Social Capital and Natural Resource Management

An important role for social capital?

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Declaration

The work presented in this thesis is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text, and the material has not been submitted, either in whole or in part, for a degree at this or any other university.
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Abstract

The appeal of social capital stems from its intriguing integration of sociology and economics that some authors have heralded as a very important conceptual innovation or inter and trans disciplinary theoretical integration. Although the term social capital is relatively new, the concept is not as it encompasses a variety of other concepts. Broadly, definitions of social capital include reference to social networks and the productive benefits stemming from them. There has been an unprecedented acceptance and application of the concept in recent years with authors from a variety of disciplines applying it to numerous applications. The authors commonly cited as the source of the contemporary debate are Pierre Bourdieu, James Coleman and Robert Putnam. Of these, Putnam is commonly cited for popularizing social capital. The speed of the terms application following Putnam’s early work has weakened the theoretical rigor of the concept, leading many authors to question the validity of the concept. As identified by Wendy Stone, the supply of tools for empirical measurement outstrips demand. What is clear from the literature is that social capital is in a relatively early stage of theorization and much work is required to obtain validity of both conceptualization and operationalization.

The major focus of this thesis is to develop a more rigorous conceptualization of social capital. To do this, an extensive review of literature on social capital was undertaken including work from disciplines including sociology, economics, political science, and anthropology. This review provided the basis for the new conceptualization of social capital that incorporated current social capital theory and identified gaps and deficiencies. One of the major deficiencies of current social capital theory is that it does not sufficiently take into account the complexity of social capital, particularly in terms of level and structure. The conceptualization designed for the purposes of this study incorporates the relationships between determinants, structural elements and manifestations and considers the complexity in terms of externalities, chance, level, feedback loops and specific context. Social capital involves a complex interaction of space and time and as such, highlights the importance of an event as a major determinant. This has significant consequences for a range of circumstances in relation to building efforts and in minimizing loss. The conceptualization also highlights the importance
of building and measuring attempts focusing on different aspects of social capital. Social capital is highly context specific and involves a dynamic relationship between its structural elements that fluctuate widely on spatial and temporal scales. The importance of specific context is further highlighted by the fact that the structure and consequences of social capital are not highly correlated; similar structures can have very different manifestations. These findings contribute considerably to the current theoretical understanding of social capital however there is still considerable work required to make social capital a usable and appropriate concept.
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1.0 Introduction

There has been considerable and increasing interest in social capital theory in recent years, evidenced by its application to various disciplines and numerous subject areas. This interest stems from the appeal of the concept as it integrates sociology and economics, and combines a number of ideas including civic tradition, civicness, civic involvement and social cohesion. Existing studies have suggested that social capital has considerable benefits for a range of economic and sociological outcomes. These purported benefits, and the concept behind social capital, are not new but rooted in the work of early economic and sociologic thinkers. The contemporary authors, who are responsible for bringing the social capital debate to its current popularity, include Pierre Bourdieu, James Coleman and Robert Putnam. Many authors have since contributed to the rudimentary conceptualization of the complex theory.

There is no set and commonly agreed upon definition of social capital and the particular definition adopted by a study will depend on the discipline and level of investigation. There is still debate over the appropriateness of the term 'capital' and this has led to a general weakening of the conceptualization. These definitional and ideological problems have resulted in considerable diversity in theory, particularly in discussion of dimensions, levels, types, determinants, benefits, and downsides. The result is a number of conceptualization approaches, each attempting to simplify the complex social world while maintaining validity. The result to date has largely been poor operationalization of the concept that lacks rigor and strong theoretical links to a thorough conceptualization of social capital. Of particular interest to this study is the interaction of social capital and natural resource management. Few authors have previously made this connection with the most closely related work being on environmental management and development.

This thesis involved an adaptive research approach which facilitated the process of aim/objective clarification to ensure appropriate scope and application of social capital theory (refer to figure 1 and 2). Originally, the aim was to identify effective mechanisms to minimize social capital losses caused by change of institutional structure. The focus was on the measurement of social capital in natural resource management. Literature on social capital was investigated, particularly the measurement of social capital. Conclusions from the social capital literature review (chapter 2) revealed that social capital is inherently abstract in nature.
and does not lend itself to meaningful or rigorous quantitative or qualitative measurement and at present there is a tenuous link to the theoretical understanding of the concept. What was immediately clear was that rigorous measurement of social capital would involve detailed context specific conceptualization to enable the formulation of appropriate indices. This, combined with the extensive data collection requirements, meant that measurement was deemed beyond the scope of the study. For this reason the original objectives (A1-A3 in figure 2) could not be met making the aim impossible to achieve. Subsequently, a new aim and corresponding objectives were developed in line with literature review findings at that time.

A. Social Capital Measurement in Natural Resource Management
Aim: To identify effective mechanisms to minimize social capital losses caused by change of institutional structure.

Objectives:
A1. To identify what mechanisms to minimize social capital losses were put in place by the LCMC prior to disbandment.
A2. To evaluate how effective the mechanisms used were in minimizing social capital losses.
A3. To identify mechanisms that would have been more appropriate in this situation for application in other similar circumstances.

B. Application of Social Capital to Natural Resource Management
Aim: A comprehensive understanding of social capital and how it relates to natural resource management in Australia.

Objectives
B1. To provide a synthesis of current social capital theory in terms of conceptualization and operationalization
B2. To identify an appropriate preliminary framework for the measurement of social capital within natural resource management
B3. To gain a greater understanding of how social capital theory relates to natural resource management outcomes in Australia
B4. To assess the likely factors that result in change in social capital and how these changes impact the management of natural resources in group settings

C. Conceptualization of Social Capital
Aim: A more rigorous conceptualization of social capital.

Objectives
B1. To provide a synthesis of current social capital theory in terms of conceptualization and operationalization
B2. To identify an appropriate preliminary framework for the measurement of social capital within natural resource management
C1. To attempt a more appropriate conceptualization of social capital

Figure 1. Adaptive research objectives showing change over time from A through to C.
Since measurement was not possible, the new aim and objectives identified at B in figure 1, revolved around the application of social capital theory to natural resource management outcomes. At this stage, the conceptualization problems associated with social capital were not clear. Objective B1 was to provide a synthesis of current social capital theory in terms of conceptualization and operationalization. It was anticipated that this would provide a suitable platform for the application of the theory to natural resource management. To achieve this objective a substantial literature review was conducted including over 400 references from a variety of disciplines including sociology, economics, political science, and anthropology (refer to chapter 2). The major finding was that the current conceptualization of social capital was very poor and did not account for a range of factors that have considerable impact on both the structural elements and the consequences or manifestations of social capital. A further finding was that past social capital studies have been grossly compromised by the lack of conceptualization. Not wishing to further contribute to this problem, it was concluded that the application of social capital to natural resource management would require a more rigorous conceptualization of social capital. For this reason, objectives B3 and B4 in figure 2 were not completed.

The second objective (B2) was to identify an appropriate preliminary framework for the measurement of social capital within natural resource management. This was completed by analyzing current state of the art social capital measurement methodologies against the current (and improved) conceptualizations of social capital theory (refer to chapter 4.1). The major finding was that there are currently no suitable measurement methodologies. The design of an appropriate methodology for application to natural resource management would require a more rigorous conceptualization of social capital and would be necessarily based on the specific context of its application.
A. Social Capital Measurement in Natural Resource Management
   Finding from literature: social capital measurement questionable and beyond scope of study
   A1. Identify mechanisms to minimize social capital loss
   × Objective not possible because social capital measurement is questionable and beyond scope of study
   A2. Evaluate mechanisms
   × Objective not possible because social capital measurement is questionable and beyond scope of study
   A3. Identify more appropriate mechanisms
   × Objective not possible because social capital measurement is questionable and beyond scope of study

B. Application of Social Capital Theory to Natural Resource Management
   √ B1. Synthesize social capital theory
   Finding: very poor conceptualization of social capital
   √ B2. Identify measurement framework
   Finding: no suitable measurement framework exists
   × B3. Understanding of how social capital relates to natural resource management
   Objective not possible because of very poor conceptualization of social capital
   × B4. Assess factors that result in social capital change
   Objective not possible because of very poor conceptualization of social capital

C. Conceptualization of Social Capital
   √ B1. Synthesize social capital theory
   Finding: very poor conceptualization of social capital
   √ B2. Identify measurement framework
   Finding: no suitable measurement framework exists
   √ C1. Establish more appropriate conceptualization of social capital
   Finding: social capital is highly dynamic and based on specific context

Final Objectives:
1. Synthesize social capital theory (Chapter 2)
2. Identify measurement framework (Chapter 4.1)
3. Establish more appropriate conceptualization of social capital (Chapter 4.2)

Figure 2. Change of objectives.
The findings from the previous level B objectives strongly indicated the need for a more appropriate conceptualization of social capital so this became a new aim and objective (C1 in figure 2). This new conceptualization of social capital was based on the existing work reviewed in the literature and on understanding gained through wider reading in the fields of sociology and economics. Existing theory was incorporated and interactions graphically illustrated (refer to figure 14) with gaps identified and filled. There were a number of findings relating to the dynamic and context specific nature of social capital. This work represents a number of important developments to our understanding of social capital. The final objectives for this study are:

- To provide a synthesis of current social capital theory in terms of conceptualization and operationalization;
- To identify an appropriate preliminary framework for the measurement of social capital within natural resource management; and
- To attempt a more appropriate conceptualization of social capital (refer to figure 2).

### 1.1 Thesis organization

This thesis includes the following chapters: introduction, literature review, methodology, results, conclusions and references. The aim and objectives of this study are identified in the introduction above. Due to the theoretical nature of the thesis, an extensive review of literature is included in chapter 2. The early evolution of the concept of social capital is identified and the role of contemporary authors discussed. The next section of the literature review chapter deals with the definitional problems of social capital, and is followed by a discussion of whether social capital is really ‘capital’. Social capital theory is then reviewed including the dimensions of social capital, the levels at which it is located, the types of social capital, the determinants of social capital, the benefits and importance of social capital and the disadvantages or downsides of social capital. The problems with the current conceptualization of social capital and the current conceptual approaches are highlighted in the subsequent section. The operationalization of social capital is discussed in the next section, including both measurement and building. Following this, gender issues are identified, then, a synthesis of social capital and natural resource management literature is presented. A summary of the literature review concludes this chapter.
Chapter 3 outlines the methods used in this thesis including the details of literature search and review and the method used to develop the conceptualization. This is followed by the results chapter which has two major foci: an appropriate measurement framework for application to natural resource management; and the development of a more rigorous conceptualization of social capital. This conceptualization section presents the findings and interpretations of various relevant factors. Chapter 5 details the conclusions of the study and highlights the need for further research to gain a greater understanding of the linkages between social capital determinants, structural elements and consequences or manifestations and the importance of these to natural resource management.

2.0 Literature Review – Social Capital

2.1 Evolution of the Concept of Social Capital

Social capital is a term that is commonly used; however the concept is often poorly defined and conceptualized. Social capital is an old concept but the term has only been coined fairly recently (Bankston and Zhou 2002; Labonte 1999; Lazega and Pattison 2001; Portes and Sensenbrenner 1993; Putnam 1995). Social capital is linked to concepts such as civil society and social connectedness (Adam and Roncevic 2003). It is also linked to historical authors such as Durkheim, Simmel, Marx and Weber among others and to theories such as social exchange theory and psychological contract theory (Watson and Papamarcos 2002). The modern development of the concept came from three key authors, Bourdieu, Coleman and Putnam with many other authors contributing to the current multidisciplinary theory. Very broadly, social capital refers to the social relationships between people that enable productive outcomes (Szreter 2000). The term social capital refers to those stocks of social trust, norms, and networks that people can draw upon to solve common problems. Social capital represents a very important conceptual innovation for inter and trans disciplinary theoretical integration, especially between sociology and economics (Adam and Roncevic 2003). The creation of social capital has been embraced as a solution for social problems as diverse as urban poverty and crime, economic underdevelopment and inefficient government (Boix and Posner 1998).
There has been exponential growth in references to social capital in academic literature in the last 15 years (Aldridge et al. 2002; Halpern 2001) (refer to figure 3). This growth in research and application to diverse areas represents an unprecedented acceptance, study and application of this single concept (Adam and Roncevic 2003). Fine and Green (2000) suggested that social theory is being rewritten through the lens of social capital. The concept of social capital lends itself to diverse application as it is very broad and one may approach practically any social entity or situation through the conceptual framework of social capital (Grootaert and Van Bastelaer 2002b).

