

THE RELATIONSHIP BETWEEN SOCIAL CAPITAL AND SUSTAINABLE PRACTICES: REVISITING “THE COMMONS”

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This paper seeks to explore the theoretical and empirical relationship between social capital and ecological sustainability. It takes as a starting point statements made as part of the United Nations Agenda 21 documents. Of particular interest is the role of local grass roots action in establishing and maintaining environmental sustainable practices. We need to revisit the theory of the commons (Ostrom 1990), in particular the issue of the free-rider phenomenon and the consequent degradation of the commons. Evidence suggests that degradation of the commons occurs under very specific circumstances, while there are many examples of the commons being well managed for extended periods. Under conditions of high social capital and local engagement in the management of the commons, the commons may in fact be preserved indefinitely. However, modern discussions tend to be dominated by concerns of “big science” and top down management which has the unintended effect of denying the validity of local knowledge and local management, and eroding social capital. The resulting conflict and poor management can be evaluated in terms of Beck’s notion of “risk society” and the sub-politics that occur at the local level.

Social Capital

Putnam, who drew the concept from Coleman, defined social capital as “ those features of social organisation, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions” (Putnam 1993: 167). In the growing literature since Putnam’s original study of Italy, one strong theme concerns the central role of participation in more or less dense interlocking networks of relationships between individuals and groups (Portes 1998; Putnam 1993; Woolcock 1998). Another common theme refers to trust (Fukuyama 1995; Misztral 1996). Trust

entails a willingness to take risks in a social context based on a sense of confidence that others will respond as expected and will act in mutually supportive ways, or at least that others do not intend harm. As Fukuyama defined it:

Trust is the expectation that arises within a community of regular, honest and cooperative behavior, based on commonly shared norms, on the part of other members of that community. Those norms can be about deep “value” questions like the nature of God or justice, but they also encompass secular norms like professional standards and codes of behavior. (Fukuyama 1995: 26)

Misztral (1996) defines trust as a belief that the results of somebody’s intended action will be appropriate from one’s own point of view. She identifies three forms of trust to match three forms of social order. Stable order accounts for the predicability, reliability and legibility of the social reality. “Trust, understood as a specific type of habitus, allows us to account for the fact that social agents perceive the social world as stable and...operates through the rules of interaction, rules of distanciation and rules of remembering” (Misztral 1996 11). Cohesive order involves trust based on familiarity, bonds of friendship and common faith and values. Collaborative order involves trust as a device for coping with the freedom of others. Trust allows collaboration to occur in the absence of sanctions and rewards.

What is implicit throughout most discussions of social capital is a sense of personal and collective efficacy, or personal agency within a social context. The development of social capital requires the active and willing engagement of citizens working together within a participative community. This is quite different from the receipt of services, or rights to access services, though these are unquestionably important. Whereas the focus on rights places the citizen in a passive role, and potentially a victim, the creation of social capital places citizens at the centre, as co-creators of their collective future.

It is important to distinguish between social capital and its effects. Social capital itself refers to the potential for social action, based on the presence of the appropriate networks, norms, trust and social agency. That potential may or may not be activated. When it is activated, it may produce outcomes that are positive or negative for those who employ it and for others affected by it.

There has also been a growing awareness that social capital is conceptually, and empirically, complex and contestable. Social capital can be both cause and effect, so that its use can also generate effects that further increase its future availability.

Successful deployment of social capital for the purposes of improved economic or social infrastructure (for example, fighting bush fires or floods) is likely to also improve the existing stock of social capital. Social capital in that sense is iterative in its effect.

While the earlier discussions of social capital treated it as a unitary concept, more recent work has differentiated forms of social capital which appear to create qualitatively distinct outcomes. There may, for instance, be a difference in social capital derived from membership in formal and informal networks. Onyx and Bullen (2000) identified participation in formal community organizations and events as a dominant factor. However, they also identified that informal connections within the neighbourhood, and connections with family and friends are important.

