


Cultures of Caste and Rural Development in the Social Network of a South Indian Village

SAGE Open
July-September 2015: 1–14
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DOI: 10.1177/2158244015598813
sgo.sagepub.com


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Abstract

Cultures of caste in much of rural India have become entangled with institutions of rural development. In community-driven development, emphasis on “local resource persons” and “community spokespersons” has created new opportunities for brokerage and patronage within some villages, which interact with existing forms of authority and community afforded by caste identity and intra-caste headmanship. In this article, we study how these entangled cultures of caste and development translate into social network structures using data on friendship ties from a south Indian village. We find that although caste continues to be important in shaping community structures and leadership in the village’s network, its influence varies across different communities. This fluidity of caste’s influence on community network structures is argued to be the result of multiple distinct yet partially overlapping cultural-political forces, which include sharedness afforded by caste identity and new forms of difference and inequality effected through rural development.

Keywords

culture, network structure, homophily, rural development, community development, patronage, development brokerage, India

Introduction

In recent years, there has been considerable theoretical and empirical interest in the relationship of social networks to culture (see, for example, Emirbayer & Goodwin, 1994; Vaisey & Lizardo, 2010; for reviews, see Fuhse, 2009, and Mische, 2011). These studies have viewed culture as normative commitments to identities or worldviews and shared expectations. Culture is also considered to be distinct and relatively autonomous from social network structure that is defined as “influential and persistent sets of interrelationships among actors” (Spillman, 1995, p. 132, quoted in Vaisey & Lizardo, 2010). In the present article, we study the influence of culture on network structure by focusing on how the entangled worlds of caste, tribe, and development shape social network structures in a south Indian village.

In this article, we conceptualize culture not only as a constellation of idioms derived from abstract value systems or disembodied social norms, but also as the negotiation of these idioms in everyday life. Thus, culture (as values or norms) is enacted variably and fluidly in everyday practice of individuals and collectives. By being enacted in everyday practice, it becomes dynamic, material, and embodied. And, it is by becoming material and embodied, by being practised, that culture shapes the composition and structure of social

networks and forms the basis for the meanings (the nature of trust, respect, friendship, love, etc.) that people attach to ties and transactions in a network (Fuhse, 2009). Therefore, networks are “infused with—and help to shape—the norms and expectations that define a local culture” (Hanson & Blake, 2009, p. 146).

Much network analytic work and related studies on social and institutional proximity have tended to view the “cultural” predominantly in terms of a “sense of belonging,” arising out of shared commitments and expectations (see, for example, Boschma, 2005; Maenning & Ölschläger, 2010; Vaisey & Lizardo, 2010). Such a view tends to take politics out of cultures by omitting central elements such as dissensus, exclusion, and domination. Thus, although cultural “sharedness” may be important, it is limited by (a) the lack of acceptance of dominant norms and worldviews by “marginalized” or “peripheral” groups of people; (b) overlapping and

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multiple identities held by people, only some of which may be shared with others linked in dyads, triads, or larger components in a network; and (c) relations of unequal power persisting “between different ‘speakers’ within the same cultural circuit” (Hall, 1997, p. 11). Adopting this multifaceted understanding of culture, we argue that network composition and structures (shaped by cultural patterns) are better viewed as expressions of sharedness *and* difference. People may routinely form close social ties with others who share a normative commitment to a cultural identity or worldview, but such expressions of homophily may be accompanied by heterogeneity in terms of adherence to other identities and worldviews, as well as exclusion of those belonging to “inferior” identities.

The specific cultural idioms under our purview are those related to caste (community, hierarchy, leadership) and their entanglement with the culture of community-driven rural development (brokerage, patronage, constituency) in a south Indian village. Caste provides a particularly illustrative case of a cultural institution where sharedness and disparity (as domination and inequality) co-exist with each other in a state of perpetual tension (Dumont, 1980). It is a “live force in modern Indian culture and politics” (Satyanarayana, 2014, p. 48), which exercises a powerful cultural influence on the Indian politico-economic order (Deshpande, 2001; Fuller, 1996a; Micheluti, 2007). Three interrelated facets of caste are considered central: It is a maker of (single caste) communities, of inter-caste dominance and hierarchy laid down at birth, and of leadership within intra-caste communities in the form of the caste headman. All three of these facets of caste, by infusing everyday practice, influence the shaping of social networks.

Unlike castes, India’s indigenous tribes (*Adivasi*) have been argued to inhabit a non-stratified social order (Sarkar & Dasgupta, 2007). Yet, like castes, tribal affiliation affords community, identity, and leadership provided by (tribe) headmen. This community and Adivasi identity is cemented by the government category of Scheduled Tribe (ST), which is used as the basis of reservations for jobs and places in (educational) institutions. Similar reservations are targeted at the *Dalits* (or Scheduled Castes). Both Dalit and Adivasi groups have historically suffered discrimination and exploitation at the hands of the upper castes (Mies, 1976; Steur, 2014). And at many levels, Adivasis have been drawn into the caste system, “becoming a part of the caste-based division of labour” and “most usually at the bottom of the social ladder” (Agrawal, 2004, p. 225; see also von Fürer-Haimendorf, 1982). This is particularly true in villages where Adivasis reside alongside other castes. For this reason, in the remainder of this article, we will treat the tribal groups inhabiting the village under study in the same way as caste groups, while remaining cognizant of the potentially problematic nature of such a treatment (see Baviskar, 2005, for an illustrative example).

Now this culture of castes (and tribes) in rural India is entangled with the world of rural development. For example,

the entry of community development institutions with their emphasis on “local resource persons” and “community spokespersons” has created new opportunities for brokerage and patronage within villages, which intersect with the three facets of caste discussed above. Our main objective in this article therefore is to examine *how entangled cultures of caste and rural development get translated into community network structure at the village level*. We enact this in two steps. First, using data on the social network of a multi-caste village in Andhra Pradesh (AP), we examine the caste composition of close-knit communities or clusters in the village’s network and ask to what extent development institutions mediate the relationship between caste identities and the networked communities observed. To delineate the clusters, we use numerical methods for identifying community structure in networks developed by Newman (2006). Second, based on qualitative information collected in the village, we analyze how leaders of each cluster are able to act as local patrons, deriving their authority and legitimacy from caste headmanship as well as development brokerage and patronage. Through this study of the influence of caste identity, intra-caste leadership, and development patronage on people’s friendship networks in the village, our aim is to explain the cultural underpinnings of emergent social network structures. We find that development-induced brokerage and patronage, while often aligning with the three facets of caste (community, hierarchy, and leadership), have transformed caste’s influence on intra-caste and inter-caste ties, as well as reconstituted caste-based leadership.

The article is structured as follows. In the section “Political Cultures of Caste and Development in South India,” we briefly discuss the literature on post-colonial politics of caste at the village level in south India, which may foster caste-based collective identity and community ties. In section “The Village and Its Social Network,” we introduce the social economy of the village under study and outline its caste composition. In section “Results and Discussion,” the results are presented and discussed, and a final section draws some conclusions.