![Figure 3. Citations with social capital, human capital and social networks in Econ Lit.](image)


The concept of social capital is not new. Its intellectual history has deep and diverse roots which can be traced to the eighteenth and nineteenth centuries (Adam and Roncevic 2003). The idea is connected with thinkers such as Tocqueville, J.S. Mill, Toennies, Durkheim,
Weber, Locke, Rousseau and Simmel (Bankston and Zhou 2002; Brewer 2003; Lazega and Pattison 2001; Portes and Sensenbrenner 1993; Putnam 1995). Bankston and Zhou (2002) made a particular reference to the connections between Durkheimian normative sociology and Coleman’s thinking on the topic. This is supported by Portes and Landolt (1996) who believed that the origins of the concept lie in the nineteenth century classics of sociology. Portes pointed out Durkheims’ emphasis on group life as an antidote to anomie and self-destruction, and to Marx’s distinction between an atomized class-in-itself and a mobilized and effective class-for-itself (Portes 1998). Heffron (2000) made a tenuous link to the earliest human societies which attempted to accumulate productive assets, thereby creating social capital. Brewer (2003) identified the link between the discussions of Aristotle and other early Greek philosophers on civic society and social capital theory.

Although authors seem to agree on the historical origins of the concept, there is debate in the literature over the first use of the term social capital. Most authors agree that the first use was by Hanifan in 1916 however others have identified Jacobs (1961) (Felkins 2002), Loury (1977) (Lappe et al. 1997; Leeder and Dominello 1999), and the Royal Commission on Canada’s Economic Prospects (Schuller et al. 2000). L.J. Hanifan, a social reformer, in 1916 chose the term social capital to refer to ‘goodwill, fellowship, mutual sympathy, and social intercourse among a group of individuals and families’ (MacGillivray and Walker 2000; Smith and Kulynych 2002; Winter 2000a; Woolcock and Narayan 2000). Routledge and Amsberg (2003) identified that Hanifan used the term ‘capital’ specifically to highlight the importance of the social structure to people with a business and economics perspective. Woolcock and Nerayan (2000) provided a more detailed description of Hanifan’s work identifying that the term was used in explaining the importance of community participation in enhancing school performance, describing it as

‘those tangible substances [that] count for most in the daily lives of people: namely good will, fellowship, sympathy and social intercourse among the individuals and families who make up a social unit .. If [an individual comes] into contact with his neighbor, and they with other neighbors, there will be an accumulation of social capital, which may immediately satisfy his social needs and which may bear a social potentiality sufficient to the substantial improvement of living conditions in the whole community’ (cited in Woolcock and Narayan 2000, p. 227).
Smith and Kulynych (2002) identified that the next use of the term was by Jane Jacobs (1961) in a discussion of urban vitality. Woolcock and Narayan (2000) however, have identified a team of Canadian urban sociologists, Seely, Sim, and Loosely (1956) and an exchange theorist, Homans (1961) that predate Jacobs. Jacobs stated that ‘networks are cities’ irreplaceable social capital’ (cited in Woolcock 1998, p. 192). It seems that the next use of the term was by Loury (1977) (Portes 1998; Woolcock and Narayan 2000) which is commonly cited in the literature. It is interesting to note that in each of these early uses of the term social capital the author did not cite earlier work on the subject (Woolcock and Narayan 2000). Hofstede (1980) is another author who studied the concept although did not use the term social capital but did demonstrate the relevance of such modern values as individualism, equality of opportunity, and ‘uncertainty avoidance’ for the generation of what we call social capital (Heffron 2000).

As identified above the term social capital has only been used since the early twentieth century but its traditions are much older, rooted in economics, sociology, anthropology and political science literature (Grootaert and Van Bastelaer 2002a; Healy and Hampshire 2002). The concept is similar or equivalent to civic tradition, civicness and civic involvement (Adam and Roncevic 2003). Some authors point out the similarity between social capital theory and moral philosophy due to the normative, goal-directed character of the process of production (Favell 1993; Sampson et al. 1999). Boix and Posner (1998) posited theories of social capital as an equilibrium concept; repeated cooperation increases the available stock of social capital, high stocks of social capital, in turn, make it possible to sustain social cooperation.

Economists point to the origin of social capital theory being in the formative period of economic sociology with Max Weber (Trigilia 2001), and others draw links to Adam Smith (Portes and Landolt 1996; Winter 2000a; Winter 2000b). Winter (2000) found commonality between social capital theory and the questions posed by Adam Smith in The Theory of Moral Sentiments (1976 [1759]). Knack (2002) identified Adam Smith’s discussion of the potential negative spillovers of group activities as an aspect of social capital debate. Adam Smith states that when ‘people of the same trade’ meet ‘even for merriment and diversion’ the result is often ‘a conspiracy against the public’ or ‘some contrivance to raise prices’ (cited in Knack 2002, p. 773).
From this discussion it can be seen that the concept of social capital is not new, although the term is. The origins of the concept can be traced to thinkers of the eighteenth and nineteenth centuries and is rooted in economics, sociology, anthropology and political science literature. Since its original use, the term has received unprecedented acceptance and application to diverse areas. A discussion of the contemporary authors on social capital will follow in the next section.

2.2 Contemporary Authors on Social Capital

The contemporary strain of literature dates back to the 1980’s and flows primarily from the work of Pierre Bourdieu, James Coleman and Robert Putnam (Carroll and Stanfield 2003; Lang and Hornburg 1998). Bourdieu is responsible for bringing the concept and term social capital into present-day discussions. Adam and Roncevic (2003) cite the release of his well-known book *Distinction* published in French in 1979 as the origination of the modern notion of social capital. Bourdieu is categorized as a pure sociologist by Adam and Roncevic (2003). Bourdieu’s definition of social capital could be described as ‘egocentric’ as it is considered in the broader framework of symbolic capital and of critical theories of class societies (Wall et al. 1998). Bourdieu defines social capital as

‘the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group – which provides each of its members with the backing of the collectivity-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the word’ (Bourdieu 1986, web page).

Bourdieu’s original work on social capital was analysed within the context of his critical theory of society. This differed from the following normative approach of Putnam (1993) and Coleman (1988), and the network based utilitarian approach of Burt (1998) and Lin (2001). Of the three originating authors on social capital, Bourdieu’s work contains the least empirical analysis with only fragments of reference to it (Adam and Roncevic 2003).

James Coleman, a sociologist with strong connections to economics through rational-choice theory (Jackman and Miller 1998; Li et al. 2003; Schuller et al. 2000), draws together insights from both sociology and economics in his definition of social capital:
‘Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure’ (Coleman 1988, p. S98).

Coleman’s work represents an important shift from Bourdieu’s individual outcomes (as well as in network-based approaches) to outcomes for groups, organizations, institutions or societies which represents a tentative shift from egocentric to sociocentric (refer to table 1) (Adam and Roncevic 2003; Cusack 1999; McClenaghan 2000). Coleman also added that ‘like other forms of capital, social capital is productive, making possible the achievement of certain ends that would not be attainable in its absence’ (Coleman 1988). Most authors agree that social capital is dealing with certain aspects of social structure that enable social action (Adam and Roncevic 2003). Unlike Bourdieu, Coleman was extensively involved in empirical research and formulation of indicators. Schuller, Baron et al. (2000) described the explanation of his findings as post hoc and that his key contribution to the social capital debate lay in the relatively straightforward way he outlines the concept. Coleman explores how the productive nature of social capital might offset deficiencies in other capital such as human and cultural capital (Teachman et al. 1997). Coleman extended the scope of the concept from Bourdieu’s analysis of the elite to encompass the social relationships of non-elite groups (Schuller et al. 2000).

<table>
<thead>
<tr>
<th>Table 1. Contemporary authors level of study of social capital</th>
</tr>
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<tr>
<td><strong>Levels of analysis</strong></td>
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| Individual / class faction | • Titles / names  
• Friendships / associations  
• Memberships  
• Citizenship | | |
| Family / community | • Family size  
• Parents’ presence in the home  
• Mother’s expectation of child’s education  
• Family mobility  
• Church affiliation | | |
| Community / region | | • Memberships in voluntary organizations  
• Voting participation  
• Newspaper readership | |
Robert Putnam, a political scientist was responsible for popularizing the concept of social capital through the study of civic engagement in Italy (Boggs 2001; Schuller et al. 2000). Such was Coleman’s influence over the scholarly debate, Putnam cited Coleman’s *Foundations of Social Theory* as a central source (Routledge and Amsberg 2003). Putnam gave the following definition:

‘Social capital here refers to features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions’ (Putnam et al. 1993, web page).

In *Making Democracy Work* (Putnam et al. 1993) the authors explore the differences between regional governance in the north and south of Italy, the explanatory variable being civic community. The next of Putnam’s work focused on the decline in civic engagement in the United States (Schuller et al. 2000). In *Bowling Alone* (Putnam 1995) Putnam identified a general secular decline in levels of social capital as indicated by membership in voluntary organizations (Schuller et al. 2000). This paper used the example of bowling as an activity which used to be highly associational, representing not only recreational channels but also a source of social interaction, a component of social capital (Putnam 1999; Putnam 2000). Like Coleman, Putnam was extensively involved in empirical research and formulation of indicators and was responsible for the development of the widely applied measure so-called ‘Putnam instrument’ (Adam and Roncevic 2003; Paldam and Svendsen 2000). This instrument is the best known and most widely applied measure that is an overly simplified version of his elaborate index of ‘civicness’ that includes four indicators: trust in people and institutions, norms of reciprocity, networks, and membership in voluntary associations (Adam and Roncevic 2003). Putnam’s arguments have been criticized as circular and tautological – simultaneously a cause and effect (Pope 2003; Portes 1998).

The authors discussed above; Bourdieu, Coleman and Putnam; are most commonly cited for the basis of contemporary discussions on social capital. They represent early attempts to identify and conceptualize this complex theory. Grootaert and Van Bastelaer (2002a) suggested that the social capital model may currently be at the same early stage that human capital theory was thirty or forty years ago. Many authors have since progressed our
understanding, and particularly the suitable operationalization, of social capital (refer to figure 4).

Figure 4. Contemporary authors on social capital.

Building on work by Bourdieu, Loury and Coleman among others, Alejandro Portes (1996, 1998, 2000) defines social capital as ‘... the ability of actors to secure benefits through membership in networks and other social structures’ (Portes 1998, p. 6). Portes and Landolt (1996) identified the downsides of social capital and illustrate that earlier authors had focused on the positive, beneficial effects of social interaction without taking into account the less attractive features. Portes in later work also made contributions to the understanding of the role of social capital in development (Portes and Landolt 2000).

