all too frequently missed benign side of factions. Factions can incorporate a natural 'efficiency' mechanism. Individuals who know each other and have had experience working together tend to gravitate to similar groups. As a result, these groups experience lower 'transaction costs' than groups with new people coming together, getting to know each other, resolving differences, and getting used to each other's work styles. The friendship networks that emerge are therefore not just a derivative of shared family, religious, political, or economic ties. Unwittingly therefore, groups coalesce around certain self-reproducing cliques which are not necessarily antithetical to each other, but simply reflect efficient functioning. This makes it much easier for intergroup co-operation when community-wide crises require it. We would argue that this benign side of factionalism represents a form of latent cohesion.

In terms of 'isolates', while most of these organizations were linked in some small measure through individuals to other organizations, the most extreme example of isolation was in our Brazilian community. Two evangelical churches functioned in nearly complete self-isolation from the rest of the community. This level of separation was remarkable in its impact on such a small locale and reflected broader trends in Brazilian society that witness a burgeoning evangelical movement among poor Afro-Brazilians (Freston, 1993; Selka, 2005). *Land's End* (CA) also had a number of isolates associated with civic activity. Many active individuals were disconnected from others in the network. This reflected a 'mobility effect' which distinguished civic networks in the Canadian case from the other study sites. Notably, we found that the scope of the civic network itself was not confined to one particular community. Good all-weather paved roads and widely available vehicular transport widened considerably people's scope of activity (Rosenblatt *et al*., 2009). Civic networks in the Brazilian, Chilean, and Cuban communities were confined mainly to one area within easy walking distance. The impact of standard of living on civic participation was notable. The Canadian civic network was more fragmented than the others with a more diverse range of groups and organizations oriented to specialized leisure pursuits.

Bridging Keystone Agents

How do we square the history of resilience in the four study sites with the obvious divisions and factionalism we have identified? We would argue that the fragmentation speaks to vulnerabilities perhaps, but hides a significant level of latent cohesion. During crises, groups come together. It is keystone organizations and individuals which function as 'bridges' between factions in the communities, in so doing plugging 'structural holes' in the network.[13] The bridging individuals knit together disparate organizations. For example, in the diagram on the left in Figure 7, 'Joshua' and 'Sydney' are responsible for linking a variety of organizations which otherwise would be disconnected. Bridging organizations tie together individuals who are otherwise disconnected. For example, in the diagram on the right in Figure 7 'Lands End Fire Prevention Society', 'Midland Harbour Society', and the 'Anglican Church' are conduits for linking a variety of individuals who would otherwise not be.

The impact of keystone agents is transcendent as it allows people of differing, even conflictive, interests to have ties to a common core in the community. Bridging organizations in particular provide neutral spaces where people with potentially conflicting interests can build trust (VanderPlaat, 1998).

The square symbols in the centre of each diagram in Figure 8 indicate the range of bridging organizations connecting the major factions in each study site.

The most striking feature about these images is that bridging organizations are drawn from a wide spectrum of different factions within each community setting. No study site was so divided that all its civic organizations were captive of one clique or another. We also found that no single community was so vulnerable that it relied on just one or two bridging organizations.

The successive diagrams in Figure 9 visualize the bridging individuals, both male and female, in each of the study sites, again indicating their primary 'factional' affiliation.

We were again impressed that the bridging agents were drawn from a full range of factions in the communities. Men and women were also equally represented in this group.