A key distinction that is emerging is that between bridging and bonding social capital (Putnam 2000). Bonding social capital appears to be characterized by dense, multifunctional ties and strong but localised trust. They provide the basic source of the individual's identity and sense of meaningfulness within the community of origin and/or within the life-space of the adult. These connections provide personal support for the individual, and can be mobilised swiftly for social action at the community level in times of emergency. Bridging implies a different set of norms, based on a looser form of networks, with a greater acceptance of diversity. Discussions of bonding and bridging to date suggest a model of society with cohesive well-bonded groups linked to each other by loose ties. However, the concept of "bridging" in particular remains unexamined. There are at least three ways in which the concept appears to be used in discussions of social capital, and the three uses do not necessarily go together:

- > To refer to relationships that cross-demographic divides of class, age, ethnicity (eg. Portes 1998).
- > To refer to bridges across structural holes, or gaps between networks which are not necessarily of dissimilar people, but where there has hitherto been little connection. Such gaps may occur for example as a result of geographic distance (eg. Burt 1997).

- > To refer to the capacity to access resources such as information, knowledge, finance from sources external to the organisation or community in question (eg. Woolcock and Narayan 2000).

However, the distinction between 'bonding' and 'bridging' is a relative one. Even within the one community, there are those ties that are very close and those that comprise more formal networks. Those ties that bridge across different social units within the local community then serve to 'bond' the community as a whole. At the next level of analysis all or most networks within the local community would be considered to be bonding networks. For purposes of economic development and wider social/ political participation of the community in the wider society, the issue then becomes one of bridging to looser networks beyond the community itself. Such bridges are likely to be mediated by particular (professional) people who are sufficiently trusted by all parties to form a conduit between otherwise disparate or isolated networks. Within larger (urban) settings, there are likely to be bonding networks within a single ethnic, religious, or geographic unit. What then becomes crucial for social cohesion is the capacity for mediating or bridging links between these strong divides (Krishna, Uphoff and Esman 1997). The evidence to date suggests that such bridging links are most likely to occur through trusted intermediaries (Leonard and Onyx 2003).

A further issue concerns the location or 'ownership' of social capital. Existing discussions of social capital locate it everywhere from the smallest level of the individual person to the largest level of the state. Although social capital is necessarily developed out of social interaction, it can be used to benefit both the individual and the collective, depending on how it is mobilized (Putnam 2000). Individuals may use social capital to reduce transaction costs and obtain information to their personal advantage. On the other hand, the role of the individual activist or entrepreneur may be important in mobilizing collective action.

At the other extreme, some discussions of social capital, particularly in an Asian context, have located it at the level of the state. That is, the state is taken to represent the surrogate father, or authoritative elder within the larger 'community' (Pye 1999).

However, the situation may be quite different at the local neighbourhood or village level. Throughout Asia, and indeed much of the world, there are strong traditional

informal networks based on locality. These typically form strong norms of mutual support and collective assistance for local projects, and are based on a

Non-adversarial, consensus decision making. It is these local networks that are usually responsible for the management of the commons. They depend on strong bonding social capital links. However, according to the synergy view of social capital (Woolcock and Narayan 2000; Evans 1996), appropriate regional and national institutional mechanisms and frameworks are crucial if the potential of local capacity (social capital) is to be fully realised.

A related issue of considerable current debate is the relationship between social capital and social structure, or structural bases of power. The effectiveness of community networks described by Coleman (1988) depends on bonding social capital. These are the dense and intersecting networks that hold a community together. It is to these dense interlocking networks that newly arrived migrants become attached. However such closely networked communities may contain relatively impermeable boundaries, and remain closed to outside influences. As Portes (1998) and others have argued, such closed communities, while initially nurturing the new migrant, may actually impede further engagement with and adaptation to the host society, thus maintaining the migrants in a marginal position. Similarly, Bourdieu (1986) argues that social capital is primarily of benefit to the elite, and is used to maintain exclusory networks of privilege.

It is important to recognize from the outset that social capital is not presented as a kind of “spray on” solution to economic, environmental or social problems. A political economy must be included in any analysis (Fine 2001). We know, for instance that social capital is most likely to work effectively among equals; inequality, exploitation, and power tactics are highly destructive of working social capital. It is also clearly the case that the operation of social capital at the local level will be shaped and constrained by wider structural, economic and political forces which operate at the State (Provincial), National and global levels, and which impact on the local. However, social capital theory specifically rejects the structural determinism of such authors as Harriss (2001) who portray the ordinary citizen as victim and who see the only possibility of social change residing in the mobilization of political action along

traditional (class) interests, usually at the national or global level. The primary focus of social capital is a positive one. If given the opportunity, what can be achieved at the local level through people's combined and co-operative actions?