Ronald Burt’s research approach is based on Bourdieu’s and Coleman’s work and focuses on variables indicating the position of the individual inside social networks (Adam and Roncevic 2003). Burt focused on accessibility to embedded resources by measuring social capital in
terms of network constraint (Lin et al. 2001b). More constraint means fewer structural holes and because structural holes are the source of social capital, fewer structural holes result in poorer social capital (Burt 1997; Burt 1998). This research approach is commonly known as the network approach as it looks at network variables. Nan Lin, often working with Burt, has contributed to the development of network measurements of social capital, namely position generator and name generator (Lin et al. 2001a). Lin described three different research programs: focus on the documentation of the distribution of resource in a social structure, with the purpose of describing the relative distribution of resources as a collective asset in the structure (Lin 1976; Lin 2001a; Lin 2001b).

Michael Foley and Bob Edwards (1997, 1999) produced some revealing findings from studying the work of authors who undertook empirical research on social capital. Their findings included context-dependent conceptualization of social capital, as access plus resources, and that work on ‘generalized social trust’ are irrelevant. Francis Fukuyama used an approach derived from Putnam that focuses mainly on behavioral variables and attitudes (for example, trust, norms, values) as measured in various surveys (Adam and Roncevic 2003). Fukuyama practically equated social capital with trust. Other authors have criticized the use of a single indicator as a measure of social capital (Paxton 1999). Stephen Knack and Paul Keefer (1997) adopted two measures of social capital; the mean value of expressed general trust and the second is a composite index of norms of civic cooperation. Pamela Paxton (1999, p. 93) conceptualized social capital differently from preceding authors stating ‘social capital consists of two measurable components: objective associations between individuals and a subjective type of tie, which must be reciprocal, trusting, and involving positive emotions’. The first is measured by three variables and the second by trust in individuals and trust in institutions (Paxton 1999).

In an attempt to alleviate the problems of source/form distinctions, Michael Woolcock developed a comprehensive, multilevel model of social capital while taking into account the well-known distinction between ‘bridging’ and ‘bonding’ social capital (Woolcock 1998; Woolcock 2001a; Woolcock 2001b; Woolcock 2002b). Famous for his work with the World Bank, Woolcock (1998) asserted that without bridging social capital, communities do not have what is needed to ‘get ahead’ (Guenther and Falk 1999). Janine Nahapiet and Sumantra Ghosal (1998) developed a robust definition of social capital with the distinction between three
dimensions: structural, relational and cognitive, and discuss the highly interrelated nature of the features they discuss.

By the late 1990’s the number of contributing authors grew significantly based on the work of the contemporary authors discussed above. It could be generalized that much of this work lacked rigor and did not take into account the multi-dimensional nature of social capital. Much of the work was piece-meal in nature, simply applying an approach to a discipline or area of interest. The role of Putnam’s research in this process was significant. Putnam’s work, while popularizing the concept, led to a significant weakening of the conceptualization and operationalization of the concept. Coleman’s earlier work provided a more thorough path towards conceptualization and operationalization. Putnam however, applied a single proxy analysis of social capital and applied it to good governance. Seen as the foremost expert on social capital at the time, many authors followed in his footsteps, and Putnam’s lack of rigor was replicated in piece-meal works across a variety of disciplines. Putnam is not solely to blame for this situation, which is due mostly to the complexity and attractiveness of the concept of social capital. The result was a plethora of definitions and operationalization of the concept that led to the theory itself being questioned. From this work many recent authors have synthesized a more rigorous framework for the conceptualization and operationalization of the concept, but much work is left to be done if social capital theory is to provide a meaningful contribution in all its facets.

2.3 Definition of Social Capital

The commonalities of most definitions of social capital are that they focus on social relations that have productive benefits. The variety of definitions identified in the literature stem from the highly context specific nature of social capital and the complexity of its conceptualization and operationalization.

Social capital does not have a clear, undisputed meaning, for substantive and ideological reasons (Dolfsma and Dannreuther 2003; Foley and Edwards 1997). For this reason there is no set and commonly agreed upon definition of social capital and the particular definition adopted by a study will depend on the discipline and level of investigation (Robison et al. 2002). Not surprisingly considering the different frameworks for looking at social capital there
is considerable disagreement and even contradiction in the definitions of social capital (Adler and Kwon 2002). Because of the difficulties in defining social capital, authors tend to discuss the concept, its intellectual origin, its diversity of applications and some of its unresolved issues before adopting a school of thought and adding their own definition (Adam and Roncevic 2003). It has been suggested that a cross disciplinary definition would be less important if scholars were to redefine and appreciate other discipline’s definitions (SCIG 2000). SCIG (2000) further identified that all studies must discuss social capital in relation to the particular discipline, study level and context and that a set definition for such is not required, only an identification of operationalization or conceptualization (SCIG 2000). Other authors have identified that definitions vary depending on whether they focus on the substance, the sources, or the effects of social capital (Adler and Kwon 2002; Field et al. 2000; Robison et al. 2002). Grootaert and Van Bastelaer (2002b) supported this view identifying that the main cause of variance in definitions is caused by focusing on the form, source or consequence of social capital. Social capital is multidimensional and must be conceptualized as such to have any explanatory value (Eastis 1998). Some authors see social capital as an economic term and do not adequately take account of its multi – dimensional and multi – disciplinary nature, for example Day (2002).

Social capital is about the value of social networks, bonding similar people and bridging between diverse people, with norms of reciprocity (Dekker and Uslaner 2001; Uslaner 2001). Sander (2002, p. 213) stated that ‘the folk wisdom that more people get their jobs from whom they know, rather than what they know, turns out to be true’. Adler and Kwon (2002) identified that the core intuition guiding social capital research is that the goodwill that others have toward us is a valuable resource. As such they define social capital as ‘the goodwill available to individuals or groups. Its source lies in the structure and content of the actor’s social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor’ (Adler and Kwon 2002, p. 23). Dekker and Uslaner (2001) posited that social capital is fundamentally about how people interact with each other.

There are therefore numerous definitions of social capital found in the literature. A considerable number of definitions have been listed in the table below (adapted from Adler and Kwon 2002). They vary depending on whether their focus is primarily on (1) the relations an actor maintains with other actors, (2) the structure of relations among actors within a
collectivity, or (3) both types of linkages (Adler and Kwon 2002). A focus on external relations have also been called ‘bridging’ (Woolcock 1998) or ‘communal’ (Oh et al. 1999) and a focus on internal relations ‘bonding’ or ‘linking’. Similar categorization could be done according to other criteria such as strong or weak ties, horizontal or vertical, open or closed, structural or cognitive, geographically dispersed or circumscribed, and instrumental or principled (further discussion of these types and categorizations can be found in the types of social capital section). In table 2 below the external definitions are those that focus primarily on the relations as actors maintain with other actors the internal are those that focus on the structure of relations among actors within a collectivity and both types of linkages (Adler and Kwon 2002).

<table>
<thead>
<tr>
<th>External versus Internal</th>
<th>Authors</th>
<th>Definitions of Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>External/Bridging/Communal</td>
<td>Baker</td>
<td>‘a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors’ (Baker 1990, p. 619).</td>
</tr>
<tr>
<td></td>
<td>Belliveau, O'Reilly, &amp; Wade</td>
<td>‘an individual's personal network and elite institutional affiliations’ (Belliveau et al. 1996, p. 1572).</td>
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<tr>
<td></td>
<td>Bourdieu</td>
<td>‘the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition’ (Bourdieu 1986, p. 248). ‘made up of social obligations (‘connections’), which is convertible, in certain conditions, into economic capital and may be institutionalized in the form of a title of nobility’ (Bourdieu 1986, p. 243).</td>
</tr>
<tr>
<td></td>
<td>Bourdieu &amp; Wacquant</td>
<td>‘the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition’ (Bourdieu and Wacquant 1992, p. 119).</td>
</tr>
<tr>
<td></td>
<td>Boxman, De Graai. &amp; Flap</td>
<td>‘the number of people who can be expected to provide support and the resources those people have at their disposal’ (Boxman et al. 1991, p. 52).</td>
</tr>
<tr>
<td>Source</td>
<td>Definition</td>
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<td>-------------</td>
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</tbody>
</table>
| Burt        | ‘friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital’ (Burt 1992, p. 9).  
‘the brokerage opportunities in a network’ (Burt 1997, p. 355). |
| Knoke       | ‘the process by which social actors create and mobilize their network connections within and between organizations to gain access to other social actors’ resources’ (Knoke 1999, p. 18). |
| Portes      | ‘the ability of actors to secure benefits by virtue of membership in social networks or other social structures’ (Portes 1998, p. 6). |
| Coleman     | ‘Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure’ (Coleman 1990, p. 302). |
| Fukuyama    | ‘the ability of people to work together for common purposes in groups and organizations’ (Fukuyama 1995, p. 10).  
‘Social capital can be defined simply as the existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them’ (Fukuyama 1997). |
<p>| Inglehart   | ‘a culture of trust and tolerance, in which extensive networks of voluntary associations emerge’ (Inglehart 1997, p. 188). |
| Portes &amp; Sensenbrenner | ‘those expectations for action within a collectivity that affect the economic goals and goal seeking behavior of its members, even if these expectations are not oriented toward the economic sphere’ (Portes and Sensenbrenner 1993, p. 1323). |
| Putnam      | ‘features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit’ (Putnam 1995, p. 67). |
| Thomas      | ‘those voluntary means and processes developed within civil society which promote development for the collective whole’ (Thomas 1996, p. 11). |</p>
<table>
<thead>
<tr>
<th>Both types</th>
<th>Loury</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>‘naturally occurring social relationships among persons which promote or assist the acquisition</td>
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<tr>
<td></td>
<td>of skills and traits valued in the marketplace. . . an asset which may be as significant as</td>
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<td></td>
<td>financial bequests in accounting for the maintenance of inequality in our society’ (Loury 1992, p.</td>
</tr>
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<td></td>
<td>100).</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nahapiet &amp; Ghoshal</td>
</tr>
<tr>
<td></td>
<td>‘the sum of the actual and potential resources embedded within, available through, and derived</td>
</tr>
<tr>
<td></td>
<td>from the network of relationships possessed by an individual or social unit. Social capital</td>
</tr>
<tr>
<td></td>
<td>thus comprises both the network and the assets that may be mobilized through that network’</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Pennar</td>
</tr>
<tr>
<td></td>
<td>‘the web of social relationships that influences individual behavior and thereby affects</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schiff</td>
</tr>
<tr>
<td></td>
<td>‘the set of elements of the social structure that affects relations among people and are inputs</td>
</tr>
<tr>
<td></td>
<td>or arguments of the production and/or utility function’ (Schiff 1992, p. 160).</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Woolcock</td>
</tr>
<tr>
<td></td>
<td>‘the information, trust, and norms of reciprocity inhering in one's social networks’ (Woolcock</td>
</tr>
</tbody>
</table>

As previously identified, all studies must discuss social capital in relation to the particular discipline, study level, and context and that a set definition for such is not required, only an identification of operationalization or conceptualization. Therefore this study will not create a new definition of social capital and will not select an existing definition from the literature as doing so limits the application and understanding of the concept. This study will identify an appropriate operationalization and conceptualization for social capital in following sections. The above discussion of definitions should provide ample understanding of the social capital concept.

### 2.4 Is Social Capital Really ‘Capital’?

There is considerable controversy in the literature over the use of the term ‘capital’ (Falk and Kilpatrick 1999; Hofferth et al. 1999; Inkeles 2000; Lake and Huckfeldt 1998; Schmid 2000; Smith and Kulynych 2002). Portes (1998) elegantly posited the location of capital in relation to other forms of capital:
‘whereas economic capital is in people’s bank accounts and human capital is inside their heads, social capital inheres in the structure of their relationships’ (Portes 1998, p. 7).

