Defining Geographic Communities

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Abstract

The purpose of this paper is to provide a guide to concepts, ideas, and measurements of geographic communities. The paper investigates the various concepts of geographic communities found in the literature and reviews existing studies to determine how researchers measure geographic communities in practice.

Contents

1   Introduction

The purpose of this paper is to provide a guide to concepts, ideas, and measurements of geographic communities. The paper investigates the various concepts of geographic communities found in the literature and reviews existing studies to determine how researchers measure geographic communities in practice.

The consensus within the literature seems to be that there is no 'all-purpose' definition of community. However, there are two main types of communities: interest communities and geographic communities. Interest communities do not usually have a spatial base but are connected through a common interest. Examples include the sporting community and the academic community. A geographic community is one defined over a geographic space. Some type of social interaction or common tie is usually included in this type of definition as well (Poplin, 1979).

Although community is a word that usually has positive connotations, this is not always the case (e.g. the mafia community). Communities create insiders and outsiders, those who belong and those who do not. Communities often have barriers to entry in place to protect the way of life for the people in the community. In addition to keeping outsiders out, these barriers may keep members in, resulting in loss of opportunities that may be available outside the community (Harington, 1997, p. 29). For example, an ethnic community may have the advantage of giving its members protection from racism and creating a comfortable, known environment. However, it may also inhibit their learning of the host country's language and culture. This in turn may foster racism.

2   Concepts

The common thread seems to be that people within the community have something in common that is not shared with people outside the community. In this paper, we focus on communities that consist of a common location, common ties, social interactions, or interdependencies. However, these are neither necessary nor sufficient conditions for a community.

2.1   Common location

Most communities have a common location. The common location gives the community something in common that is not shared with others outside of the location. This means that places such as towns and cities can be defined as communities with nothing more in common than that they share the same location.

A common location is not essential for a community to exist because members may have something in common other than the location. A community that does have a common location can be called a geographic community.

2.2   Common ties

2.2.1   Experiences

A common experience can bring people together and create a community. Such communities can be seen after unexpected tragedies such as terrorist attacks, natural disasters, and wars. Members of a group who survive such an experience often form bonds with one another due to the shared experience. Another example of shared experiences is that of those who have the same labour or housing market conditions and shocks.

2.2.2   Attitudes, cultures, or beliefs

The way in which community is perceived is likely to depend on a person's attitude, culture, or beliefs. For example, Māori tend to take a more holistic view of community than Europeans do, including extended family relationships in the definition (Harper, 2001; Spellerberg, 2001). In extreme cases, communities may remove themselves from the rest of society in search of their own way of life. Examples of this include enclosed communes and monasteries.

2.2.3   Access to common resources and institutions

Common resources and institutions create communities through the shared use of these facilities. It is a common tie in the sense that people who share resources and institutions will have repeated, and often regular, interactions with each other. Examples include local government areas where there are shared community centres, local amenities, and services.

Individuals may select the area that they live in based on the services offered. Tiebout (1956) suggests that if there were enough communities, individuals would reveal their preferences for public goods through their choice of community. In addition to this, people living in the same community would be homogeneous in terms of public goods and so a local public goods equilibrium may be Pareto-efficient. Atkinson and Stiglitz (1980) discuss various reasons why the above conclusion may be too simplistic. They point to the possibility of myopic consumers and a very limited choice of communities as reasons why an equilibrium may not exist, or may not be Pareto-efficient.

2.3 Social interactions

2.3.1 Bonds

Some writers emphasise the strength of bonds within the community as the defining feature (English and Zimlich, 1997). These bonds may refer to active participation in the community ('community spirit') or they may be something deeper such as members who have grown up together and who have parents who also grew up together. For example, English and Zimlich (1997) interviewed leaders of community-based organisations and several Environment Protection Agency (EPA) staff to get their perspective on community. In general, the community leaders expected a much higher amount of participation from members than the EPA staff expected.

Philo et al (2002) interview people in several Scottish Highland communities. People who can trace back family members who lived in the same area are seen as locals. Incomers are people who were not born in the area. Members often see them as a threat to the bonds held by the community of locals.

Just as some people may live in a location but not feel part of the local community, so too can people feel part of a community in which they no longer reside. They may visit the location during weekends or holidays and the bonds they have mean that they still consider themselves part of the community they have left. Similarly, people may also feel attached to more than one geographic community (for example, the place they grew up in and they place they currently live in).