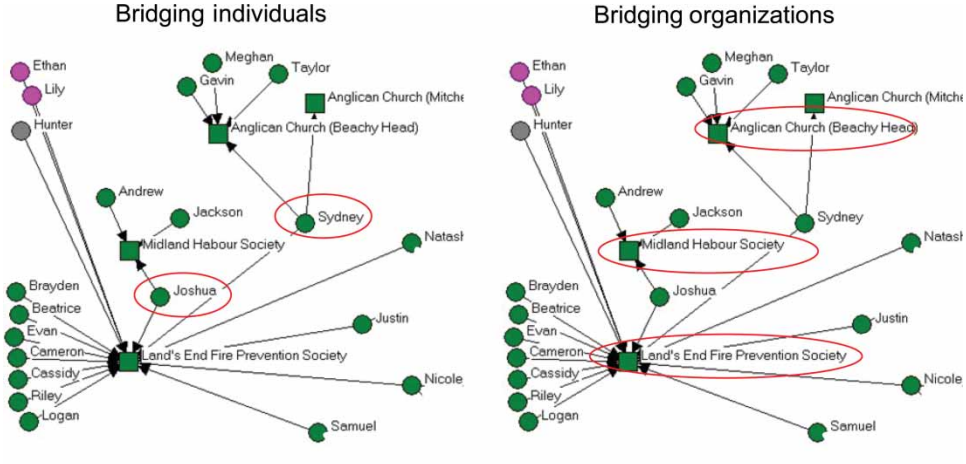


Figure 7. Keystone bridging agents.

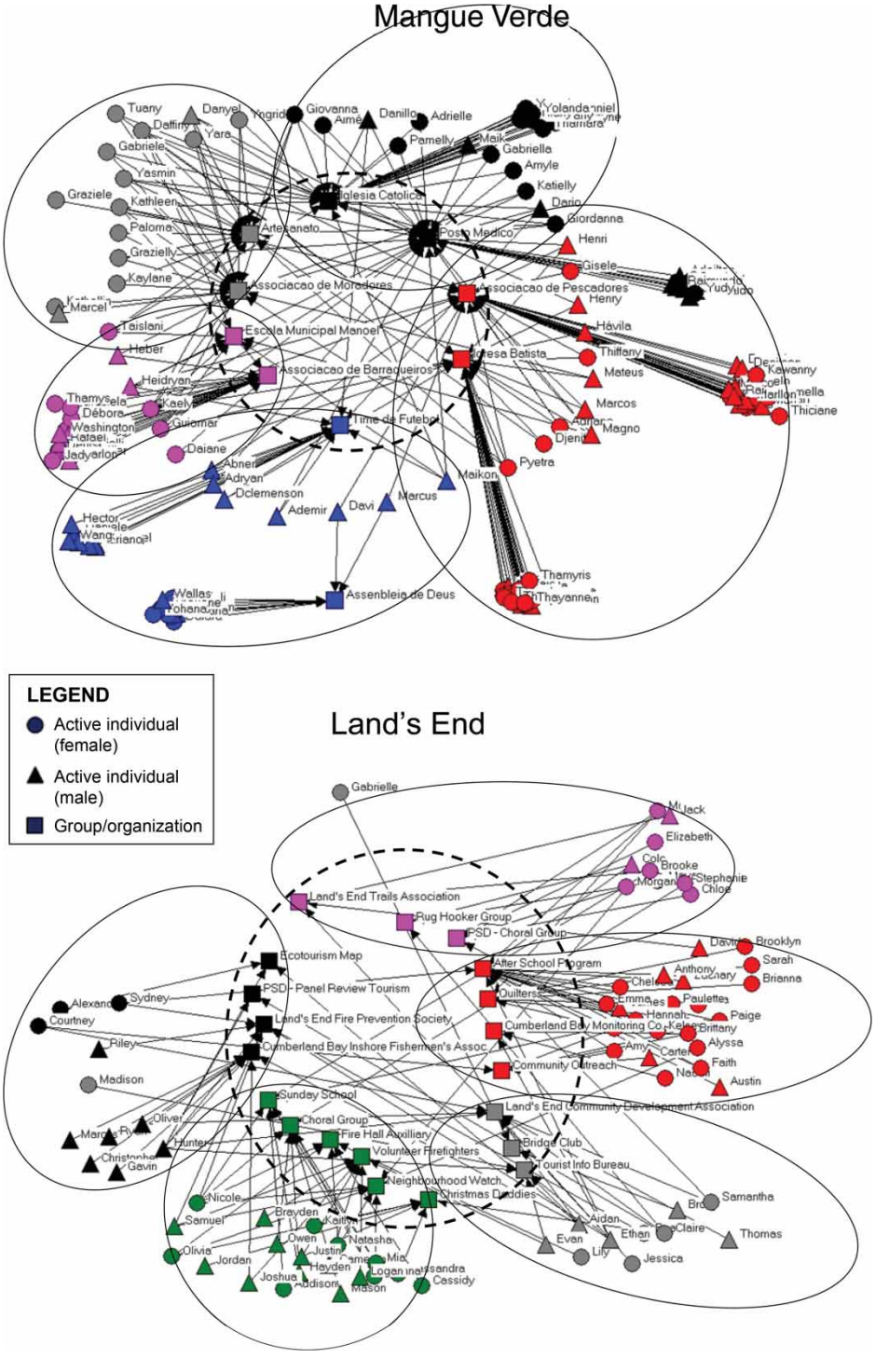


Figure 8. Bridging organizations, community sites.