Social capital is similar to other forms of capital in that it can be invested with the expectation of future returns (Adler and Kwon 1999), is appropriable (Coleman 1988), is convertible (Bourdieu 1986), and requires maintenance (Gant et al. 2002). Social capital is different from other forms of capital in that it resides in social relationships whereas other forms of capital can reside in the individual (Robison et al. 2002). Further, social capital cannot be traded by individuals on an open market like other forms of capital, but is instead embedded within a group (Gant et al. 2002; Glaeser et al. 2002). It is clear from the literature that social capital has both similarities and dissimilarities with neocapital theories and is certainly quite dissimilar from classical theory of capital.

To discuss this in more detail it is necessary to further identify the characteristics of ‘capital’. Schmid (2000) identified that capital is not immediately used up in production but rather its’ services extend over time. The capital stock is subject to investment for future production and depreciation and decay from both use and non-use. Piazza-Georgi (2002) states that capital produces income and encompasses the non-consumable, but depreciating, inputs into the production process. The author supported Schmid (2000a) stating that capital is a productive resource that is the result of investment (Piazza-Georgi 2002). Castle (2002) adds that other characteristics of capital are usefulness and durability.

Many authors have questioned and even attacked the appropriateness of the term capital in social capital. If social capital is adherence to a norm and not affected by individual action as Fukuyama (1995) suggests, then it is not capital in the above sense. The main difference is that more than one person benefits from social capital (Schmid 2002; Schmid 2000). Smith and Kulyynych (2002) believed that the word capital has a too broad, pervasive and honorific meaning and that the term blurs many distinctions which adversely affects the scholarly inquiry, whatever its implicit or explicit normative concerns. Inkeles (2000, p. 20) suggested that the term capital is too limiting and would rather use the term social or communal resources. The author argued this on the basis of:
'capital being an element of production, in particular the production of goods, but also services. We want not only goods and serves but also social support, physical and social security, freedom of expression, opportunities to develop ourselves and a host of these outcomes not captured by the idea of goods and services'.

Hofferth, Boisjoly et al (1999) suggested that social capital is the result of altruism and therefore not capital as capital is a resource that is built up through investment and can be drawn upon when needed. Lin, Cook et al (2001) disagreed by identifying that social capital shares commonalities with other forms of capital, notably human capital. SCIG (2000) supported Lin, concluding that the consequences of social capital are capital in nature because capital suggests something that is durable or long lasting and suggests something that retains its identity even after repeated use, something that can be used up, destroyed, maintained, or improved.

Many authors identify that both forms of social capital, structural and cognitive, qualify as capital because they both require some investment – of time and effort if not always of money (Grootaert 2001; Grootaert and Van Bastelaer 2002b; Krishna and Uphoff 2002). It can be concluded that social capital is unlike other forms of capital but also not sufficiently dissimilar to warrant a different term. Certainly it is the use of the term capital that makes the concept attractive to such a wide range of people given the bringing together of sociology and economics (Adam and Roncevic 2003). Perhaps a more appropriate term may be social solidarity as the notion connotes relations of trust, co-operation and reciprocity just as much as social capital and might be used in place of it to overcome the problem identified above with using the term capital.

It is interesting that the term capital should be used with social, considering capital is already a social relation. In the original sense of the word capital, an object is only capital under particular social conditions. In the same way the sources of social capital are only capital under particular social conditions. For example, a favor owed is only capital under certain, not necessarily favorable conditions. This idea brings in the notion of negative or perverse social capital (see negative social capital section).
2.5 Social Capital Theory

Social capital theory is incredibly complex with researchers and practitioners approaching it from various disciplines and backgrounds for various applications. The result is considerable diversity, controversy and disagreement surrounding the theory. This section will discuss the following components of the theory: dimensions, levels, types, determinants, benefits, and downsides.

2.5.1 Dimensions of Social Capital

As previously identified, social capital theory suffers from much criticism for being poorly defined and conceptualized. This problem largely stems form the fact that social capital is multi-dimensional with each dimension contributing to the meaning of social capital although each alone is not able to capture fully the concept in its entirety (Hean et al. 2003). The main dimensions are commonly seen as:

- Trust (Coleman 1988; Collier 1998; Cox 1997; Kawachi et al. 1999a; Kilpatrick 2000; Leana and Van Buren III 1999; Lemmel 2001; Putnam 1993; Putnam et al. 1993; Snijders 1999; Welsh and Pringle 2001)
- Rules and norms governing social action (Coleman 1988; Collier 1998; Fukuyama 2001; Portes and Sensenbrenner 1993)
- Types of social interaction (Collier 1998; Snijders 1999)
- Network resources (ABS 2002; Kilpatrick 2000; Snijders 1999)
- Other network characteristics (Burt 1997; Hawe and Shielle 2000; Kilpatrick 2000; Putnam 1995) adapted from (Hean et al. 2003, p. 1062).

Other authors have identified different groups of dimensions, for example Liu and Besser (2003) identified four dimensions of social capital: informal social ties, formal social ties, trust, and norms of collective action. Narayan and Cassidy (2001) identify a range of dimensions illustrated in figure 5.
Figure 5. The dimensions of social capital defined by Narayan and Cassidy (2001).

Piazza-Georgi (2002) posited that Woolcock (1998) was the first to attempt a dissection of the concept of social capital within a unified conceptual framework. She goes on to state that Woolcock does this by defining four dimensions of social capital, in two pairs of opposing concepts: embeddedness and autonomy, and the macro and the micro level (refer to figure 6).

![Figure 6. Four dimensions of social capital defined by Michael Woolcock (1998). Source: Woolcock (1998)](image)

Analysis by Onyx and Bullen (2001) suggested that there are eight distinct dimensions of social capital; many are related to each other. Uslaner and Dekker (2001) sum this discussion up by identifying that it is clear that the components of social capital need to be treated as multi-dimensional rather than one-dimensional.

### 2.5.2 Levels at Which Social Capital is Located

Further to dimensional problems, social capital has been located at the level of the individual, the informal social group, the formal organization, the community, the ethnic group and even the nation (Bankston and Zhou 2002; Coleman 1988; Portes 1998; Putnam 1995; Sampson et al. 1999). There are divergent views in the literature; some authors posit social capital at the
individual level, some the community level and others have a more dynamic view. Kilby (2002) stated that social capital exists within levels or scales as one feels belonging to family, community, profession, country, etc, simultaneously. Adler and Kwon (2002) supported this stating that social capital’s sources lie in the social structure within which the actor is located. Thus, social capital can be thought of as having an individual and an aggregate component (Buys and Bow 2002; Newton 1997; Slangen et al. 2003). That is, social capital belongs to the group and can be used by the group or individuals within the group (Kilpatrick et al. 1998; Sander 2002).

Brewer (2003) stated that although social capital was originally conceived as a community-wide concept, it should be observable at the individual level. Baum and Ziersch (2003) disagreed with this, identifying that Bourdieu identified it at the individual level and that Putnam since at the community level. Coleman argued that social capital is not an attribute of individuals but a context-dependent aspect of social structure (Hogan and Owen 2000; Robinson 2000). Glaeser, Laibson et al (2002) identified that post-Coleman literature has almost universally viewed social capital as a community-level attribute. Social capital and civil society are essentially social and collective property of social systems, not a characteristic of individuals (Newton 2001). The key empirical difference between human and social capital is that social capital inheres in relations between individuals and groups, not in individuals per se (Edwards and Foley 1998). The general consensus in the literature is that social capital is identifiable from the individual level to the level of the nation however it is clear that social capital is evident at any level where there is identification and belonging. The classification into micro (individual), meso (group) and macro (societal) is useful in analysis of social capital (refer to figure 7).

Figure 7. Illustration of the interaction of levels at
which social capital exists.
The goods produced by social capital can also occur at different levels of the social structure (Paxton 1999). It can be a private good or a public good depending on the level (Aldridge et al. 2002). Onyx and Bullen (2001) supported this identifying that social capital appears to be both a private and a public good. There is not consensus in the literature however. Coleman (1988) argued that social capital is a public good, however Fukuyama posited that it is in fact a private good (Fukuyama 2001; Fukuyama 2002). Fukuyama (2002) suggested that social capital is not a public good but a private good that produces extensive positive and negative externalities. This is supported by Dasgupta (1999, p. 325) who stated that 'social capital is a private good that is nonetheless pervaded by externalities, both positive and negative'.

2.5.3 Types of Social Capital
Attempts to more thoroughly conceptualize social capital have resulted in many authors identifying different types and characteristics, the most common being the distinction of structural and cognitive, and bonding and bridging. Although not always called the same thing, the distinction between bridging and bonding (and often linking as well) is common in the literature. Aldridge, Halpern et al (2002) identified these main types of social capital. Bonding is horizontal, among equals within a community whereas bridging is vertical between communities (Dolfsma and Dannreuther 2003; Narayan 2002; Narayan and Pritchett 1999). Wallis (1998) and Wallis and Crocker et al (1998) referred to bonding capital as localized which he defined as being found among people who live in the same or adjacent communities, and bridging capital, which extends to individuals and organizations that are more removed. Bridging social capital is closely related to thin trust, as opposed to the bonding (splitting) social capital of thick trust (Anheier and Kendall 2002).

The other important distinction of social capital, developed by Norman Uphoff and Wijayaratna (2000) spans the range from structural manifestations of social capital to cognitive ones (Grootaert and Van Bastelaer 2002a). Structural social capital facilitates mutually beneficial collective action through established roles and social networks supplemented by rules, procedures and precedents (Hitt et al. 2002). Cognitive social capital, which includes shared norms, values, attitudes, and beliefs, predisposes people towards mutually beneficial collective action (Krishna and Uphoff 2002; Uphoff 1999). Cognitive and structural forms of
social capital are commonly connected and mutually reinforcing (Uphoff and Wijayaratna 2000).

There are numerous other examples in the literature; for example, whether its ties are strong (intensive and repeated) or weak (temporary and contingent); vertical (operating through formal hierarchical structures) or horizontal (in which authority is more decentralized); open (civically engaged and exercising open membership) or closed (protective and exercising closed membership); geographically dispersed or circumscribed; and instrumental (membership as social collateral for individual wants) or principled (membership as bounded solidarity) (Heffron 2000). These varieties of types of social capital require further exploration to establish a widely agreed upon framework, vital for empirical analysis (Van Deth 2003).

2.5.4 Determinants of Social Capital

The determinants are numerous and varied and there is both a lack of consensus and a lack of evidence to support the propositions. Several influential studies have suggested that social capital’s roots are buried in centuries of cultural evolution (Fukuyama 1995; Putnam et al. 1993). Other investigators suggest that social capital can be created in the short term to support political and economic development (Brown and Ashman 1996; Fox 1994; Tendler and Freedheim 1994). Aldridge, Halpern et al (2002) suggested that the main determinants of social capital include: history and culture; whether social structures are flat or hierarchical; the family; education; the built environment; residential mobility; economic inequalities and social class; the strength and characteristics of civil society; and patterns of individual consumption and personal values. Pantoja (1999) identified a different set again, including: family and kinship connections; wider social networks of associational life covers the full range of formal and informal horizontal arrangements; networks; political society; institutional and policy framework which includes the formal rules and norms that regulate public life; and social norms and values. The majority of these claims originate in applied theory and stem from much work done on other concepts such as network analysis, civic society, cultural studies, education, psychology, and many others. Even where empirical research has been performed, the findings have questionable validity.
2.5.5 Benefits and Importance of Social Capital

The importance of social capital theory is apparent from the literature with many empirical studies that purport to show the importance of social capital to a very wide-ranging set of socioeconomic phenomena (Durlauf 2002a; Krishna 2001). Adam and Roncevic (2003, p. 177) stated that

‘despite problems with its definition as well as its operationalization, and despite its (almost) metaphorical character, social capital has facilitated a series of very important empirical investigations and theoretical debates which have stimulated reconsideration of the significance of human relations, of networks, of organizational forms for the quality of life and of developmental performance’.