2.3.2   Virtual communities

Members of communities on the Internet are usually homogeneous in interests and attitudes but heterogeneous in characteristics such as age, ethnicity, and socio-economic status (Wellman and Gulia, 1997). Individuals, who may never have met in person, can communicate with one another and share common interests. Although these would not be classified as geographic communities because members are not from a common location, they are a type of community with common ties and social interaction.

2.4   Interdependence

Interdependence encompasses the sense of belonging and support that members of a community may feel. It is the idea that members are part of a network in which the actions of one member influences other members.

3   What makes a geographic community?

A geographic community can be made up of any combination of the concepts listed above. A necessary condition for a geographic community is that it has a geographic boundary.

3.1   Geographic boundaries

The big unknown is the spatial scope of the location. It is the researcher's job to define the extent of the location. We discuss several different methods for measuring boundaries in Section 4. For the moment, it will suffice to say that the type of measurement used is likely to depend on the research question in mind. For example, a town planner would probably be interested in the physical boundaries of a community such as rivers, hills, or mountains, but a sociologist investigating social interactions may be more interested in an individual's perception of the community boundaries.

3.2   Common ties

Common ties are the second important aspect of a geographic community. As mentioned above common ties can take many different forms such as shared experiences, attitudes, cultures, beliefs, and access to services and resources. The common ties can help a researcher to define the boundaries of a

community. For example, if the local school is an important tie for the community, then school districts may be an appropriate boundary.

The common ties in a community can bring about collective action when the needs of a community are not met. Johnson et al (2003) discuss the potential of communities to fill in the gaps that families, markets, and governments often leave. Hallman (1984) speaks of several services that were started up by the community to meet its needs and were later taken up by the Government. Examples include voluntary fire brigades that were set up before public fire departments were created and the town watchman who provided security before police departments were created.

3.3   Social interactions

Putnam (1995) describes social capital (social interactions) as "features of social life—networks, norms, and trust—that enable participants to act together more effectively to pursue shared objectives". Some authors differentiate between two types of social capital—bonding and bridging. Bonding social capital tends to be inward-looking and focuses on a particular group. Bridging social capital is outward-looking and is generally made up of 'weak' ties that link people in different social spheres (Putnam, 2000). The level of social interaction in a community will vary across communities. Onyx and Bullen (2000) found that bonding capital was greater in rural areas and bridging capital was greater in larger metropolitan areas.

3.4   Interdependencies

An individual cannot hold social capital. Instead, it arises between individuals. As a result, communities are interdependent. The more social capital held in the community, the more interdependent that community is likely to be. English and Zimlich (1997, p. 8) refer to interdependence in a community as a "mutual satisfaction of needs".

Two important aspects of this interdependence, as mentioned above, are trust and norms. Dasgupta (2000, p. 51) defines trust as "correct expectations about the actions of other people that have a bearing on one's own choice of action when that action must be chosen before one can monitor the actions of those others". The cost to a person for helping a neighbour in their time of need is

small relative to the gain to be had from receiving help from the neighbour in the person's time of need. This notion of reciprocity may be specific (I help you; you help me) or general (I help you; someone will help me).

Similar to the idea of trust is that of norms. A norm is something that motivates individuals to forgo self-interest in order to act in the interests of the group. Actions that are considered to be good will be rewarded by the society that adheres to the norm, and actions that are considered to be bad will be punished (Coleman, 1990). Norms have the potential to overcome public good problems through the threat of social exclusion for those who defect.

Galster (2001, p. 2114) looks at interdependence in a slightly different way. He uses the term 'externality space' to explain this concept of community. "A person's externality space was defined as the area over which changes in one or more spatially based attributes initiated by others are perceived as altering the well-being the individual derives from the particular location." Thus, community would encompass all those aspects that influence the desirability of the geographic location.

4 Measuring geographic communities

4.1 Measuring interactions and social capital

Social capital is another way of describing the relationships between members of a community. The more frequent and varied the social interactions are, the more social capital is accumulated.

4.1.1 Social network analysis

Krebs (2004) defines social network analysis (SNA) as "the mapping and measuring of relationships and flows between people, groups, organizations, computers or other information/knowledge processing entities … SNA provides both a visual and a mathematical analysis of human relationships. Management consultants use this methodology with their business clients and call it Organizational Network Analysis".