Political Cultures of Caste and Development in South India

Recent scholarship on caste has attempted to unpack the relationship between two primary facets of caste—hierarchy and community. Under the ethnicization that castes (and tribes) have witnessed in India since the late 1980s (Natarajan, 2011; Reddy, 2005), castes as “ethnic groups don’t just experience the world in terms of ‘we-them relations,’ but play a role in producing them” (Reddy, 2005, p. 554). Indeed, in the 1990s, individual castes increasingly portrayed themselves as ethnic groups, claiming to possess a distinctive culture and “way of life” (Fuller, 1996b). This ethnicization is argued to have produced a weakening of the hierarchical aspects of the caste system, reducing it to a horizontal array of consolidated

castes (Fuller, 1996b), leading some to claim that the caste *system* has collapsed, only “a plethora of assertive caste identities” remain (Gupta, 2004, p. x).

Furthermore, studies have highlighted the continued emancipation of the so-called “lower” castes in south India, which has brought about either a conscious rejection of dominant Hindu norms and worldviews and/or a strategic mobilization of alternate “traditions” that do not have their roots in mainstream Hinduism (see, for example, Ilaiah, 1996; Karanth, 2004; Still, 2009). Going against Moffat’s (1979) classic argument that lower caste groups accept their subordination because they share the “value system of the upper castes” and replicate it among themselves (Still, 2009, p. 10), the new understanding of caste brings relations of power, difference, and subversion of dominant value systems to the center. And perhaps to counter the widespread challenging (and purported weakening) of the caste system’s hierarchical order, Hindu nationalist parties such as the Bharatiya Janata Party (BJP) and Shiv Sena have supported the reinstatement of caste system’s hierarchical order since the 1980s (Mines, 2005, pp. 201–208).

These wider (national, regional) political processes of caste consolidation and supposed weakening of inter-caste hierarchy influence caste cultures at the village level. People in villages selectively use their awareness of, and ties to, national and regional political (and/or religious) movements in their local struggles for greater recognition and dignity (Mines, 2002; Somjee, 1973). This is evident in recent struggles for equality waged by Dalits in south Indian villages (see Arun, 2007; Mines, 2002; Still, 2009; Vincentnathan, 1996), often led by a new generation of young educated Dalits rebelling against past atrocities committed by the “upper” castes (Satyanarayana, 2014).¹ In fact, many new Dalit (and other “lower” caste) leaders in south Indian rural and urban areas have attempted to reframe caste as an empowering identity, a source of pride, solidarity, and self-respect (Satyanarayana, 2014). In response, the upper castes have staged their own “assertions of identity” (Owens, 2000, p. 704), by appropriating national and regional political developments such as the rise of the BJP with its upper caste leadership and by directly competing (as a caste group) with the lower castes for appropriating local and non-local resources (Mendelsohn, 1993; Mines, 2005; Rao & Sanyal, 2010). These different assertions of cultural (caste) identity at the village level may reinforce caste-based community ties among lower and upper castes.

Often, these assertions of identity and consolidation of caste community at the village level are enacted in a space that is at the same time heavily shaped by development interventions. In particular, development projects specifically targeted at the lower castes, or a legislation stipulating lower caste political representation in village councils, may foster the consolidation of local caste-based communities. To reach the dispossessed through rural development, since the 1980s, non-governmental organizations (NGOs), sometimes funded

by European donor NGOs, began targeting their programs toward specific development constituencies such as “marginal farmers” and “landless labourers” who often belonged to the lower castes (Mosse, 1999). Similarly, the 73rd constitutional amendment of 1992–1993 made Gram Panchayats (GPs), or village councils, mandatory in all villages in India (Johnson, 2003; Tanabe, 2007). GP membership, elected to 5-year terms, must be representative of the caste composition (share in local population) of a village.² Caste differences and identity are mobilized at the local level in electing the multi-caste GPs, despite the government’s aim to diminish caste differences by promoting decentralized democracy. This mobilization of caste identity and difference for local governance may support the furthering of intra-caste ties.

Multi-caste democratic governance in villages may also create spaces of deliberation (Rao & Sanyal, 2010), under which novel forms of cooperation must be sought among leaders of the different castes to use development funds for the benefit of multiple castes in a village. In fact, caste may be deployed “as the basis for providing fairer entitlement and enfranchisement for different groups” (Tanabe, 2007, p. 568). Such caste-based negotiation for distribution of resources at the village level may lead to a weakening of the hierarchical order of the local caste system, which may in turn assist in the formation of new inter-caste (friendship) relations. This outcome does not obviously have to arise in all villages and between all castes. In her ethnography in an AP village, Still (2013) observes that although the hierarchical order may be weakening among the different non-Dalit castes, the divide between Dalits and the upper castes may at the same time be getting sharper (often playing out in the form of the upper castes’ resentment against government reservations for Dalits as Scheduled Castes). This implies that inter-caste ties may be formed more easily between members of non-Dalit castes rather than between Dalits and non-Dalits.

Furthermore, negotiations with other castes (including Dalits) for making village-level governance decisions, rather than involving all members of a caste, may primarily be carried out by the leaders of each caste group (Arora, 2009; Tanabe, 2007). These leaders can be “traditional” caste headmen, if they qualify to stand in the elections for GP membership.³ Or, they may be the “new leaders” or GP members who are often elected with the support of the caste headmen. Together these new and old leaders then act as “gatekeepers” between the villagers and governmental (and/or non-governmental) institutions controlling the disbursement of development funds (Ananth Pur & Moore, 2010).⁴ These leaders, often named as local “resource persons” in community-driven projects for poverty reduction (Prasad, Ramanjaneyulu, Ravindra, & Sanghi, 2008; Swaminathan & Jeyaranjan, 2008), may channel development funds to “their poor” (Mosse, 1995). Through this, and by helping to organize special favors for (some of) their “group”, such as facilitation in finding jobs or admissions to educational institutions through the development agencies, the leaders may foster the formation of a tight-knit community of

followers around them. Thus, by acting as their group's representatives in negotiating with outside governmental and non-governmental agencies, these leaders help create loyalty and internal solidarity in their community/constituency. Through such development-related patronage then, the local leaders gain honor and respect while material benefits flow to their community - constituency that may contain members belonging to multiple castes (cf. Price, 2006).