The widespread interest in and application of the concept could suggest the theoretical importance of social capital theory. Existing studies have provided ample evidence of its pervasiveness and offered useful impressions of its political, economic and social influence (Fine 2001; Jack and Jordan 1999; Montgomery 2000). Aldridge, Halpern et al (2002) cautioned that some of the empirical evidence on the importance of social capital for economic and social outcomes needs to be treated with caution because of the mis-specification or ambiguity of equations or models used to estimate its impact. Without a rigorous method for measurement it is unclear how the benefits are ascertained and tested. It is surprising that there is little skepticism in the literature over the validity of the purported benefits of social capital given the uncertainty of measurement techniques identified above. This is due to two factors: the intrinsic appeal of the concept; and the common misguided faith in measurement methodologies. The majority of benefits described in the literature have not been empirically tested at all but arise through theoretical extrapolation based on other concepts.

Requena (2003) suggested that the importance of social capital lies in that it brings together several important sociological concepts such as social support, integration and social cohesion. This view is supported by Rothstein (2003) who stated that the real strength of social capital theory is the combination of macro-sociological historical structures with micro-level causal mechanisms, a rare feature in the social sciences.
The literature recognizes social capital as important to the efficient functioning of modern economies, and stable liberal democracy (Fukuyama 2001; Kenworthy 1997), as an important base for cooperation across sector and power differences, and an important product of such cooperation (Brown and Ashman 1996), and Lyon (2000) described the importance of social capital in shaping regional development patterns. It is clear that social capital is of importance in societal wellbeing. Some aspects of the concept, such as inter-personal trust, are clearly desirable in themselves while other aspects are more instrumental (Bankston and Zhou 2002). Optimism, satisfaction with life, perceptions of government institutions and political involvement all stem from the fundamental dimensions of social capital (Narayan and Cassidy 2001).

Social capital is charged with a range of potential beneficial effects including: facilitation of higher levels of, and growth in, gross domestic product (GDP); facilitation of more efficient functioning of labor markets; lower levels of crime; and improvements in the effectiveness of institutions of government (Aldridge et al. 2002; Halpern 2001; Kawachi et al. 1999b; Putnam et al. 1993). Social capital is an important variable in educational attainment (Aldridge et al. 2002; Israel et al. 2001), public health (Coulthard et al. 2001; Subramanian et al. 2003), community governance, and economic problems (Bowles and Gintis 2002), and is also an important element in production (Day 2002). Economic and business performance at both the national and sub-national level is also affected by social capital (Aldridge et al. 2002). Others have emphasized the importance of social capital for problem solving and how only certain types of social capital contribute to this (Boyte, 1995; Sirianni & Friedland, 1997).

2.5.6 Disadvantages / Downsides of Social Capital

The same characteristics of social capital that enable beneficial, productive benefits have the potential to cause negative externalities. Potential downsides of social capital include: fostering behavior that worsens rather than improves economic performance; acting as a barrier to social inclusion and social mobility; dividing rather than uniting communities or societies; facilitating rather than reducing crime, education underachievement and health-damaging behavior. (Aldridge et al. 2002). The same orchestrating mechanisms that reduce transaction costs in market exchange can have negative consequences (Carroll and Stanfield 2003; Fine 1999; Torpe 2003). Erickson (2002, p. 547) supports this identifying the following paradox: ‘every feature of social structure can be social capital in the sense that it produces
desired outcomes, but also can be a liability in the sense that it produces unwanted results’. The kinds of groupings and associations which can generate social capital always also carry the potential to exclude others (Hunter 2000; Morrow 1999; Szreter 2000). Social capital can become a constraint to individuals’ actions and choices (Wall et al. 1998). For example, there is a particularly high risk of negative social capital in urban poverty situations (Small 2002). The importance of the negatives of social capital was first documented by Portes (1996) but now is synonymous with our understanding of social capital theory. A stock of social capital is simultaneously productive and perverse. Simplistically speaking, the make up of these types determines the structure of the overall social capital present. As this is highly context specific further research is required to understand the causal relationships that determine the realization of productive, or perverse, social capital.

2.6 Conceptualization

2.6.1 Problems with Conceptualization of Social Capital

As identified above, the conceptualization of social capital is the biggest challenge facing proponents of the theory. At present there is a lack of rigorous conceptualization of social capital (Krishna and Uphoff 2002). Lin, Cook et al (2001, p. 58) identified that there is a ‘danger that we may reach a point where the term might be used in whatever way it suits the purpose at hand, and thus be rendered meaningless as a scientific concept that must meet the rigorous demands of theoretical and research validity and reliability’. Fine (1999) pointed out that social capital is taking over explanations of economic development, growth, and prosperity, he also suggest that social capital had other possibilities before being turned against the other social sciences by economics (Fevre 2000). Hean, Cowley et al (2003) made the observation that the accumulation of literature on social capital has begun to obscure the understanding of the concept. The inappropriate measurement techniques that have been implemented have caused problems for understanding social capital at the conceptual level and led to debate over whether the concept is relevant or appropriate (Stone 2001). Or as McHugh and Prasetyo (2002, p. 1) put it, ‘the proliferation of competing definitions, analytical methods and applications associated with the term is perhaps only dwarfed in volume by the literature critical of its theoretical ambiguity, ambitious conceptual scope, and practical over-versatility’.
Glaeser, Laibson et al (2002) were very positive that economics will solve and answer problems with social capital theory, however Fukuyama (2001) was of the view that the economists’ approach to understanding how social capital is generated is ultimately very limited. Good (2000) posited that social capital theory will develop over time through debate to be more usable and measurable.

Collier (1998) provided a good starting point for conceptualization, identifying that a conceptual model for social capital should identify the concept within the complexity of the social world, as defined by dynamic relationships between its components, rather than what at present often appears to be a disparate collection of circumstantial variables. Perhaps many authors struggle with the complexity of the concept, and there is some evidence that this is the case. Paxton (1999) identified the complexity of social capital framework in terms of micro (individual), meso (group), and macro (societal) scales with the interaction of negative externalities in the form of exclusion and negative ends such as crime. Fukuyama (2001) posited that many of the characteristics of social capital are epiphenomenal, arising as a result of social capital but not constituting social capital itself. Edwards and Foley (1998) added to the complexity identifying that norms and values held by individuals become social capital only insofar as they facilitate action by others and in this respect, they are context specific; outside that situation they may be of little or no value. Another important factor is the distinction between two mechanisms through which actors pursue social capital, reciprocity transactions and enforceable trust, which are sustained by different norms and patterns of social ties among actors (Frank and Yasumoto 1998; Portes and Sensenbrenner 1993). Not only is it context specific and operates under different mechanisms, but each element bears different functional relationships to the causal factors (Johnston and Soroka 2001).

Attempting to conceptualize the concept, Grootaert and Van Bastelaer (2002) building on the work of Uphoff (2000) identify two important dimensions of social capital: level from micro to macro; and the continuum from cognitive to structural (refer to figure 8).
Figure 8. Conceptualization of social capital developed by Grootaert and Van Bastelaer (2002)

Source: Grootaert and Van Bastelaer (2002)

Figure 9 illustrates an existing conceptualization of social capital developed by Bain and Hicks (1998). The authors roughly divide social capital into two levels: the macro and the micro. The macro level refers to the institutional context in which organizations operate while the micro level refers to the potential contribution that horizontal organizations and social networks make to development (Bain and Hicks 1998).
2.6.2 Social Capital Conceptualization Approaches

Woolcock and Narayan (2000) have identified four distinct approaches the research has taken: communitarian, networks, institutional, and synergy (refer to table 3). The authors state that ‘the evidence suggests that of the four, the synergy view, with its emphasis on incorporating different levels and dimensions of social capital and its recognition of the positive and negative outcomes that social capital can generate, has the greatest empirical support and lends itself best to comprehensive and coherent policy prescriptions’ (Woolcock
and Narayan 2000, p. 225). From the following discussion it can be seen that each approach has things to offer for an appropriate conceptualization of social capital.

| Table 3. Four views of social capital (Source: Woolcock and Narayan 2000) |
|-----------------------------|--------------------------|-----------------|
| Perspective                 | Actors                    | Policy prescriptions |
| Communitarian view          | Local associations        | Community groups |
|                             |                          | Voluntary organizations |
|                             | Bonding and bridging     | Entrepreneurs |
|                             | community ties           | Business groups |
|                             |                          | Information brokers |
| Network view                |                          | Decentralize |
| Political and legal         | Private and public       | Create enterprise zones |
| institutions                | sectors                  | Bridging social divides |
| Synergy view                | Community networks and   | Coproduction, complementarily |
|                             | state-society relations  | Participation, linkages |
|                             | Community groups, civil  | Enhance capacity and scale of |
|                             | society, firms, states   | local organizations |

Other authors describe other breakdowns of approaches. For example Requena (2003) described three approaches, social networks, associational participation and generalized trust. Another common analysis is based on the differences of the three early contemporary authors; Bourdieu, Coleman and Putnam (Schuller et al. 2000). The four approaches identified by Woolcock and Narayan (2000) provided a very sound analysis of the literature so will be discussed in some detail below.

**Communitarian Approach**

Woolcock and Narayan (2000, p. 229) identified that ‘the communitarian perspective equates social capital with such local organizations as clubs, associations, and civic groups’. The communitarian approach was pioneered by Putnam (1993, 1995) and by Fukuyama (1995, 1997). Communitarians, who look at the number and density of these groups in a given community, hold that social capital is inherently good, that more is better, and that its
presence always has a positive effect on a community’s welfare’. This approach assumes that communities are homogenous entities that automatically include and benefit all members and as such do not make the important distinction between productive social capital and perverse social capital. Narayan and Nyamwaya (1996) found evidence from the developing world that demonstrates that high levels of social solidarity or informal groups does not necessarily lead to economic prosperity (cited in Woolcock and Narayan 2000, p. 230).

**Network Approach**

Woolcock and Narayan (2000) identified that the network approach takes into account both social capitals upside and its downside (see benefits and disadvantages section). This approach ‘... stresses the importance of vertical as well as horizontal associations between people and of relations within and among such organizational entities as community groups and firms’ (Woolcock and Narayan 2000, p. 230). Sandefur and Laumann (1998, p. 484) provided a useful description of the network approach ‘an individual’s potential stock of social capital consists of the collection and pattern of relationships in which she is involved and to which she has access, and further to the location and patterning of her associations in larger social space’. Building on the work of Granovetter (1973) on network theories, authors such as Burt (1992, 1997, 1998); Lin (1999, 2001); Portes (1995, 1997, 1998); and Portes and Sensenbrenner (1993) have added to work taking this perspective. This approach focuses on the importance of what has been termed bonding and bridging social capital in recent literature. These terms are associated with the network theories of structural holes and network closure (Adler and Kwon 2002). The closure argument is that a network of strongly interconnected elements creates social capital. The structural hole argument is that social capital is created by a network in which people can broker connections between otherwise disconnected segments (Burt 2001). For Ronald Burt, the structural hole theory gives concrete meaning to the social capital metaphor as he believes that social capital is more a function of brokerage across structural holes than closure within a network (Burt 2000; Schmid 2003). The theory of network closure is important in understanding the impacts of social capital on tight-knit communities. Burt (2000, p. 351) identified that ‘network closure facilitates sanctions that make it less risky for people in the network to trust one another’. Further discussion of these approaches is beyond the scope of this study however it is acknowledged that the approach has made a considerable contribution to our understanding of social capital.
Institutional Approach
Woolcock and Narayan (2000) identified that proponents of the institutional view argue that the vitality of community networks and civil society is largely the product of the political, legal and institutional environment. The approach views social capital as a dependent variable where as the communitarian and networks perspectives largely treat social capital as an independent variable giving rise to various outcomes (Woolcock and Narayan 2000). Authors include Knack and Keefer (1995, 1997); Collier and Gunning (1999); Collier (1998, 2002); Rodrik (1998, 1999) and Easterly (2000). Woolcock and Narayan (2000, p. 235) identified that ‘the very strength of the institutional view in addressing macroeconomic policy concerns, however, is also a weakness in that it lacks a microeconomic component’.