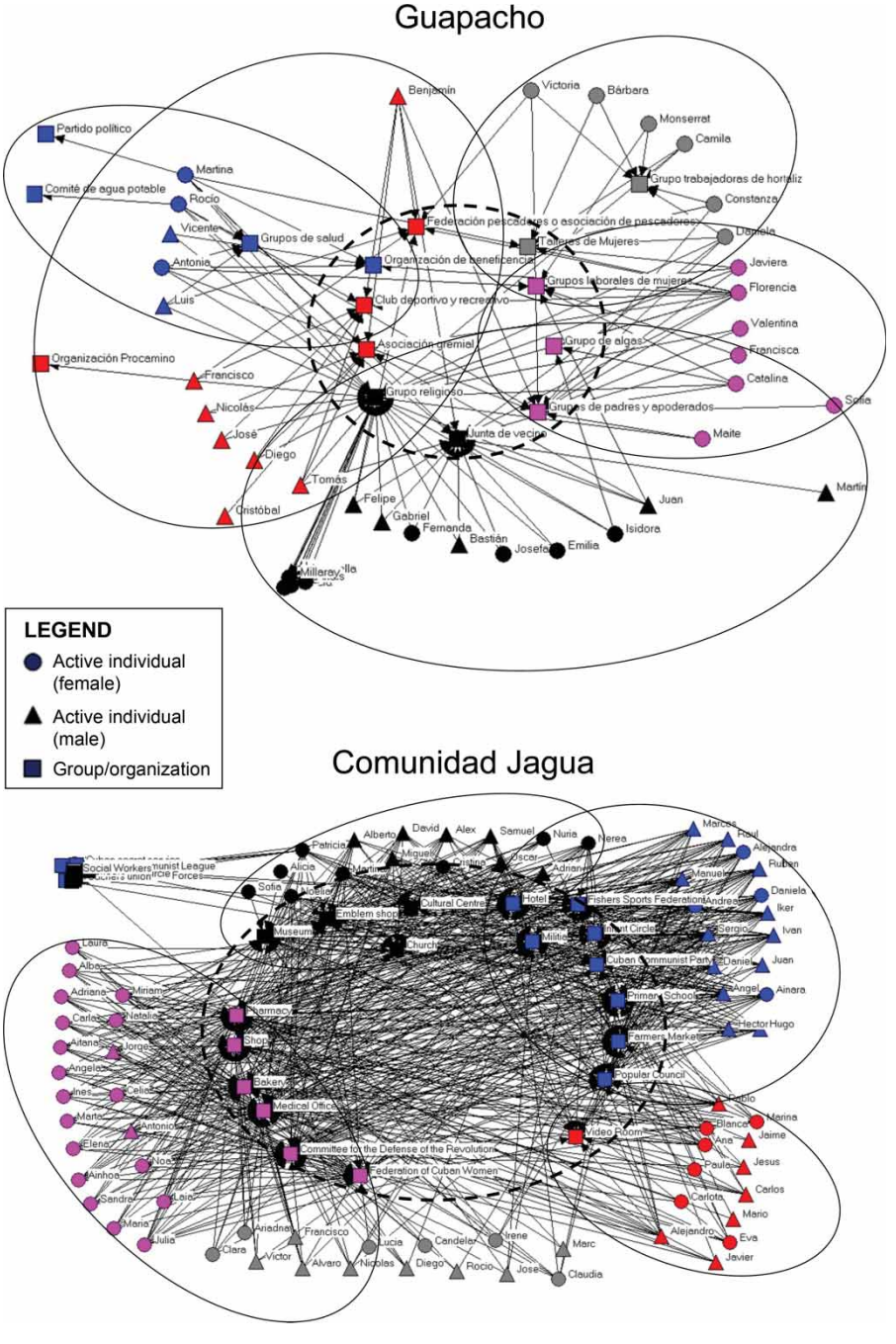


Figure 8. Continued.