SNA provides a methodical way of mapping the social interactions between actors. It investigates the levels of information power that actors hold over each other, where some actors are in better positions than others to obtain

and distribute information. The advantage of network analysis is that it provides an overview of the connections actors have with one another. By mapping the social interactions between actors, network analysis does not necessarily focus on a specific location, but can encompass all types of relationships including those found in virtual communities.

4.1.2   Formal interviews

Some researchers use formal interviews to determine the various relationships in the community. These interviews may be done in person or over the telephone. Tilbury (1997) conducts formal interviews of a representative street to determine the relationships and ideals held by the neighbours on this street.

Spellerberg (2001) investigates alternatives to measuring social capital. In particular, the paper looks at what sorts of questions to ask participants in order to gauge the level of social capital present in the community. Areas investigated include measures of giving to strangers, trust and reciprocity, level of vandalism/theft, and participation in voluntary and informal organisations. Spellerberg (2001) also conducts a review of international measures including work from Grootaert (1998) and Narayan and Cassidy (2001).

Much of the literature concludes that since social capital, like community, is very hard to define, it is also very hard to measure (Grootaert, 1998). Harper (2001) notes that some researchers use social trust as a proxy for social capital. The trust embedded in a community is usually measured through asking questions such as "Do you agree that most people can be trusted?". Replies are then aggregated to obtain the total amount of social capital held.

Onyx and Bullen (2000) conduct a study to measure social capital in five different communities. These include two rural, two outer metropolitan, and one inner-city area of Sydney. The communities were selected with the help of the Local Community Services Association. The authors identify eight specific factors that influence social capital. They found that although measures of closeness were much stronger in the rural communities, tolerance of diversity was much lower. It seems that there may be a negative relationship between the two measures of social capital. This led the authors to differentiate between bonding

social capital (close bonds between members) and bridging social capital (distant contacts).

4.1.3   Participant observation

Another method uses informal discussions with members of the community and is known as participant observation. The researcher attempts to become a participant in the community in order to get an inside perspective. LeMasters (1975) uses participant-observant research to investigate the lifestyle and attitudes of 'blue-collar aristocrats' (as he names those blue-collar workers on the upper end of the income scale) in a small town in the United States. He conducts a 5-year tavern study in which he socialises with those people who visit the particular tavern.

4.2   Geographic boundaries

"Definitions of community should be grounded in locally meaningful realities. Ideally the unit chosen should be one that also controls some significant resources (human or financial). Acknowledge that any definition involves trade-offs: e.g. sacrifice of local specificity for greater statistical reliability" (Murphey, 1999, p. 77).

In this particular study by Murphey (1999), the school districts were chosen as community boundaries. The reason for this was that the sample was made up of multiple small rural towns. Each school would usually cater for several towns. Thus, the school linked the communities together through the children, and taxes from each of the towns went to 'their' school.

Many studies use geographic boundaries that are defined by the local governments (e.g. towns, suburbs, or cities) or by the data (e.g. census boundaries).[1] See Diez-Roux et al (1999), Onyx and Bullen (2000), Haney and Shkaratan (2003), and Rao and Ibanez (2003).

When defining boundaries for an area, care must be taken. A potential spatial problem that may occur is known as the modifiable areal unit problem (MAUP). The problem is that the spatial units designated are often arbitrary with

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[1] A useful resource for researchers of New Zealand wanting some ideas about what sorts of boundaries to use is Kelly and Marshall (1996). Examples of boundaries displayed in the book include regional, district, and city council boundaries; and the boundaries for agriculture and fisheries groups; transport and communications groups; and religion, learning, and sport groups.

respect to the data collected. Different boundaries could result in different data results. The problem has two parts. The spatial issue occurs with the random aggregation of smaller units and the modifiable area issue occurs with the random definition of boundaries. Both issues are a problem if taking a different approach produces different results. An example of this is that in the 2000 US election, a slightly different set of boundaries for states would have produced a different election winner (Wu, 2004).

There does not seem to be any tried and true method for dealing with the MAUP. Studies seem to ignore it, note its presence and then ignore it, or try different boundaries to gauge the extent of the problem. However, there does not appear to be a solution to it (Openshaw and Taylor, 1981).