The foregoing arguments may give the impression that caste-based domination has now been decimated in south Indian villages. Unfortunately, this would still be an inaccurate description of caste culture in many villages. Although caste domination may have weakened in some villages, Dalits and other lower castes may continue to be excluded from participating in actual GP-led governance, except in villages where they are numerically dominant (Ananth Pur & Moore, 2010). And in villages where the president of the council is stipulated to be a Dalit (woman), upper castes either attempt to get a "pliable" Dalit elected as the president or they may militate against her authority, often restricting her governance powers to token signatures on official documents (Sivanna, 2014). Even in Kerala which is hailed worldwide as a model of inclusive development, and where it was claimed that caste hierarchies had been overcome as a result of land reforms and other progressive policies of the ruling communist party since the 1960s, caste's culture of inequality continues to hold sway in many villages and material deprivation is rife among the lower castes (Devika, 2013), as is their exclusion from processes of local governance beyond passive attendance when invited (Williams, Thampi, Narayana, Nandigama, & Bhattacharyya, 2012). In addition, in most south Indian villages, a "Dalit colony" continues to be located outside the boundaries of the main (upper caste) village (e.g., see Devika, 2013; Still, 2013; Vincentnathan, 1996). This segregation is just one among many manifestations of entrenched caste-based inequality that continues to plague villages in south (and north) India, which may include lower agricultural wages for Dalit laborers, refusal of services to Dalits by barbers, association of Dalits with dirtiness and laziness, and denial of access to temples and burial grounds (Deshpande, 2002; Devika, 2013; Sooryamoorthy, 2008; Still, 2013). Overall, such everyday inequalities may continue to limit the formation of inter-caste friendship ties (especially between Dalits and non-Dalits).

In summary, the foregoing discussion has highlighted that although the hierarchical facets of the caste system may have weakened, they have not disappeared, and the importance of caste as a cultural identity and forger of community ties (through solidarity and through leadership-constituency relations) has only become stronger. We pointed to several factors, related to the entangled cultures of caste and development in rural south India, which have acted as drivers of community consolidation and of weakening hierarchy. Although these dynamics are likely to play out differently (to varying degree and taking diverse trajectories) in different places, we expect that caste-based similarity and cultural

sharedness may still drive the formation of densely connected intra-caste communities or clusters, while new inter-caste (friendship) ties may be getting formed, mediated by development institutions and other cultural-political forces. In the following, by identifying tight-knit clusters in the social network of a village in AP, we investigate to what extent this is the case and what different factors are at play in the formation of the clusters.

The Village and Its Social Network

The village, Ananthagudem (a pseudonym), of approximately 900 inhabitants is located in the Khammam district of AP. Of a total of 212 households, 155 are cultivating farmers; 141 of the 155 farming households own some land, and 14 cultivated land leased from others (a few farmers with small landholding also lease land). An overwhelming 86% of the farmers are smallholders who own less than or equal to 2 hectares of land. But there are a definitely a few large farmers in the village which makes land distribution in the village highly skewed (see Figure 1). Furthermore, the village is inhabited by 38 landless-laborer households. The remaining households are engaged in non-agricultural professions such as small shop owners in the village and construction work in a nearby town. A small number of farmers also own shops for supplementary income, or drive auto-rickshaw taxis in the area. The village is located 6 km from the nearest town, and the closest industrial establishment is a thermal power plant where two villagers are employed.

Ananthagudem has 10 caste groups. We have caste information for 210 out of a total 212 households (Table 1). The two remaining households operate small shops in the village and do not own any land. The largest group (75 households) in Ananthagudem is the Hinduized *Koya* tribe (see von Fürer-Haimendorf, 1982, on detribalization or Hinduization of the Koyas). A comparable group in size is that of the peasant caste, *Yadava* (62 households). The *Lambadi* (categorized as STs in AP but as Scheduled Castes in Karnataka, Bokil, 2002; they also have their own origin myths like other caste groups, Karamsi, 2010) and the Dalit *Mala* (categorized as Scheduled Castes) are the third and fourth largest groups, respectively. No single group dominated clearly in numbers: The difference between the two largest groups is only 13. Neither was there a domination of one group in economic power as measured by total land area: The Koyas collectively own 154.4 acres and the Yadavas own 155 acres. Although the amount of land owned per household is different for each caste, these inter-caste differences are not substantial.

Quantitative (Network) and Qualitative Data

Quantitative data on the social (friendship) networks of the villagers at the level of individual households, and on some other socio-economic variables such as landownership, were gathered during fieldwork by the first author between

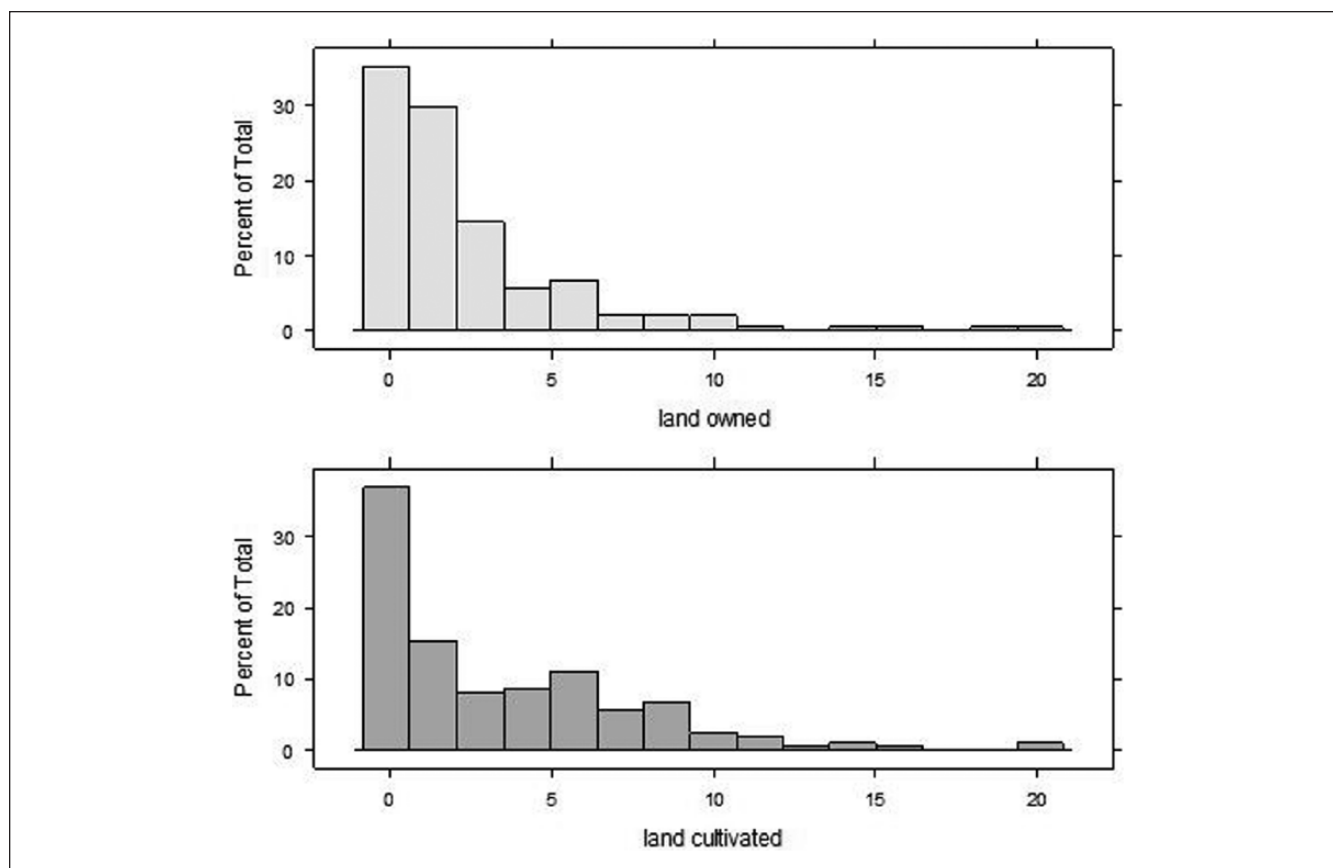


Figure 1. Distribution of land in acres.