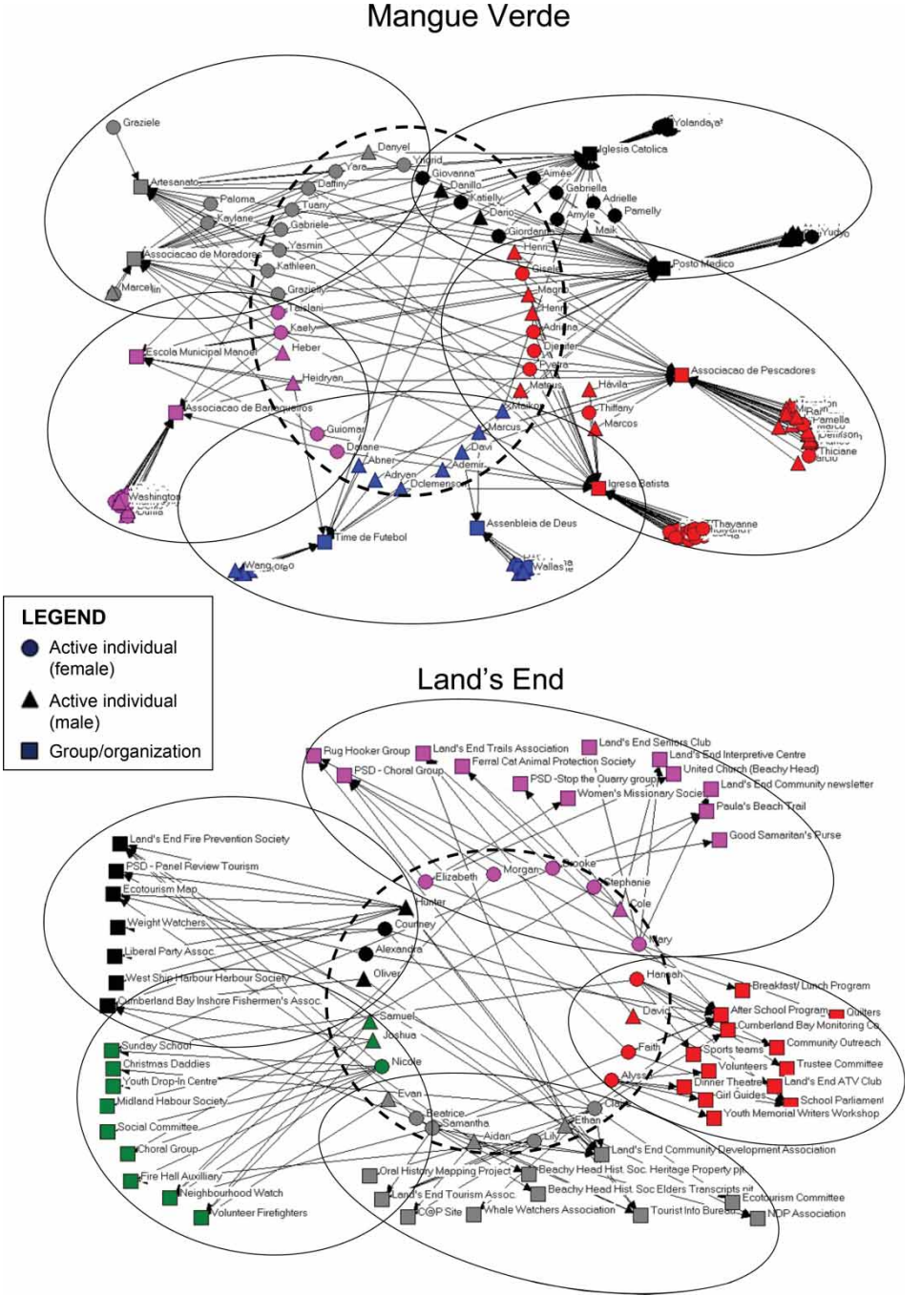


Figure 9. Bridging individuals, community sites.