Geographic Information Systems (GIS) is a useful tool in determining information about an area when conducting spatial studies. This tool consists of computer software, hardware, and data, and allows the user to view an interactive map displaying the data required by the user.[2] Kerr and Timmins (2000) test some empirical hypotheses in New Zealand regions using GIS. It is shown to be a useful tool in visually displaying data of interest.

Duque et al (2004) differentiate between normative and analytical boundaries for communities. Normative boundaries are those put in place for administrative reasons, such as towns or cities. Analytical boundaries are aggregated territorial units designed by the researcher and are determined by the research topic at hand. The authors make use of the two different methods to determine which is more homogeneous and stable over time. As both methods involve a degree of aggregation, they are both potentially subject to the MAUP.

Duque et al (2004) use two normative methods and two analytical methods to assess geographic variation in Spanish unemployment rates. The normative methods use provincial aggregation and regional aggregation (NUTS I and NUTS II).[3] Of the analytical methods, one is a two-stage procedure based on cluster analysis and the other is based on mathematical programming. The authors

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[2] For an informative slideshow about GIS go to http://www.gis.com/whatisgis/whatisgis.pdf.
[3] NUTS is a common classification of territorial units for statistics developed by Eurostat. NUTS I contains geographic areas with populations of 3–7million, NUTS II has geographic areas with populations of 800 000 to 3 million and NUTS III has geographic areas with populations of 150 000–180 000.

decompose Theil's inequality index (Theil (1967)) into two components—within-groups inequality and between-groups inequality. They found that the analytical methods were more homogeneous than the normative and more stable over time.

4.2.1   Distance-based approach

Some studies take a distance-based approach focusing on a designated distance or time of travel. The advantage of this measure is that it allows a focus on a specific resource or location. Ward (2002) considers the time it takes to travel to essential institutions such as an accountant or dentist when examining what feelings of community citizens of a small town may have towards a larger sub-region or district.

English and Zimlich (1997) conduct several case studies in the United States, one of which uses the distance approach. The Second Creek project was the first step towards a long-term plan aimed at improving the quality of waterways in Knoxville, Tennessee. The project defined the community of interest to be the houses, businesses, and institutions within a seven square mile seven-mile area around the creek. The definition was not ideal because, although it had a geographic boundary and a common tie (the creek), it lacked the social interactions necessary for the community to communicate and act in the interests of the community rather than the individual.

Another type of distance-based approach is used in the labour market literature. When investigating local labour markets (to determine local unemployment rates, for example) it is desirable to have a boundary that maximises the number of residents and workers within the area and minimises the number of commuters between areas. In this way it may be possible to view not only the unemployment rate in an area but also the amount of competition for jobs taking place.

The areas developed are commonly referred to as labour market areas (LMAs) or travel-to-work areas (TTWAs). Different methods that are used to determine the boundaries for these include the time taken to travel to work, the costs of travelling to work, and a measure of job proximity such as a radius around some focal point, or a commuting decay function (Watts, 2002).

4.2.2   Local government

Some studies are interested in viewing the community as a collection of community groups headed by some type of local government. Studies of this sort may conduct interviews of the local government and the main community groups in the area. A warning for those conducting such a study is that the local government and community groups may be biased towards a certain type of community member. Other community members may be under-represented in such groups and so the study may not capture information representative of all members of the geographic community.

An example of such a study is that done by the New Zealand Department of Internal Affairs (1996) to review the Local Government Act 1974. They mailed survey questionnaires to all 48 territorial authorities in New Zealand that have community boards—94% replied. Another survey was sent to the parent (regional) councils and 83% replied. From this the study claims, "The results of the survey indicate no reason to change the legislation" (p. 3).

4.2.3   Trade-offs

When selecting boundaries for a geographic community, the goal is usually to maximise the interactions of interest that occur within a community and to minimise those that occur between communities. However, there is often a trade-off when determining the size of a community. If it is too small, then there may be many interactions occurring between communities that are missed due to the focus on the narrowly defined community. On the other hand, if it is too large then much of the detail may be lost.

For example, an analysis of a neighbourhood using city data may mean information on rural areas is aggregated with information from the closest city. If this is the case, information about rural communities that may be of interest will be lost amongst information on cities. However, if a community is defined on a small level such as a block of houses, the impact of interactions between blocks may be lost in the narrow focus.

5 Quantitative studies of geographic communities

This section investigates how researchers define geographic boundaries in quantitative studies of geographic communities. It focuses on studies that examine labour markets and neighbourhood effects.