Note. Top: Land owned by a farmer; Bottom: Land cultivated by a farmer.

Table 1. Caste and Land Distribution in Ananthagudem.

Caste	Number of households	Total land owned (acres)	Average per household (acres)
Koya	75	154.4	2.06
Yadava	62	155	2.5
Lambadi	29	53.5	1.85
Mala (Dalit)	14	47.5	3.39
Mudiraj	10	50.5	5.05
Potter/Carpenter	7	12.5	1.79
Goud	5	8	1.6
Dudekula	4	6	1.5
Choudhary	3	3	1
Reddy	1	0	0
Total	210	490.5	2.34

September 2005 and April 2006. Rather than collecting data with a survey,⁵ we relied on an inhabitant of the village as the source. The data on the social ties of some villagers were cross-checked through direct observation and interactions with many farmers during several trips to the village over 8 months. These direct observations and many conversations

with the farmers (and other inhabitants of the village) were also used to collect qualitative data to appreciate how caste has become entangled with the world of rural development. The latter were essential to understand the development of new forms of development-induced brokerage and patronage through which the village leaders are able to maintain their leadership and sustain their constituencies as communities.

In a classic review of empirical social network studies, Marsden (1990) points out that researchers have routinely used a variety of sources in collecting network data including the approach used here. Our source for the data was a local NGO representative who had already lived in the village and worked closely with the farmers for 3 years when our fieldwork was initiated. Sociality or friendship was identified on three criteria: the two friends inter-dine, they freely provide help to each other in times of need, and they celebrate (at least some of the) local festivals together. Two friends could be, and often indeed are, kin. In addition, the NGO worker was requested to ensure that any two friends identified by her should be *close* to each other (we used the Telugu word *daghr*). It was implied that two *daghr* friends, depicted as a dyad in the network, will not in general act against each other's interests. Note that this *daghr*-ness in social ties does not

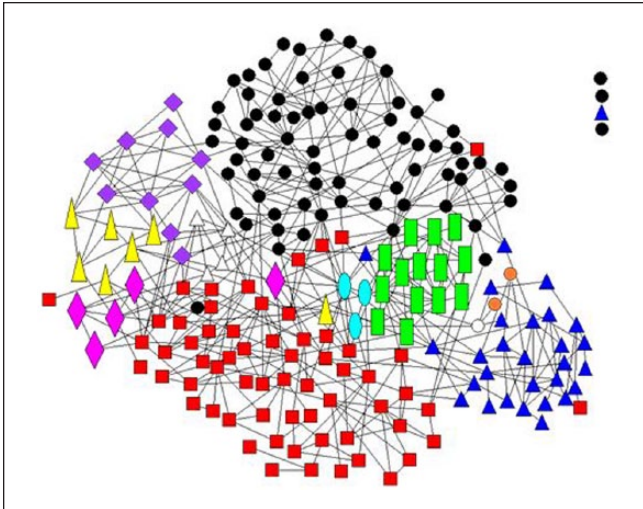


Figure 2. Caste-based distribution in the social network of Ananthagudem inhabitants.
 Note. Data on connections of the four people depicted as isolates in the top right-hand corner of the figure were not available.

exclude relationships in which honor and mutual respect (though not always symmetrically) may be exchanged.

The social network of the village is shown in Figure 2. Different shapes represent different castes. Some basic descriptive statistics of the network are shown in Table 2. The statistics of the network, such as the average number of links per node in the network or mean degree (\bar{z}) and the average distance of one node from another in the main connected component of the network (\bar{l}), generally fall in the range of the statistics for other commonly studied social networks (see Table 2). Interestingly, Ananthagudem's social network is (slightly) disassortative, that is, individuals with few links are likely to be connected to counterparts with many connections. Because the number of social ties often reflects the social status of an individual, negative assortative mixing coefficient may indicate the prevalence of "patron–client" or "leadership–constituency" type relationships in the social network.

Method for Identifying Tight-Knit Structures

As tight-knit groups (or clusters) are not directly observable, one needs to employ data on the network of social relationships to identify clusters. Clustering implies that relationships between members of the same cluster are more numerous than inter-cluster links. A community structure method is then used to identify the emergent clusters from observed social network data. We use a modularity-based leading eigenvector method developed by Newman (2006).

Here, we briefly outline the algorithmic procedure used; for additional details, we refer to the original article (Newman, 2006). For the null model, we pick a random graph with the same degree distribution as Ananthagudem's social network. Now, for any partition of the network into different clusters,

modularity is defined as the difference between the number of edges within identified clusters and the "expected" number of such edges ("expected" refers to the null model). Thus, the modularity value is a measure of the advantage derived from describing an observed network in terms of clusters, as compared with the baseline model of random connections.

We begin by partitioning the network into two sub-networks (or clusters) such that this particular partition maximizes the modularity (Newman, 2006). Following this, partitioning the network into more than two clusters is achieved through sequential application of the algorithm to the two sub-networks, each of which is bisected. If a proposed bisection of a sub-network does not yield a gain in overall modularity value, it is an *indivisible cluster* and no further divisions of this sub-network should be made. We stop when no divisible sub-network remains. The resulting set of indivisible clusters defines a partition with approximately the maximized modularity value.

Newman (2006) proposes to complement each step of the above procedure with a "fine-tuning" routine. According to this, after initial separation of nodes into two clusters (and indeed after each subsequent bisection), the following steps should be performed. First, we find a node which if moved to the other cluster would yield the largest gain, or the smallest loss, in modularity. Second, we move such a node to the other cluster. Third, we repeat the first step considering only those vertices that have not been moved yet, from both clusters. Once a move for all vertices has been attempted, we inspect the configurations of possible moves to select only the configuration that provides the largest gain in modularity, and run the procedure from the beginning again until it gives no further improvements in modularity. The end result of this fine-tuning procedure is a gain in modularity and the modularity value is maximized.