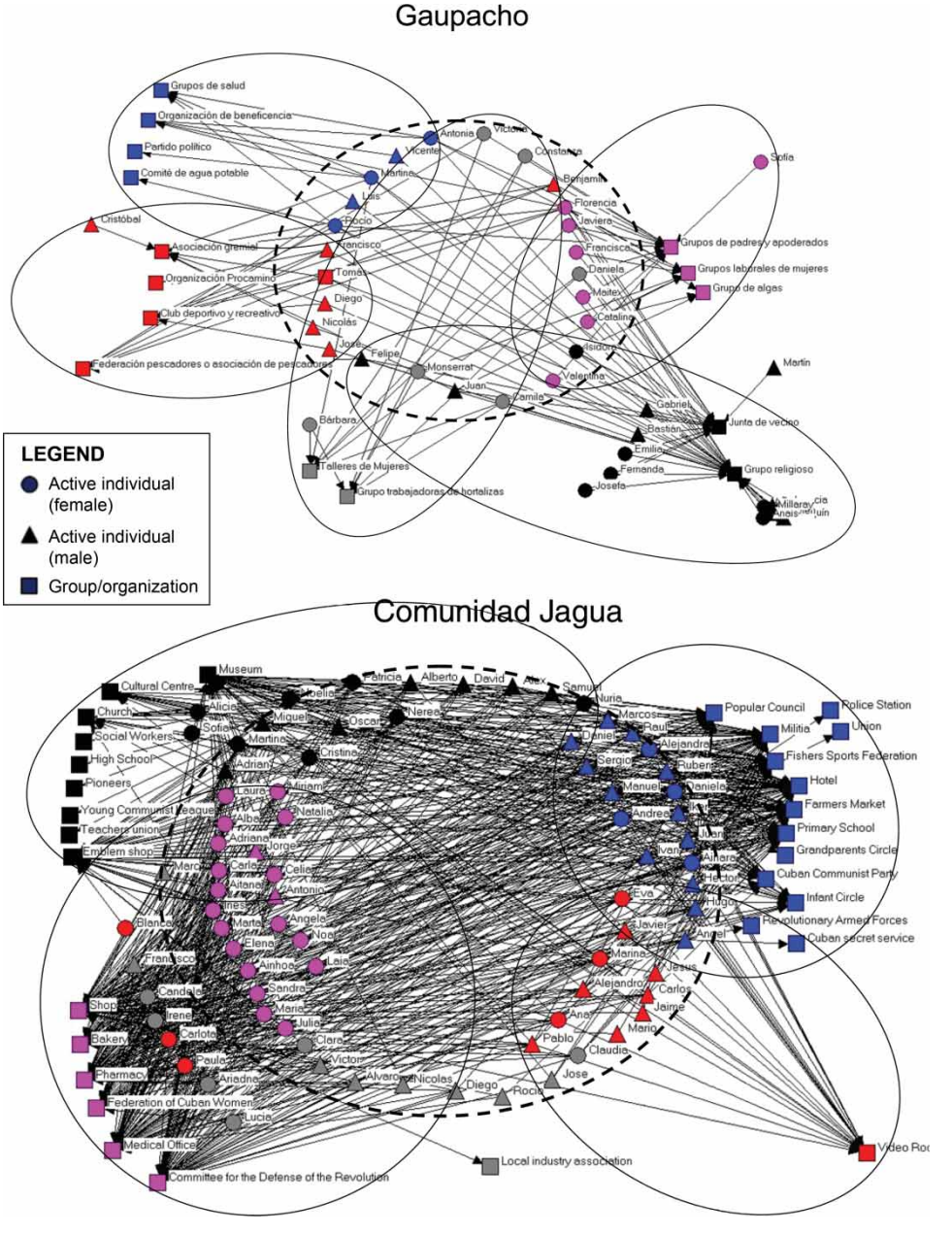


Figure 9. Continued.

In the developing country sites, fishers played a disproportionately larger role as bridging individuals than their overall involvement in the civil social network. This role goes a long way towards neutralizing the exclusivist tendencies of fisher organizations mentioned in the preceding section. Bridging individuals contributed to cohesion in a different way than bridging organizations. Identifying bridging individuals in communities offers the opportunity to uncover the full scope of 'grassroots' leadership in a community: not only those who play a prominent public role, but the unsung individuals who quietly volunteer and work for the good of the community behind the scenes and who gain the respect and trust of others for it.