5.1 Labour markets

A labour market is a community that contains jobs and workers. The way in which this boundary is defined varies in the literature. Some labour market studies use administrative boundaries, while others create functional boundaries. The basic challenge when defining a functional labour market boundary is to limit the number of workers who commute between the boundaries.

Examples of administrative boundaries used in the literature include Topel (1986) and Blanchard and Katz (1992). Topel (1986) uses census data from 1965–1980 in his investigation into local labour market performance. Because of data constraints, states and census-defined regions are used to define local labour markets. Similarly, Blanchard and Katz (1992) use state-level data obtained from the US Bureau of Labor Statistics in their comparison of regional slumps and booms.

Britain's Department of Employment uses TTWAs as a functional form of local unemployment statistics. These areas are computed with an algorithm that used a multi-stage aggregation process. The basic criteria are that at least 75% of residents work in the area and that 75% of those who work in the area also live there.[4] There is an auxiliary 'minimum population' parameter, which can be set to reduce the number of areas with populations below a population threshold, by inducing greater aggregation. The algorithm was originally developed by Coombes et al (1986).[5]

Casado-Diaz (2000) computes local LMAs for Spain using the same method as used in Britain for TTWAs. However, missing data meant LMAs could not be calculated for the whole country. Instead, the author uses only the region of Valencia. Similarly, Papps and Newell (2002) compute LMAs for New Zealand

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[4] See the UK National Statistics website: http://www.statistics.gov.uk/geography/ttwa.asp.
[5] For a description of the previous method, refer to Smart (1974). For a discussion of problems that arose with the previous method, refer to Ball (1980) and Coombes and Openshaw (1982).

using 1991 census data. Unlike the British data in which the unemployed are assumed to have the same characteristics as the employed, New Zealand and Spanish data contain information only for those employed. Thus, both papers multiply the minimum population figure by the proportion of labour force participants who were employed.

Watts (2002) uses Australian journey-to-work census data for 2001 to determine job proximity for statistical local areas in the Greater Sydney metropolitan area. Job proximity is based on the total number of available jobs and the total number of job seekers. These are then viewed in terms of the time taken to travel to a job, where job seekers located closer to the job are assumed to be more likely to find employment, all other things held equal.

5.2   Immigration

It is important for quantitative studies of immigration to identify neighbourhood boundaries in order to show those emigrating from one neighbourhood to another. Card (2001) considers each metropolitan statistical area as an independent labour market. Individually identified cities are also treated as independent labour markets. He restricts the sample to the largest 175 cities to get large enough sample sizes. The Miami standard metropolitan statistical area (SMSA) is used by Card (1990) to measure the effects of the immigration caused by the Mariel boatlift. Card and DiNardo (2000) choose to use metropolitan statistical areas, as they are smaller than a state-level approach and so allow for more variability in the data.

Borjas (1995) uses data from the 1/100 Neighborhood File of the 1970 US Census. Individuals are grouped into neighbourhoods of about the same size as census tracts. These predefined neighbourhoods are used by Borjas in his study into the clustering of immigrants.

Cutler and Glaeser (1997) look at the level of segregation in American cities from 1890 to 1990. Between 1890 and 1940, they used wards to represent neighbourhoods. From 1940 onwards, they used census tracts instead. It is hard to compare the two measures, as wards were larger and therefore they were more variable in terms of population and area than census tracts. A correction factor is

used based on how different segregation was from the mean level of segregation in 1940.

5.3   Neighbourhood effects

The idea behind the study of neighbourhood effects is that a person's situation in life depends not just on factors such as family and schooling but also on the quality of neighbourhood. Researchers face many challenges when trying to test whether such neighbourhood effects exist and, if so, the magnitude of the effects. One such challenge is to define the geographic boundaries of the neighbourhood in question.

The United States Moving to Opportunity (MTO) Project is of interest in the study of neighbourhood effects. Eligible participants in this project were those who had children and resided in public housing or project-based federal-voucher-assisted housing in census tracts with a 1990 poverty rate of 40% or more (Kling et al, 2004). The project was run by the US Department of Housing and Urban Development (HUD). It took place in five different US cities (Boston, Los Angeles, New York City, Chicago, and Baltimore) and was launched between 1994 and 1999 (Briggs and Jacobs, 2002). The neighbourhood groups were specified using census tracts.