Synergy Approach
This view attempts to integrate the compelling work emerging from the networks and institutional approaches (Woolcock and Narayan 2000). Authors include Fox (1992); Evans (1992, 1995, 1996); Rose (1998); Woolcock (1998); Narayan (1999); and Fox and Brown (1998). Woolcock and Narayan (2000, p. 236) identified that the three central key tasks for synergy view theorists, researchers and policymakers is to ‘identify the nature and extent of a community’s social relationships and formal institutions, and the interaction between them; develop institutional strategies based on these social relations, particularly the extent of bonding and bridging social capital; and to determine how the positive manifestations of social capital – cooperation, trust and institutional efficiency – can offset sectarianism, isolationism and corruption’.

2.7 Operationalization
2.7.1 Measurement of Social Capital
There is considerable debate and controversy over the possibility, desirability and practicability of measuring social capital, yet without a measure of the store of social capital, its characteristics and potential remain unknown (Durlauf 2002b; Falk and Harrison 1998). Measurement attempts are flawed by problems with separating form, source and consequences (Adam and Roncevic 2003; Onyx and Bullen 2001; Sobels et al. 2001). An example is trust, which is commonly seen as a component of social capital. Some authors equate trust with social capital (Fukuyama 1995; Fukuyama 1997), some see trust as a
source of social capital (Putnam et al. 1993), some see it as a form of social capital (Coleman 1988), and some see it as a collective asset resulting from social capital construed as a relational asset (Lin 1999). Collier (2002) identified that social capital is difficult, if not impossible to measure directly and that for empirical purposes the use of proxy indicators is necessary. Social capital has constructs that are inherently abstract and require subjective interpretation in their translation into operational measures, that are invariably indirect surrogates of their associated constructs (Grootaert et al. 2002; Narayan and Cassidy 2001). Callahan (1996) supported this, identifying that while it is hard to measure social capital directly, it can be inferred from its powerful effects. The choice of indicators to measure social capital is also guided by the scope of the concept and the breadth of the unit of observation used (Collier 2002). Social capital is such a complex concept that it is not likely to be represented by any single measure or figure. The multiple dimensions require sets of indicators to be effective (Cox and Caldwell 2000). Considerations of measurement of social capital inevitably reflect the conceptual debates about social capital itself, in particular, whether social capital can be measured at an individual or community level (Baum and Ziersch 2003).

Measuring social capital clearly has an intrinsic appeal (Inkeles 2000) however, as Fukuyama (2001, p. 12) states, 'one of the greatest weaknesses of the social capital concept is the absence of consensus on how to measure it'. The measurement of social capital and the assessment of its contribution are certainly in their infancy (Fox 1997). Daniere, Takahashi et al (2002a) suggested that existing measures of social capital are subject to criticism because researchers often define terms differently and because it is difficult to develop concrete, tangible evidence of social capital that lends itself to quantitative analysis. Durlauf (2002) supported this, positing that many definitions mix functional and causal conceptions of social capital and that causal definitions of social capital are necessary for successful empirical analysis. Paxton (1999) identified the widening gap between the concept of social capital and its measurement. The popularity of the term seems to have encouraged the use of overly-aggregated, heterogeneous indexes (Knack 2002). Due to the abstract nature of social capital and varying definitions, it is often measured inconsistently between studies (Liu and Besser 2003). Previous studies provide little rationale for how their measures of social capital connect to the theoretical definition of social capital (Paxton 1999). Stone (2001) posited that there are insufficient tools for empirical measurement available and this is an area where
further research is required despite the extensive work of the Australian Bureau of Statistics (2002), Bullen and Onyx (1998), Lochner, Kawachi et al (1999), Onyx and Bullen (2000) and Stone and Hughes (2002). Cavaye (2004, p. 13) identified the following issues in the measurement of social capital that remain unresolved:

- A clear understanding of the context and purpose of the measurement of social capital
- Understanding the limitations of evaluation and measurement, and ensuring that the interpretation of measures is held within these limitations
- The practical mechanics of gaining community feedback such as community representation and coverage, feedback to communities, use in local decision making, and resourcing measurement
- Benchmarking vs. measures of incremental change
- Dealing with qualitative information, diversity, variation and complexity
- The nature and rigor of indicators
- The interpretation and use of measurement information
- How evaluation itself can contribute to fostering social capital.

Fukuyama (2001) posited that producing anything like a believable census of a society’s stock of social capital is a nearly impossible task, since it involves multiplying numbers that are either subjectively estimated or simply non-existent. Measurement of social capital becomes self fulfilling as one tends to find what one is looking for but does not tend to question the path (Inkeles 2000; White 2002). In fact, the concepts usefulness appears to be limited in that it is difficult to operationalise using proxy measures that are distinct from the predicted effects (Falk and Harrison 1998; Krishna 1999; Sobels et al. 2001; Woolcock 1998). This is further supported by Stone (2001, p. viii) who stated that ‘where social capital has been measured to date, it has often been done so using ‘questionable measures’, often designed for other purposes, and without sufficient regard to the theoretical underpinnings of the concept to ensure validity or reliability’. The act of measuring social capital can and probably will affect the stock of capital that is being assessed, which adds further questions to the suitability of attempts to empirically measure social capital (MacGillivray and Walker 2000; Popay 2000).

Grootaert and Van Bastalaer (2002a) on the other hand posited that it is possible to measure social capital and its impact. Onyx and Bullen (2000b) claimed they have developed a reliable and valid measure of social capital – one that is relatively easy to apply. Ideal indicators
recognize that social capital can be expressed through attitudes and expectations; through reported, recorded and observed actions and activities; and by comparing people’s interpretations of how things happened or are expected to happen (Cox and Caldwell 2000). Ideally, measures of social capital should be thoroughly based on, and tied to, the conceptual framework for the specific study. Cavaye (2004) described the development of consistent frameworks and that there are no best indicators, rather some key characteristics that guide the choice of indicators such as:

- specificity – targeted to the variable to be measured,
- measurability - ease of measurement,
- comprehensiveness - measures of a range of social characteristics,
- reliability and rigor,
- continuity – ability to translate across situations and be consistent in local state or national frameworks.

The challenge is to develop consistent indicators that can allow conclusions to be drawn across local, state and national frameworks (Cavaye 2004).

A report by the Productivity Commission (2003, p. 25) made the following observation about the measurement of social capital:

‘Like the theoretical literature, the empirical literature is evolving. Because social capital as a concept is relatively new, multifaceted and imprecise, ‘hard data’ on it are not readily available. Inevitably, many early studies have had to rely on rough proxies for social capital and/or have been somewhat experimental. Hence, the results need to be interpreted with care; in most cases they are ‘suggestive’, rather than definitive.’

Some authors have applied various indicators of social capital in different contexts. Examples include:

- trust (Cox and Caldwell 2000; Falk and Guenther 1999; Glaeser et al. 2000; Guenther and Falk 1999; Kolankiewicz 1996);
- membership (Baum and Ziersch 2003; O’Connell 2003; Price 2002; Warde et al. 2003; Wollebaek and Selle 2003);
- membership and trust (Lappe et al. 1997; Lochner et al. 2003; Veenstra 2002);
- membership, trust and norms of reciprocity (Isham et al. 2002; Skrabski et al. 2003; Staveren 2003); and
network resources (Zhao 2002).

Grootaert (2001) identified the indicators detailed in table 4 as having all been used in empirical studies.

<table>
<thead>
<tr>
<th>Table 4. Indicators of social capital (Source: Grootaert 2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Horizontal associations</strong></td>
</tr>
<tr>
<td>Number and type of associations or local institutions</td>
</tr>
<tr>
<td>Extent of membership in local associations</td>
</tr>
<tr>
<td>Extent of participatory decision making</td>
</tr>
<tr>
<td>Extent of kin homogeneity within the association</td>
</tr>
<tr>
<td>Extent of income and occupation homogeneity within the association</td>
</tr>
<tr>
<td>Extent of trust in village members and households</td>
</tr>
<tr>
<td>Extent of trust in government</td>
</tr>
<tr>
<td><strong>Civil and political society</strong></td>
</tr>
<tr>
<td>Index of civil liberties</td>
</tr>
<tr>
<td>Percentage of population facing political discrimination</td>
</tr>
<tr>
<td>Index of intensity of political discrimination</td>
</tr>
<tr>
<td>Percentage of population facing economic discrimination</td>
</tr>
<tr>
<td>Index of intensity of economic discrimination</td>
</tr>
<tr>
<td>Percentage of population involved in separatist movement</td>
</tr>
<tr>
<td>Gastil’s index of political rights</td>
</tr>
<tr>
<td>Freedom House index of political freedoms</td>
</tr>
<tr>
<td><strong>Social integration</strong></td>
</tr>
<tr>
<td>Indicator of social mobility</td>
</tr>
<tr>
<td>Measure of strength of ‘social tensions’</td>
</tr>
<tr>
<td>Ethnolinguistic fragmentation</td>
</tr>
<tr>
<td><strong>Other crime rates</strong></td>
</tr>
<tr>
<td>Prisoners per 100,000 people</td>
</tr>
<tr>
<td>Illegitimacy rates</td>
</tr>
</tbody>
</table>
Riots and protest demonstrations | Percentage of single-parent homes
---|---
Strikes | Divorce rate
Homicide rates | Suicide rates
Suicide rates | Youth unemployment rate

**Legal and governance aspects**

<table>
<thead>
<tr>
<th>Quality of bureaucracy</th>
<th>Repudiation of contracts by government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence of court system</td>
<td>Contract enforceability</td>
</tr>
<tr>
<td>Expropriation and nationalization risk</td>
<td>Contract-intensive money</td>
</tr>
</tbody>
</table>

The relative success and appropriateness of these studies depend on the local context under which the indicators were applied but ultimately, as discussed earlier, such measures do not take into account the multi-dimensional nature of social capital and the inherent source, form, consequence problems. Other more multi-dimensional measures have been undertaken, however the problems discussed above have not been overcome. Studies including:

- Narayan and Princhett (1997) constructed a measure of social capital from a survey of 87 villages in rural Tanzania, which examined social capital and 'village-level outcomes';
- Onyx and Bullen (1997) sought to measure social capital in five localities in New South Wales using a 68-question survey;
- Barr (1999) used experimental game theory techniques to measure trust and familiarity in selected black communities in Zimbabwe; and
- Putnam (2000) see figure 10.
<table>
<thead>
<tr>
<th>Measures of community or organizational life:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of individuals who served on a committee of a local organization in the last year (0.88a)</td>
</tr>
<tr>
<td>Percentage of individuals who served as an officer of some club or organization in the last year (0.83)</td>
</tr>
<tr>
<td>Civic and social organizations per 1000 population (0.78)</td>
</tr>
<tr>
<td>Mean number of club meetings attended in the last year (0.78)</td>
</tr>
<tr>
<td>Mean number of group memberships (0.74)</td>
</tr>
<tr>
<td>Measures of engagement in public affairs:</td>
</tr>
<tr>
<td>Turnout in presidential elections, 1988 and 1992 (0.84)</td>
</tr>
<tr>
<td>Percentage of individuals who attended public meeting on town or school affairs in last year (0.77)</td>
</tr>
<tr>
<td>Measures of community volunteerism:</td>
</tr>
<tr>
<td>Number of non-profit organizations per 1000 population (0.82)</td>
</tr>
<tr>
<td>Mean number of times worked on a community project in last year (0.65)</td>
</tr>
<tr>
<td>Mean number of times did volunteer work last year (0.66)</td>
</tr>
<tr>
<td>Measures of informal sociability:</td>
</tr>
<tr>
<td>Percentage of individuals who agree that ‘I spend a lot of time visiting friends’ (0.73)</td>
</tr>
<tr>
<td>Mean number of times entertained at home last year (0.67)</td>
</tr>
<tr>
<td>Measures of social trust:</td>
</tr>
<tr>
<td>Percentage of individuals who agree that ‘most people can be trusted’ (0.92)</td>
</tr>
<tr>
<td>Percentage of individuals who agree that ‘most people are honest’ (0.84)</td>
</tr>
</tbody>
</table>

a The figure in brackets indicates the item’s coefficient of correlation with the final constructed measure across the individual states of the United States.