A multi-faceted approach to development

There is considerable available evidence which suggests that social capital is important precisely because of its impact on other aspects of development. We draw on the analysis of Ann Dale (2001) who defines sustainable development as follows:

Sustainable development can be regarded as a process of reconciliation of three imperatives: (i) the ecological imperative to live within global biophysical carrying capacity and maintain biodiversity; (ii) the social imperative to ensure the development of democratic systems of governance to effectively propagate and sustain the values that people wish to live by; and (iii) the economic imperative to ensure that basic needs are met worldwide. (Dale 2001: 110)

The central concepts of development revolve around the four capitals: economic capital (financial and physical assets), natural capital (both natural resources and the maintenance of ecological systems), human capital (the sum total of individual knowledge, skills and physiological capacity) and social capital (which is always social and not individual). In particular, Pierce (1999) argues that we need to revision the relationship between the four kinds of capital. Traditional approaches to development, particularly in Canada (but equally in Australia), have heavily emphasised the use of financial capital and the exploitation of natural capital. As the definition by Dale above suggests, we need to move away from thinking in insular, discipline specific, or institution specific terms, and move instead to more multidimensional thinking. The argument is that action taken with respect to any of the four capitals will have direct consequences for the others. If used correctly, the mobilization of one form of capital can multiply the effects of another in a positive, or virtuous cycle. Equally, the misuse or overuse of one can reduce or destroy another. It is my intention to examine sustainable development management using the four capitals as a framework for analysis, but through the lens of social capital.

Theoretical analyses are beginning to examine the effect of the four capitals together and on each other. Thus Goodland and Daly (1995) do address all forms of capital

together, in relation to rural development and the Australian Landcare movement. It is primarily the literature on sustainability that identifies a link between environmental sustainability on the one hand, and economic and social sustainability on the other, as the work of Dale indicates.

The United Nations 'Agenda 21' was a principal outcome of the United Nations Conference on Environment and Development (the Rio Conference), which sets the agenda "to reverse the effects of environmental degradation and to promote environmentally sound and sustainable development in all countries"

(Robinson 1993: i). This agenda includes empowering communities. Section 3.7 establishes:

Sustainable development must be achieved at every level of society. People's organizations, women's groups and non-governmental organizations are important sources of innovation and action at the local level and have a strong interest and proven ability to promote sustainable livelihoods. Governments, in cooperation with appropriate international and non-governmental organizations should support a community-driven approach to sustainability (UNCED:26).

Roseland (1999) also specifically argues that we need to pay much more attention to social capital, in that social capital enhances returns to investment in other forms of capital. The point being that these various forms of capital are not independent, nor are they alternatives, although they are often treated as though they were. They are interconnected in complex ways, and likely to be complementary, rather than substitutive. Thus for instance, to draw a rather obvious example, the investment in sawmills creates a capital asset which is of no use if the timber is all gone. An over-use of other forms of capital may well erode or destroy human and social capital, for example by processes of deskilling, and unemployment. A loss in these resources makes long-term development unsustainable. On the other hand, as evidence from Sweden indicates (Onyx and Leonard 2000), the mobilization of local communities can be effective in reversing environmental degradation. Similar effects have been observed through some, though not all Australian Landcare groups (Sobels, Curtis and Lockie 2001). Dale (1999: xiv) observes that 'communities, although at the base of the development chain, had become the missing link in efforts to refashion relations between environment and economy'.

While there is an emerging awareness of the potential link between the economy, communities and sustainability, the specific mechanisms that link them remain illusive.

The Problem of the Commons

One of the primary issues in terms of the economy, the community and sustainability, is the problem of “the commons” (Ostrom 1990). The commons refer to those resources owned and freely accessed by a large number of people. The resource is held in common for the mutual benefit of all. The commons may refer to a village green, a forest, a fishing area, an irrigation system, or even clean air. These resources are called the commons because they do not fall under private ownership, but generally are not controlled by the state.