Results and Discussion

The dispersion of each caste across 13 identified clusters (labeled A–L) is shown in Table 3. Members of the largest group, Koya, can be found in 9 clusters. Three of the clusters (C, E, and M) are Koya only, containing 31%, 25%, and 10% of the village's Koya population, respectively. The Yadavas are also dispersed across 9 clusters, but slightly more than half of the village's Yadavas are members of Clusters A and F (24% and 27%, respectively). The Lambadis are present in 5 clusters but are concentrated in 2: B (79%) and L (11%). The other mid-sized caste group of Malas (with 14 members) join Cluster H without splitting. Members of the smaller castes of the village (with 10 or fewer members) are generally split across 2 clusters.

The caste composition of each cluster is shown in Table 4. The largest clusters, A and B have 25 people belonging to four different castes in each case. Apart from the 3 Koya-only clusters (C, E, and M), 2 other clusters (F and H) are predominantly single caste, with more than 90% of their

Table 2. Basic Statistics for Ananthagudem's Social Network and Other Published Social Networks.

Network	Type	<i>n</i>	<i>m</i>	<i>z</i>	<i>L</i>	<i>C</i>	<i>r</i>
Ananthagudem	Undirected	212	498	4.79	4.53	0.29	-.032
Company directors	Undirected	7,673	55,392	14.44	4.60	0.59	.276
Student relationships	Undirected	573	477	1.66	16.01	0.01	-.029
Zachary karate club ^a	Undirected	34	78	4.59	2.38	0.24	-.475

Source. Adapted from Newman (2003).

Note. Basic network statistics are the total number of nodes (*n*), number of links (*m*), mean degree (*z*), average distance in the largest connected component (*l*), transitivity (clustering coefficient = *C*), and assortative mixing coefficient (*r*).

^aOur calculations, network data taken from Mark Newman's webpage <http://www-personal.umich.edu/~mejn/netdata/>

Table 3. Dispersion of a Caste Group Across Clusters.

Cluster/caste	A	B	C	D	E	F	G	H	I	J	K	L	M	Caste size
Koya	.06	.01	.31	.00	.25	.00	.03	.00	.15	.01	.08	.00	.10	72
Yadava	.24	.02	.00	.11	.00	.27	.08	.00	.02	.15	.03	.08	.00	62
Lambadi	.04	.79	.00	.00	.00	.00	.00	.04	.04	.00	.00	.11	.00	28
Mala	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	14
Mudiraj	.00	.00	.00	.80	.00	.00	.20	.00	.00	.00	.00	.00	.00	10
Potter	.00	.00	.00	.86	.00	.14	.00	.00	.00	.00	.00	.00	.00	7
Goud	.00	.00	.00	.00	.00	.00	.80	.00	.00	.20	.00	.00	.00	5
Dudekula	.00	.00	.00	.25	.00	.00	.75	.00	.00	.00	.00	.00	.00	4
Choudhary	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3
Reddy	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1
Unknown	1.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2
Cluster size	25	25	22	22	18	18	16	15	13	11	8	8	7	

Note. Fractions in each row of the table sum up to 1.00.

Table 4. Caste Composition of Each Cluster.

Cluster/caste	A	B	C	D	E	F	G	H	I	J	K	L	M
Koya	.16	.04	1.00	.00	1.00	.00	.13	.00	.85	.09	.75	.00	1.00
Yadava	.60	.04	.00	.32	.00	.94	.31	.00	.08	.82	.25	.63	.00
Lambadi	.04	.88	.00	.00	.00	.00	.00	.07	.08	.00	.00	.38	.00
Mala	.00	.00	.00	.00	.00	.00	.00	.93	.00	.00	.00	.00	.00
Mudiraj	.00	.00	.00	.36	.00	.00	.13	.00	.00	.00	.00	.00	.00
Potter	.00	.00	.00	.27	.00	.06	.00	.00	.00	.00	.00	.00	.00
Goud	.00	.00	.00	.00	.00	.00	.25	.00	.00	.09	.00	.00	.00
Dudekula	.00	.00	.00	.05	.00	.00	.19	.00	.00	.00	.00	.00	.00
Choudhary	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Reddy	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Unknown	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Size	25	25	22	22	18	18	16	15	13	11	8	8	7
Number of castes	4	4	1	4	1	2	5	2	3	3	2	2	1

Note. Fractions in each column of the table sum up to 1.00.

members being Yadava and Mala, respectively. Thus, 8 of 13 clusters in Ananthagudem are clearly multi-caste, constituted by members of two to five different castes. It is however important to note that in all but 2 of these multi-caste clusters, a single caste provides the majority (more than 50%) of

members. Only in Clusters D and G no single caste constitutes a clear majority.

In most clusters, caste appears to play an important role in shaping the emergent network structure. Barring two clusters (D and G), the majority of each cluster's members belong to a single caste. Yet, the effect of caste on community ties

Table 5. The Effects of Caste and Lineage: Alternative-Specific Conditional Logit Model.

	Model 1	Model 2
<i>CASTE</i>	5.0 (0.45)	1.9 (0.59)
<i>FAMILY</i>		5.4 (0.46)
Log likelihood	-270.60	-148.48
Wald χ^2 ^a	119.39	234.58
pseudo- R^2 ^b	.33	.63

Note. All estimated coefficients are significant at 1% level. Standard errors are in parenthesis.

^aSignificant at 1% level.

^bCalculated using log likelihood for intercepts-only model, $L_0 = -404.53865$.

might be masking other strong effects such as those due to family, lineage, neighborhood, affinal connections to outside the village, shared occupations, and the distribution of agricultural knowledge/expertise in the village (cf. Klass, 1972; Mosse, 1999; Oommen, 1970). For instance, even if lineage (or another factor) is more important in driving peoples' community tie formation, we would observe single-caste clusters simply because members of the same lineage belong to the same caste. In the following statistical exercise, we illustrate this point by disentangling the effects of caste and lineage.

We examine the effects of the two factors by estimating a simple alternative-specific conditional logit model: For each individual household, we estimate the effect of caste and lineage on the probability that it joins 1 of the 13 identified clusters. The dependent variable y_{ij} is equal to 1 if individual belongs to cluster, and 0 otherwise.⁶ The results of estimation are reported in Table 5 (cluster dummies reflect the effect of cluster sizes and composition of the clusters are not reported). First, we estimated a model with *CASTE* covariate and cluster-specific constants (Model 1). The results confirm that caste is an important factor in defining the composition of clusters. Then we estimated a model with *CASTE*, *FAMILY*, and cluster dummies (Model 2). Introduction of the lineage effect largely moderates the coefficient of *CASTE* and slightly reduces its statistical significance (its p value becomes .003). It also significantly improves the overall fit of the model almost doubling the pseudo- R^2 statistics. Thus, the results suggest that lineage has a much stronger influence on the formation of clusters than caste.

Moving on to caste's entanglement with the political culture of rural development, in village-level forums such as the GP, interests of large castes, due to their sheer size and internal diversity, may not be easily represented by a single-caste headman (cf. Oommen, 1970). Such large caste groups generally include members of different lineages. They also have a range of agriculturalists, from mid-sized farmers to the landless, whose (economic) interests may diverge from each other. In general, as Simmel (1908/2009) argued long ago, one can expect a general loss of internal cohesion with growth

in size of a group because norms (that may drive cohesion, for instance, through loyalty to headmen) in large groups tend to become more impersonal and often unsuitable to the needs of all. Correspondingly in the results, shown in Table 3, we observe that the two large caste groups in Ananthagudem, Yadava and Koya, are distributed across multiple clusters.