**Figure 10. Putnam’s indicators of social capital for the United States**

2.7.2 Building Social Capital

A fundamental question is whether social capital can be increased in the short term. This question is further complicated by the debate over whether social capital can be measured, as without measurement, change cannot be determined. According to Putnam (1993), social capital is largely determined by historical factors; it can thus not be enhanced in the short term. This view has been challenged in the literature. Petersen (2002) posited that social capital creation is possible be definition. This is supported by Schmid (2000) and Uslaner and Dekker (2001) who saw social capital development as a by-product of other activities. Falk and Harrison (1998) suggested that it is possible to build social capital in the short term and that this is also known as capacity building. Social capital can be produced by the government, nongovernmental organizations, local societal actors and external actors in the civil society, both in combination and in isolation (Cernea 1993; Huntoon 2001; Mondal 2000). Insufficient attention has been paid to the variety of locations where social capital can be generated, inhibited, and appropriated, and the role played by other actors, such as public institutions in this process (Heller 1996; Maloney et al. 2000; Preece 2002). To better explain the production of social capital, analytical frameworks need to account for widely varying outcomes in terms of time, space and social groups (Fox 1996; Lorensen 2002; Minkoff 1997). Soubeyran and Weber (2002) posited that social capital can be created through repeated exchange and face-to-face contacts, which is facilitated by geographic proximity. Maloney, Smith et al (2000) suggested that there is a lack of research into generation, maintenance, and destruction of social capital.

Onyx and Bullen (2000a) believed that the development of social capital requires the active and willing engagement of citizens within a participative community. Social capital building exercises initiated by the state have been identified as weak due to distant ties, therefore social capital building must occur through outsourcing by government (Onyx and Bullen 2001; Taylor 2000; Warner 1999). This supports Lowndes and Wilson’s (2001) theory that the best way for government to increase social capital is to be involved in indirect social capital building. Warner (2001) posited that local government is better placed to create local social capital through community based interventions. Cox and Caldwell (2000) identified that the key social dynamics for building social capital occur in the non-intimate and non-exclusive groups. Falk and Harrison (1998) had a different view, suggesting that social capital building can be equated with capacity building in terms of community development. The use of social
capital in any of its forms does not deplete the supply of social capital (Lyons 2000; Turner 1999). Some authors suggest that use of social capital in fact enhances the supply of social capital. From this debate it is clear that some authors conceptualize social capital as either a flow or stock resource (Walker and Kogut 1997; Wilson 1997; Woolcock 2002a). There is limited understanding of the processes and how they operate to build or improve social capital structure.

### 2.8 Gender Issues in Social Capital Theory

One area social capital literature is weak on is gender (Kilby 2002). Ethnic and gender dimensions of social capital remain under-recognized (Fox and Gershman 2000; Molinas 1998). In the literature, social capital is generally conceptualized gender-blind, paying little attention to gendered intra-household issues of power and hierarchy (Norton 2001; Silvey and Elmhirst 2003). Silvey and Elmhirst (2003) argued that for a more complete picture of social capital, specifically one that includes attention to the gendered and intergenerational conflicts and hierarchies within social networks, and the broader context of gender difference within which social networks are forged. The authors also posited that social capital that exists within a broader context of gender inequality can exacerbate women’s disadvantages, as women remain excluded from the more powerful networks of trust and reciprocity that exist among men (Silvey and Elmhirst 2003).

### 2.9 Social Capital and Natural Resource Management

There is some, but limited literature linking social capital theory and natural resource management. Enhanced social capital can improve environmental outcomes through decreased costs of collective action, increase in knowledge and information flows, increased cooperation, less resource degradation and depletion, more investment in common lands and water systems, improved monitoring and enforcement (Anderson et al. 2002; Daniere et al. 2002a; Daniere et al. 2002b; Koka and Prescott 2002). There is a growing interest in social capital and its potential impact for affecting collective action in sustainable renewable natural resource institutions (Rudd 2000; Sobels et al. 2001; Walters 2002). Pretty and Ward (2001) identified that where social capital is well-developed, local groups with locally developed rules
and sanctions are able to make more of existing resources than individuals working alone or in competition. Social capital indicates a community’s potential for cooperative action to address local problems (Fukuyama 2001; Pilkington 2002; Ritchie 2000). As it lowers the costs of working together, social capital facilitates cooperation and voluntary compliance with rules (Isham and Kahkonen 2002; Pretty and Ward 2001). The norm of generalized reciprocity assists in the solution of problems of collective action. Adler and Kwon (2002) identified that it transforms individuals from self-seeking and egocentric agents with little sense of obligation to others into members of a community with shared interests, a common identity, and a commitment to the common good. Brewer (2003) believed that denser networks increase the likelihood that people will engage in collective action. There is also evidence linking social capital to greater innovation and flexibility in policy making (Knack 2002).

In the field of development it offers the potential for more participatory, sustainable and empowering approaches in theory and practice (Chhibber 1999; Evans 1996; Woolcock and Narayan 2000). Krishna and Uphoff (2002) found that an index of social capital variables is positively and consistently correlated with superior development outcomes. Social and human capital, embedded in participatory groups within rural communities has been central to equitable and sustainable solutions to local development problems (Pretty and Frank 2000; Pretty and Ward 2001). Grootaert and Van Bastelaer (2002a, p. 344) stated that ‘social capital has a profound impact in many different areas of human life and development: it affects the provision of services, in both urban and rural areas; transforms the prospects for agricultural development; influences the expansion of private enterprises; improves the management of common resources; helps improve education; can contribute to recovery from conflict; and can help compensate for a deficient state’. Social capital is critical for poverty alleviation and sustainable human and economic development (Dolfsma and Dannreuther 2003; Grootaert and Van Bastelaer 2002c). It represents a potential link between policy level thinking and community level action (Pretty and Ward 2001). The mobilization of social capital requires a high degree of sensitivity to the specific nature of the societies involved in order to have positive effects (McHugh and Prasetyo 2002). Social capital reduces the costs associated with working together thereby facilitating collective action (Ostrom 1994; Ostrom 1999). There is a need for further research in this area.
2.10 Social Capital Literature Review Summary

The evolution of social capital section revealed that there appears to be consensus on the intellectual history of the concept and although there was controversy over the first use of the term, there now appears to be agreement on this point. Different authors see the role and value of the contemporary authors work on social capital differently. There is presently no commonly agreed definition of social capital however many authors stress the importance of basing the operationalization and conceptualization of the concept on a thorough definition. Perhaps more important than the definitional problems is the controversy over the use of the term ‘capital’. There is compelling evidence to suggest that we should move beyond ‘capital’ debate and accept that the term is unlikely to be replaced for various reasons.

Social capital is a complex theory with many dimensions, types, levels and determinants and although different authors identify different dimensions of social capital all authors seem to agree that social capital is multi-dimensional. Further research is needed to conceptualize the various dimensions within a workable framework. Although widely debated, it is now accepted that social capital exists at the micro, meso and macro levels. Again it is identified that further work is required to conceptualize the various levels, and ownership of social capital as well as the types, to establish an agreed framework and definition. Much work is still required to move the understanding of social capital determinants from the applied theory area to have empirical support.

There are numerous purported benefits of social capital that largely arise from theoretical extrapolation. It is surprising that there is little skepticism of the benefits considering the lack of rigorous empirical evidence. The importance of the concept is demonstrated by the unprecedented interest and application of the concept. Although well recognized in the literature, many authors do not take the negative aspects of social capital into account, particularly in empirical studies. The causal relationships that determine productive / perverse social capital appear to be highly context specific and therefore require further research.

There is agreement in the literature that the concept lacks a rigorous conceptualization and that this is required for valid empirical research. There is disagreement over the role of economics in this process. Much work has been done in recent years to further conceptualize
the concept and it appears to be now possible to synthesize an appropriate conceptualization from the existing literature for a specific study.

Although there has been a number of different approaches taken for research in the area of social capital research, there is much fruit to be taken from a synthesis of the various approaches. There is considerable debate and controversy over the possibility, desirability and practicality of measuring social capital yet without a measure of the store of social capital, its characteristics and potential remain unknown. Many authors have identified that measurement attempts are flawed by problems with separating form, source and consequences, however, a large number of studies have applied questionable techniques to a very wide range of applications. Clearly there is disagreement over the validity of measures of social capital. There are many unresolved issues involved in the measurement of social capital. It seems from the literature that designing and applying context appropriate indicators of social capital can achieve useful measurement, however further work is needed to develop this area of the theory.

It is now widely accepted that social capital can be increased in the short term however there is a lack of understanding of the processes and how they operate to build or improve social capital structure. Although there has been very little work directly on social capital and natural resource management there are studies that can be applied to the area. Much work is required to understand the interaction of social capital and natural resource management outcomes.
3.0 Methodology

Social capital is an attractive but complex concept that is in its early stages of theoretical development. For this reason, this study utilized an adaptive research method. The research objectives originally chosen for this study evolved during the development of the research. Chapter 1 traces the change of the objectives from measurement of social capital in natural resource management, to application of social capital theory to natural resource management and finally to a more thorough conceptualization of social capital. As previously identified, primary data analysis was ruled out as an option for this study as conclusions from the social capital literature review revealed that social capital is inherently abstract in nature and does not lend itself to meaningful or rigorous quantitative or qualitative measurement. Secondary data analysis was therefore used and a rigorous method of literature identification and review was undertaken. Databases were selected from a range of disciplines including sociology, economics, political science and anthropology. A selection of the databases searched is included in table 5 which indicates the number of references identified as containing social capital in the title. Scholarly journals, books, reports and conference proceedings were searched. The extensive results of this search were browsed for relevant documents, and those documents acquired. These references were then reviewed and the search expanded by reviewing both cited papers and papers that cited the original (where available). Particular attention was paid to relevant work cited by authors of reviewed papers. In this way patterns of citation became evident, with sociologists typically citing Coleman and political scientists typically citing Putnam. Through this process, new references were encountered more infrequently as the reviewed collection increased. The total number of references reviewed reached approximately 500 and represents a thorough synthesis of current social capital literature.
Table 5. List of databases searched for social capital and results

<table>
<thead>
<tr>
<th>Database</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Humanities Index</td>
<td>104</td>
</tr>
<tr>
<td>Business Source Premier</td>
<td>369</td>
</tr>
<tr>
<td>Communication Abstracts</td>
<td>20</td>
</tr>
<tr>
<td>Communication Studies: A SAGE Full-Text Collection</td>
<td>82</td>
</tr>
<tr>
<td>Criminology: A SAGE Full-Text Collection</td>
<td>107</td>
</tr>
<tr>
<td>Econlit</td>
<td>381</td>
</tr>
<tr>
<td>ERIC</td>
<td>468</td>
</tr>
<tr>
<td>Informit Online</td>
<td>749</td>
</tr>
<tr>
<td>ISI Web of Knowledge</td>
<td>158</td>
</tr>
<tr>
<td>JSTOR</td>
<td>48</td>
</tr>
<tr>
<td>Linguistics and Language Behavior Abstracts</td>
<td>8</td>
</tr>
<tr>
<td>National Criminal Justice Reference Service Abstracts</td>
<td>88</td>
</tr>
<tr>
<td>Oxford Journals</td>
<td>42</td>
</tr>
<tr>
<td>Physical Education Index</td>
<td>8</td>
</tr>
<tr>
<td>Politics and International Relations: A SAGE Full-Text Collection</td>
<td>223</td>
</tr>
<tr>
<td>Proquest</td>
<td>605</td>
</tr>
<tr>
<td>PsycARTICLES</td>
<td>82</td>
</tr>
<tr>
<td>Social Services Abstracts</td>
<td>83</td>
</tr>
<tr>
<td>Sociological Abstracts</td>
<td>1484</td>
</tr>
<tr>
<td>Sociology: A SAGE Full-Text Collection</td>
<td>457</td>
</tr>
<tr>
<td>Worldwide Political Science Abstracts</td>
<td>439</td>
</tr>
</tbody>
</table>

The extensive literature review provided a sound platform for advancement of the conceptual understanding of social capital. This involved mapping the existing knowledge and past conceptualization attempts to identify inconsistencies and gaps. A number of new factors were then identified and conceptualized within the existing framework of knowledge. A number of important findings were also identified that provide a basis for further theoretical research.
4.0 Results

4.1 Preliminary measurement framework for application to natural resource management

The many problems associated with the operationalization of social capital theory have been discussed in previous sections. This section will briefly discuss the requirements for a rigorous measurement framework based on the conceptualization (chapter 4.2), and aim to propose a preliminary measurement framework for application to natural resource management.