The commons are seen as a ‘problem’ because, theoretically at least, and often in practice, they are over-used. This is so because it is in the short-term economic interest of every person to maximize their own use of the commons, while minimizing their personal investment in it, even though the consequence is that ultimately the commons cannot be sustained. A similar phenomenon is observed in the prisoners’ dilemma game (Ostrom 1990). Each player, operating independently of the other, is required to make a choice, to co-operate with the other, or to defect. If both players choose to co-operate, then the combined payoff is maximized, and each individual achieves a moderately positive outcome. If one player co-operates, but the other defects, then the defector receives a maximum personal gain that is greater than they would receive under the combined payoff, while the ‘sucker’ receives a negative return. If both players defect, the net outcome is zero for both. Under these circumstances, most people chose the dominant strategy, which is to defect. Thus the combined, and individual outcome is zero return.

The commons therefore provides a continuously replayed human tragedy. While it is in the long-term interest of everyone to co-operate, and thus work together to care for the commons, and to share in its benefits, the problem of the free-rider often prevents this from occurring. As Ostrom explains:

Whenever one person cannot be excluded from the benefits that others provide, each person is motivated not to contribute to the joint effort, but to free-ride on the efforts

of others. If all participants choose to free-ride, the collective benefit will not be produced (1990: 6).

However, the tragedy of the commons is not inevitable. Indeed, there are many empirical examples of the commons that have been effectively and sustainably used for the benefit of the many, over extended periods of time. The literature is replete with examples of forests, grazing lands, and fishing areas that have been maintained in a sustainable manner for centuries by the local village, even under conditions of population density. Indeed the over-use of the commons is most likely to occur under quite specific circumstances. The prisoners' dilemma, for example, breaks down when communication between the players is permitted, when each knows and trusts the other, when all players have a long term commitment to the outcome, and where there is opportunity to negotiate, to monitor, and to sanction the outcome. Overuse of the commons is most likely to occur between strangers who have no specific or personal knowledge of each other, who have a short-term interest in the resource, and who are physically removed from the site of the resource. Individuals make a difference. The opportunist is more likely to free-ride, while a person with conviction and leadership may help preserve it.

There are potentially three solutions to the problem of the commons. The first is to transfer ownership to private hands. One owner may care for the resource, and thus maximize its return in a sustainable manner. This is the market solution. However the market solution produces several other problems. First, there is no guarantee that the owner will indeed care for the resource. They may choose to maximize short-term profit and then simply abandon the resource in favour of others with greater return. This outcome has been well documented with regard to the harvesting of timber in privatized lands in British Columbia. Large old-growth trees are particularly valuable but unlikely to regenerate for centuries, if at all. The land so cleared is then sold off for housing or other uses.

Even if the private owners choose to remain and to care for the resource, the benefits are limited to the few, while the 'others' are excluded from the benefits, except under the conditions imposed by the owners. Many resources do not have boundaries necessary for private ownership, and so access to those resources, such as fish, or

sunshine, are very difficult to monitor and control, let alone maintain private ownership.

The second solution to the problem of the commons is to transfer ownership and control to the state. Thus an external agent is given the power to determine access to the commons. This solution may be suitable for some conditions, but it effectively removes control from the local people, who therefore have even less incentive to care for the resource. The forests and jungles of much of Asia, from Northern India to Indonesia, had been an important commons for the local villagers for centuries, but were transferred to state control during the colonial and post-colonial period. The benefits of the resource are then likely to be distributed away from those who initially used it, to benefit the powerful. Logging rights for example were given to major multinational companies. Local communities maximized their own short-term benefits, for example by providing labour under these state contracts. There is also no particular incentive for the state to maximize the productive use of the resource, with the likelihood that the resource will be badly managed and poorly monitored. The results, as we have seen across Asia, have been mass degradation of important forest areas, especially in the watershed areas of major rivers in North India and Thailand, leading to massive flooding of agricultural land further down the river system. In Indonesia illegal logging remains largely unchecked, often using local village labour. The practice of burning the cleared area has created massive smoke palls across the whole region, bringing major respiratory health problems.

The third solution is to maintain the common-pool-resource (CPR) as a commons, under the joint control of the users of that resource. This solution is appropriate only under the conditions known to minimize the problem of the free-rider. It is appropriate when the commons is local to the community of users, where there are clear networks of communication, high levels of trust, and the capacity for local decision-making. Rules for collective maintenance and use of the commons must be equitable and enforceable. A form of accountability is required that is reasonably transparent; action is monitored and is known. While occasional transgressions may be forgiven, depending on the circumstances (which are also known) continued free-riding is subject to increasingly severe penalties. In short, the sustainable use of the commons for the benefit of all depends on high levels of social capital.