We observe a lower degree of dispersion in the two mid-sized caste groups in Ananthagudem, Lambadi and Mala with 28 and 14 members, respectively. The Dalit Mala's altogether join Cluster H, a result that supports Still's (2013) observation in the AP village she studied that inter-caste ties may be formed more easily between members of non-Dalit castes rather than between Dalits and non-Dalits. Ananthagudem's Cluster H has only one non-Mala member, who shares the same occupation, auto-rickshaw driver, with at least two Mala men.⁷ He also lives in the same neighborhood as the Malas. Overall, Mala is the only caste group in Ananthagudem with almost the same boundaries as a cluster. Major reasons for this cohesion among the Malas are as follows: (a) almost all Malas in Ananthagudem belong to a single lineage, (b) they are recipients of specifically targeted state development programs that are exclusive to them in Ananthagudem (one such successful program implemented during the time of our fieldwork was mulberry cultivation for silkworms and fruit), (c) Malas as Dalits have been widely persecuted by the upper castes in AP and often follow their own (non-upper caste) cultural value systems, and (d) effective leadership from the caste headman who is a highly respected member of many village-level committees including the GP. More on leadership will be discussed later.

The Lambadis are concentrated in two clusters: 22 in B and 3 in L. In both clusters, they form community ties with members of other castes living in their neighborhood (3 in Cluster B and 5 in Cluster L). Many Lambadis generally worked closely with the development NGO working in the village, which seems to be a driving factor in cluster formation. For instance, in Cluster L, two people (the Lambadi caste headman and a Yadava) are both "resource persons" of the NGO in the village. The resource persons play a critical role in mobilizing people for the NGO's development projects and distributing project benefits among the villagers (more on this later). Similar close affiliation to the NGO can be observed in the larger Lambadi-dominated Cluster B, one of whose members is in fact the only NGO employee living in the village.

The smaller caste groups (Mudiraj, Potter/Carpenter, Goud, Dudekula except Choudhary) split up and join two different clusters. Most small caste groups are perhaps not (numerically) strong enough to prop their own leaders at the village level. In general, one or two members of each of these castes do not stick with the rest of their caste group in joining a larger cluster. For example, six of seven members of Potter/Carpenter caste are in Cluster D whereas the last one is in Cluster F. The only small caste group that does not get split across two clusters is Choudhary. All three members of this

Table 6. Cluster (Group) Centrality Values.

Cluster	A	B	C	D	E	F	G	H	I	J	K	L	M
Degree centrality	0.14	0.05	0.05	0.08	0.07	0.04	0.08	0.07	0.03	0.04	0.05	0.05	0.04
Closeness centrality	0.41	0.31	0.27	0.33	0.32	0.30	0.31	0.32	0.29	0.31	0.33	0.30	0.29

Table 7. Kruskal–Wallis Test for the Average Landholding in Clusters.

	Land owned	Land cultivated
χ^2	9.1361	12.3272
df	12	12
p	.69	.42

caste are present in Cluster A. The headman of the Choudharys, despite their small numerical strength, is arguably the most influential individual in the village. He is an important dairy farmer, which is one of the more profitable professions in Ananthagudem. In addition, he cultivated 13 acres of land (3 owned and 10 leased) in 2005–2006. He is close to the main crop-buyer, credit-provider, and farm-input supplier to Ananthagudem, and to the GP president (also a member of Cluster A). In fact, Cluster A is home to some other prominent people in the village, including the headman of the Yadavas,⁸ and a local moneylender who is also a GP member. Both also work as resource persons for the local NGO. Thus, Cluster A is the closest we find to a core cluster, or “power center,” in Ananthagudem’s social network. It also has the highest group (closeness and degree) centrality values of all clusters, as shown in Table 6.⁹ However, note that the coreness of Cluster A, or its position as the center of Ananthagudem, is quite weak as a number of other powerful individuals are dispersed across different clusters. Thus, (important) members of the core Cluster A cannot independently make decisions for the entire village without consulting other cluster leaders.

The above result on the lack of a clearly dominant cluster in Ananthagudem’s social network can be confirmed by comparing the average landownership in each cluster. As the distribution of land in the village is not normal (Figure 1), we tested the averages using Kruskal–Wallis test (a non-parametric analogue to one-way ANOVA). The results of the test are reported in Table 7. The null hypothesis of the means being equal across the clusters for both owned and cultivated land cannot be rejected; thus, there is no evidence that some clusters are definitely more important or powerful than others. This confirms that powerful individuals (large farmers) in the village do not form an elite clique on their own. It also implies that no “rural or agrarian rich layer” is dominating in the village, exploiting other poorer villagers and exclusively protecting their own interests.

Until now, we have focused on how caste (and lineage) identities, moderated by the size of a caste group, influence

the cluster structure of the social network. This quantitative analysis has thus focused on the extent to which caste- and lineage-based homophily manifests in Ananthagudem’s network. While pointing to this influence of homophily, we have remained alert to heterogeneity within individual tight-knit clusters. However, to fully appreciate the manifestation of heterogeneity in the clusters, we need to adopt a (largely) qualitative approach in the following. Quantitative social network analysis is still used to identify the leaders in every cluster. For each leader, we discuss their attributes (caste status, formal office, landholdings, etc.) that place them in a position to act as patrons of their constituencies. In addition, we attempt to understand who is included and who gets excluded from overall leadership at the village level. The leaders are identified using measures of intra-cluster influence and decision-making power (estimated using closeness centrality within her/his cluster/constituency) and the potential to negotiate with other clusters due to her/his position in the network (inter-clique betweenness measure developed by Gould, 1989).

For each cluster, individuals with the highest values of the product of the two measures are listed in Table 8.¹⁰ We identify one leader per cluster. In general, these leaders have substantially higher values of the product than the rest of the cluster. A complete list of all individuals with non-zero values, that is, individuals who have at least one link to someone outside their own cluster, is available on request from the authors.

The leader of Cluster A is the headman of the Choudharys. The influence of this large cultivator and dairy farmer is far greater than is reflected by the small size of his caste group in the village. As already noted, he runs a profitable dairy business, supplying milk to buyers outside Ananthagudem. His influence also stems from his closeness to the main farm-input (pesticides, fertilizers, seeds) supplier to the village. This farm-input supplier runs a shop in the nearby town and is the only such shop owner in town who provides the farm inputs on credit to the Ananthagudem farmers. He is also the single most important source of agricultural knowledge for the village’s farmers. The leader of Cluster A is himself also a central source of agricultural knowledge and problem-solving advice in the village (Arora, 2012). In addition to his local socio-economic and cognitive position, influence from the statewide clout of the Choudhary caste may be an important factor in buttressing his prominence in Ananthagudem.¹¹

The leader of the Lambadi-dominated Cluster B is son of a local (Lambadi) moneylender who lends small amounts to other Lambadis as well as members of other castes in the village. In

Table 8. Leaders in Each Cluster.