Participants in the project were randomly assigned to one of three groups: the control group (for whom nothing changed), the Section 8 group (who were offered rent vouchers to move to any area they wanted), and the experimental group (who were offered rent vouchers and counselling support to move to an area with less than 10% poverty).

The project seeks to answer two main questions. The first is "What are the impacts of mobility counselling on a family's location (neighbourhood) decisions and on their housing and neighbourhood choices?" The second is "What are the impacts of neighbourhood conditions on the employment, income, education, and social well-being of MTO families?" (Briggs and Jacobs, 2002). The ways in which the neighbourhoods are defined within this project are often brushed over. However, they appear to use normative boundaries.

Other studies of neighbourhood effects use different types of definitions. Crane (1991) uses predefined geographic regions the size of census

tracts, as this is how the data were originally collected. Aaronson (1998) studies how neighbourhood effects influence educational outcomes for children. He uses census tracts or block numbering areas where possible. Where data are not available for these areas, he uses enumeration districts and five-digit zip codes. Similarly, Datcher (1982) uses zip codes to create geographic boundaries in her study of neighbourhood effects on education attainment.

Weinberg et al (2000) investigate whether neighbourhood socioeconomic characteristics and proximity to work influence labour market behaviour. They use the National Longitudinal Survey of Youth (NLSY79) as their data set and match the data to the latitude, longitude, and 1990 census tract in which respondents resided at the time of the interview. Census tracts are used to measure neighbourhood data and jobs are matched to zip codes.

Some researchers use a multi-level approach. Duncan et al (1999) use individual level data, wards, and constituencies to measure area effects of smoking and deprivation in Britain. Overman (2002) looks at neighbourhood effects on dropout rates in Australia at two spatial scales. He examines the influence of the characteristics of broadly defined neighbourhoods, defined by postcodes, and within them, the influence of smaller neighbourhoods, defined by census districts.

5.4 Evaluating the measures used

Within the United States literature, census tracts and zip codes are the most common forms of neighbourhood measurement. The advantage of using these measures is that they match the data. Census information is collected in tracts to maintain the privacy of individual details, but census tracts are thought to be small enough to allow for small variations (approximately 4000 people are in a census tract). In addition to this, zip codes provide "finer indicators of local characteristics than city, county, or state measures" (Datcher, 1982, p. 35).

A disadvantage of using census tracts and zip codes is that they do not represent a neighbourhood in any social sense. This means that neighbourhoods that cross census tract boundaries are considered two different neighbourhoods when it comes to data analysis. Although a census tract neighbourhood will have a geographic boundary and is likely to have common resources, social networks

within tracts are likely to vary. Thus, it would be preferable to have a boundary that was also based on demographic and socio-economic data (Crane, 1991).

For those evaluating the impacts of immigration on non-immigrants, census tracts are appropriate only if immigration flows are uncorrelated with economic conditions in an area, and if non-immigrants do not alter decisions about location or capital investment in response to immigration. However, if the effects of immigration not only impact on the areas that contain migrants but also flow on to the rest of the country then it may be preferable to look at countrywide effects.

Winters et al (2001) use the Mexican household's *ejido* (town) and the three to five *ejidos* surrounding it to represent the community of the household. The purpose of this is to evaluate the effectiveness of community networks compared to family networks. This would have the advantage of representing the interdependence that the *ejidos* are likely to experience with their neighbours. However, it may create complications in having overlapping communities.

6 Geographic communities in New Zealand

6.1 New Zealand research

Sankar and Wong (2003) review the Community Economic Development Action Research (CEDAR) project. Their paper goes over some of the issues faced by communities attempting economic development. They use the term 'community' in the context of 'communities of interest', and focus on the operation of specific community initiatives in promoting community development. Three communities are looked at in the project—Twizel, Ngati Kahungunu Iwi Incorporated (NKII) in Hastings, and the Pasifika community in Christchurch. The Twizel community is geographically defined, whereas the other two communities are defined by a combination of culture and location. A major factor found in the review is the challenge for communities to assist social development while remaining economically viable.

Ward (2002) investigates communities of interest in the Otorohanga and Waitomo Districts. The analysis is done through "research at the University of Waikato, travel and observation throughout the study area, analysis of land area, statistic information on public record, and interviews with key informants in the

area" (p. 1). Ward defines a community of interest as being "the area to which one feels a sense of belonging and to which one looks for social, service and economic support" (Ward, 2002, p. 3). The study specifically looks into major geographic boundaries and the history behind the boundaries, land use and population, transport and services, place of work, schooling, sports, tourism, and sense of place. These aspects all influence the sense of community residents of an area may feel.