It can be further argued, that while the “community” solution to the commons remains a preferred option, the postmodern globalization renders this solution less viable. To some extent at least, local boundaries must necessarily be more porous and the local more closely connected to global economic and social networks. Under these conditions, some kind of negotiated hybrid solution is likely to be more effective, that is, one engaging multi-stakeholder collaborations.

Landcare and the Australian Commons

The notion of the commons is applicable to many areas of common, public interest in Australia. The Landcare movement has developed in response to common concerns to defend and repair our waterways, forests and beaches. Local Landcare groups are grass roots driven. There is clear evidence that people are drawn to Landcare for a variety of motivations, of which the desire to adopt more custodial attitudes to the land is a common and dominant one. It is also clear that the local groups crystallize and give shape to conflict between “the old settlers” who have depended on the land for economic sustenance and who have long established social networks, and the new arrivals, or between those concerned with traditional forms of agricultural production, and those seeking to change these. However it is not true that the old settlers are unconcerned about issues of sustainability and there have been many opportunities taken to develop common alliances. In the process the local Landcare groups generate considerable social capital which they are able to mobilize for the creation of new and creative solutions (Sobels, Curtis and Lockie 2001). In practical terms that means increased levels of trust, better networks, and an enhanced capacity to work collectively for mutual gain. The local group collectively expresses values relating to quality of life issues, and a commitment to improved environmental quality. However this commitment is very grounded; it refers to this time and this place as experienced in the everyday reality of life in this environment. The rationality expressed is the rationality of the immediately lived experience (Tsoukas 1999).

Both the strength but also the weakness and the frustration experienced by those operating at the local level, is that the experience, the collective action, and the access to resources, are all bounded to the local. While social capital is certainly generated, it is largely bonding rather than bridging social capital. The awareness of and commitment to the commons is that which is locally understood, and does not extend

as far as the area network, let alone the catchment. While local resources can and are mobilized in the form of local knowledge, equipment and volunteer labour, the action taken is limited. It may not have access to “expert knowledge”, nor to information concerning the impact of local actions on the wider catchment area. Nor can local action maximize its effectiveness until it is used to leverage outside funding sources. Yet the external agents who could provide such expertise and funding are not necessarily sympathetic to the local agenda. When they do become interested, it is likely to be to further their own agenda, one not necessarily in the perceived interests of the local.

At the other extreme we have interests at the national level, in particular Natural Resource Management (NRM) involving government and private corporations which have necessarily adopted a perspective in which time and place are abstracted and detached from their local referent (Tsoukas 1999, Benn and Onyx 2000). Their concern is the broader national issues of productivity and salinity in particular. Their rationality is the techno-scientific rationality of the scientist. In place of the lived local experience we have a language that reduces the issues to a technical and scientific set of problems to be resolved by expert knowledge and direction. Direction is achieved through increasing centralization and bureaucratic accountability mechanisms. To the extent permitted by state regulation, the solution is then imposed on the local groups, who are then alienated by it. As a result, the local people are less likely to be motivated to contribute their own energy and resources to the protection of the local commons.

In this, as in many modern examples of the commons, the potential solution lies in the development of multi-stakeholder and multi-sector collaborations. Such collaborations may seem to be common sense, but in fact involve very complex negotiations of mutual trust and the sharing of power. At the two extremes, both the local and the national have important power resources. The negotiation usually involves a contest for legitimacy which is embedded in the various discourses of sustainability within Landcare (Benn and Onyx 2002). In this sense, the local group generates considerable symbolic power (Tsoukas 1999) and the power of social capital (Putnam 1993). The national level generates considerable expert power and has access to economic power and bureaucratic control. As Wynne (1996) points out, it is not that

local or lay knowledge is lost or submerged, but rather silenced by the dependency of the local on the expert institutions. Yet there is a growing cynicism born of distrust of those expert institutions. While the local is prepared to acknowledge the importance and relevance of expert knowledge up to a point, the national is less likely to acknowledge the importance and relevance of the local knowledge and resources, except as a tool in its own agenda.