Name	Cluster (size, # castes)	Caste	In cluster closeness	Inter-cluster betweenness	Product
Gorinta, E. G.	A (25, 4)	Choudhary	0.429	0.915	0.392
Yarla, F. R.	B (25, 4)	Lambadi	0.393	0.187	0.073
Palam, H. V.	C (22, 1)	Koya	0.538	0.272	0.146
Joardar, G. X.	D (22, 4)	Dudekula	0.512	0.321	0.165
Velu, H. O.	E (18, 1)	Koya	0.586	0.617	0.361
Datla, B. S.	F (18, 2)	Yadava	0.680	0.140	0.095
Sapna, F. C.	G (16, 5)	Koya	0.455	0.474	0.215
Koli, E. D.	H (15, 2)	Mala	0.778	1.000	0.778
Veena, I. E.	I (13, 3)	Koya	0.800	0.140	0.112
Pai, D. J.	J (11, 3)	Goud	0.476	0.210	0.100
Veena, I. G.	K (8, 2)	Koya	0.700	0.716	0.501
Yarla, F. Q.	L (8, 2)	Lambadi	0.467	0.399	0.186
Sapna, E. W.	M (7, 1)	Koya	0.667	0.256	0.171

addition, he was actively involved in the developmental work of the local NGO, as were many other Lambadis to whom he was connected, particularly in relation to sustainable agriculture. Sustainable agriculture was the most important work carried out by the NGO in the village, for which Ananthagudem had become famous all across AP as an eco-village. It was widely reported that the local farmers were very successful in adopting and adapting low-cost environmentally friendly agricultural practices (Arora, 2012). The leader of Cluster B was one of the farmers at the forefront of this sustainable agriculture movement. The potential of the leader of Cluster C to act as patron of his constituency is less clear on any developmental grounds. His identification as the cluster leader here appears to depend on his membership of one of two largest lineages, Palam with 13 households in Ananthagudem. Cluster C is composed of Koyas only.

The leader of Cluster D is the Dudekula caste headman. In addition to being a farmer, he owns a successful shop in the village, from which he also carries out small repairs (often free of cost). He is possibly the only trained electrician in the village, which puts him much in demand for solving electricity-related problems that villagers may encounter. He also undertakes electric jobs outside the village. He has friendship ties with a number of other prominent villagers, including the village GP president. And, like the leader of Cluster A, he is a close friend of the powerful farm-input supplier to the village, which puts him in a good position for providing indirect patronage to other members of his cluster.

The Koya-only Cluster E is led by the head of the large (13-member) Velu lineage. The leader of this cluster is the secretary of the GP and a “resource person” for the local NGO. Although he owns only 2 acres of land, he leases another 10, which is the largest amount of land leased by anyone in Ananthagudem. Cultivating these 12 acres and being an NGO “resource person” allows him to act as a development broker between the farmers in his cluster and

the local NGO. Cluster F is led by a member of eight-strong Datla lineage (Yadava), whose potential for patronage is unclear.

Cluster G is led by a prominent farmer who doubles as a moneylender in the village, which clearly puts him in good stead to act as a patron in his community. This role is cemented by his position as a local official (secretary) in the Village Tribal Development Authority (VTDA). The VTDA generally channels government resources targeted at tribal groups (e.g., Koya). These development funds may be used to strengthen local education, health, irrigation infrastructure, and women’s savings groups. In this cluster leader’s case then, it is not brokerage between the development NGO and members of his cluster that affords his leadership and influence, but rather that between a government agency and the (tribal) villagers.

Cluster H is led by the highly respected Mala headman. This headman is an active member of many village-level committees including the GP and a farmers’ consultation group on sustainable agriculture (and micro-credit) organized by the local NGO. He is also a resource person of the local NGO. Membership of the GP and proximity to the local NGO allows him to act as a patron for members of his cluster, which includes all members of his caste in the village. In fact, the Mala headman (and his cluster) exemplifies the alignment of the caste’s facet of intra-caste leadership (and community/constituency) with development-based brokerage (and patronage).

Cluster I is headed by a younger brother of the caste headman of the Koyas (the latter himself leads Cluster K). The leader of Cluster I owns the largest amount of land in the Veena lineage and his landholding is the third largest among the Koyas. Barring two, all members of this cluster are Koya. Cluster J is led by the Goud registered medical practitioner in the village. In addition to his medical practice, which attracts patients from all castes in the village, he runs a profitable

dairy business and often acts as a veterinarian for the village's cattle. He has friendship ties with the GP president and some other prominent people in the village.

The eight-member Clusters K and L are led by the headmen of the Koya and the Lambadi, respectively. Both headmen are resource persons for the local NGO and members of the farmers' consultation group on sustainable agriculture. As headmen, they are responsible for settling intra-personal disputes in the village. The Lambadi headman is perhaps the most important resource person for the local NGO in the village. He has been instrumental in securing small loans, through the NGO, for promoting non-farm entrepreneurial activities in the village and helped initiate other projects including assistance with the local primary school and livestock health. He has traveled to different parts of AP as an advocate of low-cost sustainable agriculture practices promoted by the NGO. Thus, the Lambadi headman is the perfect broker who appears loyal to the NGO and its development projects, while attempting to strategically secure benefits for the poorer members of his cluster/constituency (and beyond through collaboration with other cluster leaders). He is considered to be an expert in sustainable agricultural methods, and approached by many farmers for advice. He is also a land-sale administrator in Ananthagudem.

Finally, the smallest Cluster M is a Koya-only cluster led by the head of the 11-household Sapna lineage, which is the third largest lineage group in the village. The Sapna leader has the largest landholding in his lineage, which is second only to the GP president among the Ananthagudem Koya as a whole. In addition to being a moneylender in the village, he is also a resource person for the local development NGO and considered knowledgeable in sustainable farming methods introduced by the NGO.

Thus, leadership in most clusters is associated with characteristics such as landownership, ability or propensity to lend money, caste headmanship, agricultural expertise, and the ability to act as a development broker between governmental organizations and NGOs and the village. The latter role of mediation between development agencies and the villagers is facilitated by membership in village-level councils and committees such as the GP, and serving as "resource persons" for the local NGO. In this way, the leaders are able to play the role of local village-level patrons who may secure resources for their constituencies in the form of loans, subsidies, participation in sustainable development projects, and knowledge (technical advice). In addition, the leaders provide voice to, and further the interests of, the poorer members of their constituencies or clusters in village-level forums on the organization of local development. Of course, not all cluster leaders were in a straightforward position to act as patrons or powerful enough to provide a voice to their cluster members. This applies particularly to leaders of Clusters C and F (H. V. Palam and B. S. Datla). Members of the Palam and Datla lineages, including the leaders of Clusters C and F, are among the poorest in Ananthagudem with little or no

landholding. They also did not have direct access to the local NGO or any other development agencies (state or non-state) from outside the village. Thus, their ability to act as cluster leaders is unclear.