Conclusion

Our comparative study of four coastal communities reveals the local-level scope and dynamics of civil society in a very graphic form. Notwithstanding an impressive array of groups and organizations in most of our cases, we found that the Brazilian and Canadian communities had serious exclusion issues associated with religious- and interest-based factions. In the Canadian case, this division was aggravated by gender and class biases in civic participation. The Cuban case had extremely high levels of civic participation, but this was concentrated in just two civic settings and belied vulnerability associated with weak organizational diversity. The Chilean case study exhibited the most inclusive range of groups and broad-based participation; however, the marginalization of farmer households from civic participation was a great weakness. In spite of these sources of vulnerability, however, we conclude that each case showed important signs of resilience.

Our study confirms the value of a robust civil society to community resilience. However, this is not synonymous with a cohesive network structure of dense ties and interconnectedness. The social network method facilitates the identification of factions but we have been able to go further and point out some subtleties which show that *communities can be robust and fragmented at the same time*. Strong levels of factionalism were evident in all four communities, but these did not spell either community vulnerability or disintegration. The critical factors for resilience are associated with a benign side of factions (a plurality of inclusive ties) and the presence of keystone bridging agents. Each offers a mechanism for neutralizing the effects of fragmentation by providing a cohesive capability which largely remains latent until the communities face some kind of challenge.

We have been able to document the surprising levels of diversity in the civic networks of even very small communities. To some, our broad conceptualization of civil society may seem trite. How could we compare a knitting circle with a trade union? The answer lies in the way this methodology has uncovered a hidden dimension of community resilience associated with 'non-traditional' civic sites. In this respect, the concept of redundancy takes on new meaning. It is the magnitude of these tiny capillaries which maintain the lifeblood of communities.

The bridging agents we have identified in many cases are not the most prominent leaders in the community. Leaders are not only those who play a prominent public role, but those people who quietly volunteer, who garner wide-ranging respect, and who are instrumental in mobilizing others when needed. This leadership capacity is a catalyst for positive change. Particular organizations may come and go, they may lose their relevance or

their funding, but it is the capacity of trusted and respected individuals in communities that is an intangible well of 'competency' which is vital to a community's strength (Pratt & Wright-Revolledo, 2005).

In understanding the role of social capital in community development, we do not feel sufficient attention has been paid to the subtle micro-dynamics of civil network structure. In community development endeavours, these relationships can make or break projects (Turner, 1999). Top-down initiatives need to take account of what is happening on the ground. They need to have a mechanism for generating baseline data about existing civic networks. Otherwise, as one of our reviewers so aptly put it, 'social capital becomes a blunt instrument'.

Acknowledgements

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Notes

1. In social science, resilience is the term associated with robust and healthy communities. It is '... the ability of a community to not only respond to adversity but in so doing reach a higher level of functioning' (Kulig, 2000, p. 375). Barrett, Read, and Caniggia (2002) see it as a community's capacity to resist or take advantage of the opportunities that modernity presents for change (see also Foster-Fishman *et al.*, 2001; LaBonte & Laverack, 2001). Masten, Best, and Garmezy (1990) see resilience as successful adaptation, positive functioning, or competence. Cottrell (1976) writes about community competence—the processes through which groups, communities, and aggregates work together to identify the problems and needs of the community.
2. Civil society is commonly broken down into informal groups and formal organizations. While the informal groups are seen to draw participation based on affective ties and the pursuit of leisure; formal organizations are fundamentally purposive and goal oriented, and participation is seen to be instrumentalist (Leonard & Onyx, 2003; Ryan *et al.*, 2005). We adopt a commonly held definition that civil society

refers to voluntary involvement in associational life. So as not to be unduly restrictive at the community level, we include public organizations with political and economic as well as social and cultural foci although *not* private businesses (Edwards, 2004).