Both sides attempt to establish the moral high ground. In the language of business it is about profits and increased productivity. In the language of the grass roots it is caring for the environment, perhaps at the expense of productivity, probably at the expense of profits. The grass roots is concerned with the commons, that which we all share and care about together. The national is concerned with effective exploitation of available resources (including the free resources of volunteer labour) for the benefit of private interests as well as the larger public good. It is seen as the role of the state to mediate these various interests. Yet the state initiated agencies, such as Australian Landcare Council at the national level, themselves may become the arena of contestation by the various interests (Benn and Onyx 2002). It is the perception of those different interests that generates a sense of distrust by the community.

To some extent the local and regional networks provide mediating structures that potentially bridge the national and the local. Both potentially provide an arena in which the positions of the various stakeholders and perspectives can be aired and reconciled. They are not necessarily incompatible. Indeed the success of the regional coordinators has hinged on the capacity to translate from one discourse (local knowledge and priorities) to another (national funding guidelines). The danger is that the issues become polarized within the sub-politics of the various arenas. Rather than seeing the efforts of the local as being nested within the larger endeavour, they are seen as competing. The managerial imperative of control by the expert institutions then has the effect of ignoring or subverting local knowledge and potentially destroying the social capital that generated local action.

Conclusions

Landcare in Australia is an ongoing story. It is used here simply as an example of the relevance of the theory of the commons to an analysis of the link between social

capital and environmental sustainability. The message is not that we can or should return to some sort of primitive local isolationism, particularly in dealing with environmental issues of national and global importance. As we well know, the environment, and the impact of environmental degradation, does not respect human boundaries of ownership or control. However, the evidence is equally clear that sustainable action will not be achieved simply by imposing techno-scientific solutions. To attempt to do so is to generate further conflict, to diminish the levels of trust and co-operation at the local level, to ignore the relevance of local knowledge, and most importantly to diminish the capacity of the local community to manage and enforce the commons. Under such circumstances, not only are local resources lost, but the phenomenon of the free-rider is likely to increase, to the long term detriment of the environment.

The distinction between bonding and bridging social capital may hold a key to at least a partial solution to this dilemma. We cannot ignore the important effects, both positive and negative, of bonding. Without bonding, there is little motivation to act, although the action may be exclusive in its focus. The commons depends on strong networks of social capital, and therefore on local, face-to-face interaction. It depends for its effectiveness on real people who know and interact with real people. But bridging is also required to move beyond the local and the parochial. Both are essential. Bridging may emerge in the first instance through trusted (bonded) intermediaries. Maybe bridging can also occur through other mechanisms, for example through the media. It is possible that a shared language of 'green' mediated symbols may help to bridge the gaps between disparate interests and groups. We do not know enough about the mechanisms of bridging and bonding.

In all of this there is the challenge of scale. What happens to the global commons, like clean air and ocean stocks? Is it possible to translate the core principles of the commons from the local to the national and the global? It is not even clear what such a translation would imply. However the principles must include: widespread communication between all stakeholders and citizens, so that the interests, knowledge and implications for all are understood; high levels of trust in the public (international) agencies whose mandate it is to protect the commons; widespread, long term commitment to an agreed outcome, and the opportunity for people of all levels of

scientific sophistication to negotiate, to monitor, and to sanction the outcome. Real people still count. These dynamics have been successfully applied at the national and international level. An example at the international level is the successful campaign by Greenpeace against Shell in the North Sea (Tsoukas 1999). This campaign depended on widespread dissemination of information and technical knowledge, the mobilization of public opinion, and the capacity of a NGO to act on behalf of a global civil society. Transnational corporations are sensitive to this kind of collective sanction. The Antarctic Treaty represents another, global attempt to deal with a global commons, one in which several nations share an interest and responsibility for custodianship, but in which no territorial ownership claims are made. Another example, at the national Australian level, is the outstanding success of the Clean-up Australia campaign which has demonstrated that the local and national can be combined. Real people meet and interact. Communication is widespread and effective. There is demonstrably a high level of trust in the campaign organisers and a high level of commitment to the outcome by many people. In this case, it has been possible to combine the face-to-face action of local people with the collaborative sharing of resources and expertise made possible by the larger, national scale.

Regardless of scale then, the solution must be found through multi-sector, multi-stakeholder dialogue, mutual respect, the development of both bonding and bridging social capital, and ultimately through collaborative action involving all stakeholders.