Conclusion

In this article, we have attempted to study how caste cultures and development brokerage/patronage interact with and adjust to each other in fluidly shaping the social network structure of a south Indian village. We studied the latter by dividing the social network of the village into 13 tight-knit clusters. While the importance of caste as community and of intra-caste leadership can be observed in the composition of some network clusters, more than half the clusters in the network were clearly multi-caste. Only one caste group came close to forming a cluster of their own (the Dalit Mala). The largest group in the village, Koyas, was split across 9 clusters, but 3 of these clusters were Koya only. All other caste groups were split across multi-caste clusters and routinely formed friendship ties with members of other castes in the village. Thus friendship ties and communities in general, as observed in this south Indian village, are not *strictly* divided along caste lines, and the influence of caste on community network structures (while clearly important) appears to be both variable and fluid.

Even where the influence of caste identity on network structure appears important, it may be masking other drivers of cluster formation such as family, lineage, and shared occupation. In addition, homophily, observed in (some of) the clusters through caste affiliation and other forms of sharedness through lineage or occupation, co-exists with considerable heterogeneity among cluster members arising out of close association with development organizations and/or expressed through unequal relations of power operating in patron-client networks. Thus, network communities or clusters are formed and sustained not only on the basis of some form of cultural sharedness (e.g., proximity through caste or lineage) but also on the basis of forms of heterogeneity due to newer distinctions and leadership (e.g., derived through proximity to development institutions) and emerging parameters of patronage.

The sources of individual leadership, and of friendship ties between some of the cluster leaders, in the village are generally multiple. Leadership is derived, for instance, on the basis of development brokerage and patronage, caste headmanship, lineage, occupation, expertise, landownership, and the ability to act as local creditors. Thus, while ownership of large parcels of land and concomitant class interests are important, caste and lineage continue to act as strong sources of leadership, as do new forms of patronage arising out of proximity to development institutions. And, although there may be some overlap between these sources, none of them can be viewed as a handmaiden to others. In this sense then, caste (or community-based development) is not simply

a tool that is instrumentally deployed by the rural rich to further their class interests. Caste, as we have documented above, also forms a basis of convivial community ties and, as documented extensively in the anthropological literature on caste (see section “Political Cultures of Caste and Development in South India”), helps constitute struggles for equality waged by the oppressed and marginalized in Indian society. And, these struggles and communities (as constituencies) may produce their own leaders whose actions cannot simply be reduced to their own class interests. Thus, no single source of leadership is subservient to and subsumed by another. Yet, these distributed sources of leadership and the presence of patron–client type of relations within network clusters nevertheless imply that most cluster leaders (acting as patrons) had an interest in affording the creation of close-knit communities out of their constituencies (or clients).

This brings us to the observation that cultures are better envisioned as multidimensional and shifting landscapes that are thoroughly embedded in everyday relations, rather than as (normative) structures that operate from above (or behind the back of) individuals and communities (cf. Latour, 2005). It is within everyday practice that “traditional” idioms such as those of caste (with their individual and collective aspects) are fluidly enacted and become entangled with newer institutional patterns. It is within the everyday that older sources of status and power are negotiated with and become enmeshed with newer bases of authority, to constitute a cultural patchwork that is riddled with inequality and difference. In this article, we have attempted to show how this uneven patchwork of “tradition” and “modernity” shapes social networks, not solely through the sharedness of norms and values but also through asymmetric power and authority.

Acknowledgments

The authors are grateful to three anonymous referees and Sage Open’s article editor for valuable comments. Previous versions have benefitted from generous input provided by many friends and colleagues. The authors remain grateful to all of them. The usual disclaimers apply.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research and/or authorship of this article.

Notes

1. Dalit, literally meaning the downtrodden, was a name chosen by Dr. B.R. Ambedkar to refer to the “untouchables.” Regarding political assertions, it is perhaps erroneous to assume that all members of a lower caste in a village are engaged in such assertions. Still (2009), for example, observes that the greater

the economic dependence on an upper caste landlord (patron), the more common the practice of subordination by a lower caste member. Although the latter may not necessarily accept any values that underpin the system of subordination.

2. In addition, a third of all seats are reserved for women. And, similar elections are to be held for sub-district- (block) and district-level representatives (Johnson, 2003).
3. In the post-73rd amendment era, Gram Panchayat (GP) election candidates often need to fulfill certain conditions, other than the membership of certain castes or tribes, such as gender, minimum educational qualification, age-limit, number of children, and so on. In many cases, where caste headmen themselves do not qualify they attempt to get *their* candidates elected. In fact the latter may often be elected without a contest (Ananth Pur & Moore, 2010).
4. There may of course be exceptions to the alignment of new and old leaders depicted here. In some cases, the new leaders may compete with and weaken the authority of the older leaders (see Price, 2006).
5. A number of problems in using surveys for collecting network data with self-reports by respondents have been identified (see Marsden, 1990, for a review). The problems with survey data are believed to be most severe for social support or friendship networks.
6. The explanatory variables are $FAMILY_{ij}$, defined as the share of other members of the lineage of individual i in cluster j , and $CASTE_{ij}$, the share of the members of the same caste as individual i in cluster j . The statistical model requires non-zero variability of covariates $CASTE_{ij}$ and $FAMILY_{ij}$ with respect to j for each i , therefore we had to exclude those individuals from the analysis who either have no identified extended family ties within the village or for whom caste is unknown or the local caste group consists of only one member. This reduction leaves us with 163 (of 210) individual cases.
7. Most Ananthagudem residents as we have already noted are agriculturalists. Thus, a minority profession such as auto-rickshaw drivers who ply their rickshaws outside the village can act as an important driver for cluster formation. The auto-rickshaw drivers need to share information and knowledge about agencies that finance auto-rickshaws, repair workshops, routes on which to ply the rickshaws as mini-buses, auto-component shops, and solving small problems with their machines.
8. The Yadava headman did not want to play the role of a caste headman because it brought obligations toward poor members of his caste – obligations that he did not want to meet.
9. Group centrality was calculated according to the procedure proposed by Freeman (1979), and it provides a rough measure of the power and influence of a group in the network. Degree centrality is a measure based on the number of direct ties of (the members of) a group to others in the network, whereas closeness centrality is based on the distance of a group from others in the network.
10. Before taking the product, we normalize Gould’s inter-clique betweenness by dividing each value by the difference between the global maximum and minimum. All names listed in Table 8 are pseudonyms.
11. Choudhary (often called Kamma) is one of two main landowning (upper) castes in Andhra Pradesh and effectively controls the Telugu Desam party, which won the state elections in 1994 and 1999.

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