3. The irony is that such disembeddedness has accelerated personal dissatisfaction and anomie more than ever. The search for authenticity and meaning are seen in the revival of neolocalism. Community is the new antidote for the rootless postmodern soul (Bauman, 2001; Delanty, 2003; Etzioni, 1996; Parnwell, 2007).
4. Flora (1999) argues that reciprocal relations and social bonds among participants are stronger in communities of relative equality.
5. Bridging ties that are external to the community, often differentiated as 'linking ties', have been shown to spark a 'synergistic' side of social capital (Beall, 2001; Grant, 2001).
6. For a variety of methodological reasons, we do not feel the 'strong–weak' dichotomy is particularly helpful in capturing the subtle dynamics of social networks. The precise role that tie strength plays in robustness has been subject to empirical critiques. For example, Gargiulo and Benassi (2000), in their study of entrepreneurial responsiveness, found that external ties were vital for adaptability; however, these ties were not weak but trust based and strong in nature. Weak ties in fact were plagued by poor communications and high transaction costs. In a similar vein, Jack (2005) finds that to the extent that there are weak ties connecting social networks externally, they are derivative of strong linkages such as 'friends of friends'. She goes on to note that internal bridging ties are not necessarily weak either

   They are strong and need to be since trust is more obvious a factor in acceptance among groups that are otherwise suspicious of each other. Granovetter (1985) had argued that strong ties are based on the frequency of interaction and needed to be continually revitalized. In her study, Jack (2005) observes that strong ties do not depend on frequency of interaction to maintain their vitality. Trust that is built up over years of interaction has a lasting quality. Strong ties can be latent and lie dormant to be reactivated during a crisis.

   The 'weak–strong' dichotomy also suffers from operational confusion. A scale based on degree of acquaintantship or depth of knowing is useful but too often is confounded with the issue of friendship. Friendship should be treated separately on an affective scale with intimacy at one end and enmity at the other. For instance it is not uncommon in small communities for individuals to be very well acquainted with each other, often since childhood, but to be bitter enemies at the same time and to avoid contact at every turn. A weak tie based on frequency of interaction may have nothing to do with weak acquaintantship therefore (see Crowe, 2010; Leonard & Onyx, 2003).
7. The strength of tie issue has some complicating features in an organizational context. Clearly organizations cannot exist without individual members. The commitment of an individual to particular groups or organizations is an interesting but difficult question to measure effectively (Hauss, 2003). A frequency of 'attendance' scale can be used to differentiate 'strong and weak' ties. However, used in isolation, it has certain biases. For example, it will fail to distinguish individuals at different stages in their life cycle. Individuals with school age children might have a stronger interest in home-school associations, while those with very young children may have little free time or opportunity to volunteer. A frequency of 'attendance' measure will also not identify those who have more 'free' time for volunteering because they do not have paid employment outside the home; or those who cannot be civically involved without access to transportation to attend meetings or events. Using a subjective indicator is equally complex. Subjective measures about the meaning of groups and organizations to individuals need to distinguish at least three separate dimensions: the affective ties individuals have to groups or other individuals within the groups, ideological commitment, and any instrumental objectives underlying their membership.
8. All names of communities, organizations and active individuals in our studies are pseudonyms.
9. We utilized Uncinet 6 for Windows software, developed by Borgatti, Everett, and Freeman (2002).
10. The *Junta de Vecino* organization in our Chilean site is also a local level 'mass' municipal organization (Barrett *et al.*, 2005).
11. Note that this is a two-mode network diagram of community and group/organization. Community is represented by the • symbol and the ■ symbol is for group/organization. The community variable was derived from residential addresses of the active individuals in our study site sample.

		1	2	3	4	5	6	7	8	9	10	11
1	Associacao de Pescadores	0										
2	Iglesia Catolica	8	0									
3	Assenbleia de Deus	7	7	0								
4	Igresa Crista de Brasil	7	6	4	0							
5	Igresa Batista	8	9	7	7	0						
6	Posto Medico	8	7	7	7	8	0					
7	Escola Municipal Manoel	6	6	4	4	7	5	0				
8	Time de Futebol	7	7	5	5	8	6	4	0			
9	Associacao de Moradores	7	6	6	5	7	6	5	6	0		
10	Associacao de Barraqueiros	7	7	6	5	8	7	5	6	6	0	
11	Artesanato	7	6	5	5	7	6	4	6	3	6	0

12. For instance, in the following matrix for *Mangue Verde* (Brazil), a low value indicates distance and dissimilarity between two organizations while a high value indicates similarity and proximity.
13. Bridging ties are referred to as 'cut-points' in social network analysis. In a factional network the smaller the number of such cut-points the more vulnerable it will be to fragmentation.

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