References

Benn, S. and Onyx, J. 2002. Landcare as a multi-stakeholder relationship. CACOM working paper No. 59.

Bourdieu, P. 1986. The forms of capital. In J.G. Richardson (ed.) *Handbook for the Theory and Research for the Sociology of Education*. Greenwood Press: New York.

Burt, R. 1997. The contingent value of social capital. *Administrative Science Quarterly*. 42: 339–365.

Coleman, J. 1988. Social capital in the creation of human capital. *American Journal of Sociology*. 94: 95–120.

- Dale, A. and Pierce, J. (Eds) 1999. *Communities, Development and Sustainability Across Canada*. University of British Columbia Press: Vancouver.
- Dale, A. 2001. *Sustainable Development: a framework for governance*. University of British Columbia Press: Vancouver.
- Evans, P. 1996. Government action, social capital and development: reviewing the evidence on synergy. *World Development*. 24(6): 119–1132.
- Fine, B. 2001. *Social Capital versus Social Theory: political economy and social science at the turn of the millennium*. London: Routledge.
- Fukuyama, F. 1995. *Trust: the social virtues and the creation of prosperity*. Free Press: New York.
- Goodland, R.J.A. and A. Daly. 1995. Environmental sustainability. In F.M.Vanclay and D.A.Bronstein (Eds). *Environmental and Social Impact Assessment*. Wiley: Chichester.
- Granovetter, M. 1986. Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*. 91: 481–510.
- Harriss, J. 2001. *Depoliticizing Development: the World Bank and social capital*. Anthem Press: London.
- Krishna, A., Uphoff, N. and M. Esman, (Eds) 1997. *Reasons for Hope: instructive experiences in rural development*. Kumarian Press: West Hartford, Conn.
- Leonard, R. and Onyx, J. 2003. Networking through loose and strong ties: an Australian qualitative study. *Voluntas*. 14 (2): 191–205.
- Misztral, B. 1996. *Trust in Modern Societies: the search for the bases of social order*. Polity Press: Cambridge.
- Onyx, J. and Bullen, P. 2000. Measuring social capital in five communities. *Journal of Applied Behavioral Science*. 36(1): 23–42.
- Onyx, J. and Leonard, R. 2000. *Rural Renewal and Social Capital: the case of Sweden and Australia*. Working Paper 46, Centre for Australian Community Organisations and Management, University of Technology, Sydney.

- Ostrom, E. 1990. *Governing the Commons*. Cambridge University Press: Cambridge.
- Pierce, J. 1999. Making communities the strong link in sustainable development. In J. Pierce and A. Dale (Eds). *Communities, Development and Sustainability Across Canada*. University of British Columbia Press: Vancouver.
- Portes, A. 1998. Social capital: its origins and applications in modern sociology. *Annual Review of Sociology*. 24: 1–24.
- Putnam, R. 1993. *Making Democracy Work: civic traditions in modern Italy*. Princeton University Press: Princeton, NJ.
- _____ 2000. *Bowling Alone: the collapse and revival of American community*. Simon and Schuster: New York.
- Pye, L. 1999. Civility, social capital and civil society: three powerful concepts for explaining Asia. *The Journal of Interdisciplinary History*. 29(4): 763–773.
- Robinson, N. (ed.) 1993. *Agenda 21: Earth's action plan*. IUCN Environmental Policy and Law Paper No 27 (World Conservation Union).
- Sobels, J., Curtis, A. and S. Lockie. 2001. The role of Landcare group networks in rural Australia: exploring the contribution of social capital. *Journal of Rural Studies*. 17: 265–276.
- Tsoukas, H. 1999. David and Goliath in the risk society: making sense of the conflict between Shell and Greenpeace in the North Sea. *Organization*. 6(3): 499–528.
- Woolcock, M. 1998. Social capital and economic development: toward a theoretical synthesis and policy framework. *Theory and Society*. 27: 151–208.
- Woolcock, M. and Narayan, D. 2000. Social capital: implications for development theory, research and policy. *World Bank Research Observer*. 15(2): 225–250.
- Wynne, B. 1996. May the sheep safely graze? In S. Lash, B. Szerszynski and B. Wynne (Eds). *Risk, Environment and Modernity*. Sage Publications: London.