Another set of geographic boundaries that Ward (2002) considers is Telecom local phone areas. The areas in which telephone calls are free are likely to be where a resident goes for local services such as a chemist or accountant. If two different places are the same driving distance, then whether or not there is a toll on a call placed is may make a difference to where people choose to go.

Taylor et al (2001) investigate the formation and change of rural resource communities in New Zealand. They define resource communities as geographically defined areas that "depend on primary production or processing of natural resources" (p. 2). Census data from 1986 and 1996 are used and communities are chosen from those defined in the 1996 census as minor urban, rural centre, and rural area, based on population size. Those with a high concentration of employment within agriculture, forestry, mining, energy, fishing, or tourism were then selected for further investigation.

In their research into land use and community in the Southland region, Houghton et al (1996) display statistics for three centres in Southland District: Tuatapere, Otautau, and Winton. Thus, their definition of community primarily uses administrative boundaries. Tuatapere, Otautau, and Winton were chosen as they have all been affected by many of the land-use changes that occurred between 1971 and 1991. Fitzgerald et al (2002) also use administrative boundaries in their study into the effects resource restructuring has on communities. Nineteen case studies have been conducted as part of research into the nature of work in resource-dependent communities. The authors review the results for three occupational industries: mining, dairy production and processing, and tourism.

A lot of New Zealand research takes a regional perspective when including geography in a paper. A Treasury paper prepared by Claridge (2001)

looks at regional differences in economic and social indicators across New Zealand.

Maré and Choy (2001) review the effect of migration on regional labour market adjustment. Choy et al (2002) also use a regional perspective to look at how labour markets adjust to shocks in different areas in New Zealand. Kerr and Timmins (2000) use regional data to look into economic geography and spatial statistics in New Zealand. In addition to the regional data, they also use 'territorial authorities', 'area units', and 'meshblocks' as collected in the census.

A Cabinet Policy Committee Paper (New Zealand Government, 1994) summarises ways local governments can help communities in accordance with the Local Government Act 2002 (LGA). The community outcomes processes involve identifying interested parties, securing the agreement of these parties, gathering information, and identifying community outcomes. The goal of the LGA seems to be to encourage local governments to develop effective communication with the members of the local community. This is to be achieved using transparent goals and support from the Department of Internal Affairs.

6.2   The Local Government Act 2002

The Local Government Act 2002 defines communities as ones that have been constituted under Schedule 6, which outlines the rules for creating a community. These include naming it, setting identifiable boundaries that match up with the statistical meshblocks used by Statistics New Zealand, and fixing a date for the election of members for a community board. A community must be within one district only and must not be in the same space as a current community.[6]

With the Local Government Amendment No. 3 Act 1988, the Local Government Commission created regions with elected regional councils. These regions were formed under the concept of communities of interest. Thus, rural towns and cities, and the rural areas they service, are all governed by the same council.

Regional councils defined by communities of interest bring about the same trade-off discussed above. While they have the advantage of being large

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[6] See http://www.legislation.govt.nz/browse_vw.asp?content-set=pal_statutes for more information.

enough to include rural towns and areas together in their common interests, disadvantages may include a lesser focus on the needs and interests of smaller groups. Community boards were introduced to reduce these disadvantages (Britton et al, 1992).

7   Conclusion

Community is a word commonly used in the English language. The meaning of the word varies depending on the person using it and the circumstances in which it is being used. Community tends to mean different things to different people. For some it is simply a group of people; for others it is an area of residence; and for still others the meaning of community may be much more personal. We have developed four important concepts in this paper to assist in understanding the different ideas surrounding community. Each of these concepts—common locations, common ties, social interactions, and interdependencies—helps to identify some form of community in which individuals come together.

Within the literature about communities, a range of methods is used to define a community. Within New Zealand, definitions include administrative (normative) methods such as those that use regions and territorial local authorities, and functional (analytical) methods such as those that use labour market areas. While none of the definitions used by empirical studies capture all the aspects of a community, each provides a practical means to both analyse communities and limit excluded components. Thus, these definitions provide an acceptable means of analysing community dynamics even if they do not capture them perfectly.

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