As identified in the literature review, and illustrated in the conceptualization (chapter 4.2), the operationalization of social capital is made difficult by the problem of separating the source, form and consequences. The nature of social capital means that it is necessary to use a proxy or indicator of social capital, as it cannot be directly measured. Past empirical studies have used indicators that relate to the outcomes of social capital. A useful distinction is the classification into proximal and distal groupings. Proximal indicators of social capital are in fact outcomes of social capital related to its core components (networks, trust and reciprocity). Distal indicators are outcomes that are not directly related to its key components and thus may not be valid measures of social capital itself. There is little empirical evidence to support the relationship between indicators and the core components of social capital. This highlights the tautological problem that research reliant upon an outcome of social capital as an indicator of it, will necessarily find social capital to be related to that outcome, without empirical means to explain why, or indeed whether, this is so (see Stone 2001 for further discussion). Social capital can be seen as the structure and quality of social networks. As such, the core dimensions of social capital are seen to be networks of social relations (structure), which are characterized by norms of trust and reciprocity (quality) (refer to table 6).
Stone (2001, p. 6) stated that ‘by linking social capital measurement directly to theoretical understandings of the concept, we are able to: first, recognize that social capital is a multidimensional concept comprising social networks, norms of trust, and norms of reciprocity; second, understand social capital properly as a resource to action; and third, empirically distinguish between social capital and its outcomes’. This provides a sound basis for developing a measurement framework but much work is required to ensure the indicators relate to this theoretical understanding. If we break down one of the core dimensions, social networks, the complexity becomes immediately evident. In table 7, networks are broken into informal and formal and the types evident at the macro level listed. For each of the types listed in the table a series of questions could be developed. However the problem of how they relate to the theoretical understanding remains unresolved. Other problems also become evident. This macro level analysis of social capital is of little use to the majority of studies that
investigate social capital at the meso level. This illustrates the context specific nature of suitable social capital measures. Other issues remain unresolved such as spatial and temporal issues, externalities, feedback loops, and the role of chance in shaping both the structure and the outcomes. It is implausible to add bridging capital to bonding capital and subtract perverse social capital. Thus an amount of social capital should not be sort, not even qualitatively. Instead, social capital should be analysed in terms of a composite of its disparate, yet interrelated, components. Therefore, social capital building initiatives should aim to improve the structure of social capital rather than increase social capital per se.

Table 7. Types of Informal and Formal Networks

<table>
<thead>
<tr>
<th>Informal networks</th>
<th>Formal networks of social relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Family household</td>
<td>➢ Non-group based civic relations</td>
</tr>
<tr>
<td>➢ Family beyond the household</td>
<td>➢ Good deeds</td>
</tr>
<tr>
<td>➢ Friends / intimates</td>
<td>➢ Individual community or political action</td>
</tr>
<tr>
<td>➢ Neighbors</td>
<td>➢ Associations / groups based on relationships</td>
</tr>
<tr>
<td></td>
<td>➢ Antenatal</td>
</tr>
<tr>
<td></td>
<td>➢ Childcare</td>
</tr>
<tr>
<td></td>
<td>➢ Education</td>
</tr>
<tr>
<td></td>
<td>➢ Sport / leisure</td>
</tr>
<tr>
<td></td>
<td>➢ Music / art</td>
</tr>
<tr>
<td></td>
<td>➢ Church</td>
</tr>
<tr>
<td></td>
<td>➢ Charity</td>
</tr>
<tr>
<td></td>
<td>➢ Voluntary</td>
</tr>
<tr>
<td></td>
<td>➢ Self help</td>
</tr>
<tr>
<td></td>
<td>➢ Work based</td>
</tr>
<tr>
<td></td>
<td>➢ Colleagues</td>
</tr>
<tr>
<td></td>
<td>➢ Associations</td>
</tr>
<tr>
<td></td>
<td>➢ Institutional</td>
</tr>
<tr>
<td></td>
<td>➢ State</td>
</tr>
</tbody>
</table>

Source: Stone (2001, p. 7)

Natural resource management applications of social capital can involve micro to macro level analysis. The primary level of interest is the meso level as studies focus on the application of social capital theory to an area of common interest: natural resource management. The focus can be on micro – individuals; meso - groups of individuals, groups of like groups, groups of natural resource management groups, or national natural resource management groups; or
macro – societal (refer to figure 11). This situation is further complicated when taking into account various institutions associated with natural resource management, including voluntary, non-government, government and private sector. The structural elements of social capital will be different depending on the level of study, as will be the relationships between determinants, structure, manifestations and levels, even those levels not under investigation.

![Diagram of social capital operating within natural resource management](image)

**Figure 11. Levels at which social capital operates within natural resource management.**

An important finding for this study is that social capital application to natural resource management must involve a rigorous conceptualization that accounts for the interrelationships and complexity of the concept. The above discussion highlights the importance of designing the operationalization of social capital specifically to the application context. It is concluded that there is presently no suitable measure of social capital and thus no suitable measure for application to natural resource management. The adoption of an existing measure for use in natural resource management would contribute to the existing problem of measurement not being linked to the theoretical understanding of social capital. It is beyond the scope of this
thesis to design both a conceptualization and an appropriate methodology for measurement of social capital in natural resource management settings.

### 4.2 Conceptualization of Social Capital

Any conceptualization of social capital aims to simplify the complexity of the social world to assist in the development of an understanding of the structures and processes that affect a variety of outcomes. The challenge is to make tradeoffs between competing objectives – simplification to facilitate increased understanding, and maintenance of the complexity to maximize validity. In the past, many efforts to conceptualize social capital have resulted in over-simplification and therefore questionable operationalization. There are considerable unknowns surrounding our current understanding of social capital theory. We know that various relationships exist between determinants, structural elements and consequences or manifestations but interactions are largely unknown (refer to figure 12). Anything that has an impact on social interactions can be seen as a determinant and any situation arising because of social interactions can be seen as a manifestation. We know some of the elements in between but have little understanding of the processes. This highlights the importance of establishing a rigorous conceptualization, as the appropriate operationalization of social capital must be based on a rigorous conceptualization.

![Figure 12. Current attempts to conceptualize social capital do not sufficiently account for the complexity between the determinants and consequences or outcomes of social capital.](image-url)
The conceptualization designed for the purposes of this study details processes and relationships operating between the determinants of social capital, the structure, or elements of social capital, and the consequences or manifestations of social capital (refer to figure 13). It attempts to take into account factors such as causal relationships, specific contexts, externalities, levels, feedback loops and chance (refer to figure 14). This section will discuss this conceptualization and highlight the need for further research to reach a more rigorous conceptualization of social capital in general and particularly for application to natural resource management outcomes.

The literature review identified a wide range of determinants that have been linked to social capital including history and culture, social structures, family, education, environment, mobility, economics, social class, civil society, consumption, values, networks, associations, political society, institutions, policy, and social norms at various levels. Clearly the factors listed here play an important role in determining the characteristics of the social capital structure however the causal factors and functional relationships are largely unknown. Some studies have focused on some of the factors in-so-much as detailing the social capital of the circumstance, for example, family, trust, or networks, but have not studied factors as determinants of multi level, multi dimensional social capital.
Figure 13. The links between determinants, structural elements and consequences or manifestations are currently not well understood and generally grossly oversimplified.

It is important to identify that social capital building, and measuring attempts, focus on different components of the conceptualization detailed in figure 14. While social capital building projects could focus on particular aspects of the structure, they are unlikely to be effective without attention to, or understanding of, the underlying determinants that bring about the given structure (refer to discussion of feedback loops). An appropriate analogy is to treat the symptom rather than the cause of the problem. Investment could be negated by underlying feedback loops or context specific determinants. Similarly, attempts to measure only the consequences of social capital are only capturing a snapshot of a moving target. Social capital is a dynamic relationship between its components that evolves constantly on spatial and temporal scales. Every social interaction between actors has wide ranging and unpredictable outcomes to the structure and consequences of the social capital at various levels. Similar structures can have very different externalities and ends (displayed as a continuum in figure 13, negative examples include exclusion and crime), and the role of time, space, feedback loops and chance further illustrate the complexity of the dynamic relationships involved. It is particularly important to identify the causal factors and the specific
context as these are most critical in determining the structural elements and consequences or manifestations. These factors are not considered in the literature.

Figure 14. Conceptualization of social capital simplifying the complexity of the social world into a diagram outlining relationships between determinants, structure (or elements) and consequences.
Various aspects of social capital structure are identified in figure 14. These could be referred to as elements, components, forms or factors. Although difficult to identify on paper, this conceptualization should be thought of as three dimensional – with the various levels acting as the third dimension (for an example of the application to natural resource management see figure 11 page 61). *Ties* are a fundamental component of social capital that describes the nature of social relationships, which simply put, can be strong or weak. *Hierarchical* refers to the distribution of vertical and horizontal ties. *Temporal features* are identified as a component as time has a considerable impact on other components of social capital. There is significant change in the nature of social capital over time, particularly with depreciation, reinforcing of ties and other network features. Figure 15 hypothesizes the possible temporal change of different norms over time. Both the norms relate to trust and reciprocity. Norms of networks, associated with ties, are expected to decrease over time with decreased expected future returns (connected to rational choice theory). These norms should be separate from norms associated with membership or belonging which may or may not include a social tie. These norms are likely to increase over time as one develops reminiscence and therefore increased strength of norms of trust and reciprocity towards other members whether a network tie existed or not. This diagram is a generalization based on applied theory and does not attempt to illustrate the complexity of social processes as there are likely to be numerous factors affecting the strength of norms over time.
Figure 15. Norms of networks are likely to depreciate over time without reinforcement while norms of membership and belonging are likely to increase over time.

Membership accessibility (refer to figure 14) relates to whether there is group exclusion or inclusion and so strongly determines the nature of the externalities. The type refers to important distinctions made in the literature between structural and cognitive, and between bonding and bridging social capital. There are many aspects of network structure (the study of network theories) that are relevant to social capital structure. The concepts of network closure and structural holes play a significant role in the interaction of ties at the meso and macro levels. As such, spatial features interact to determine the nature and impacts of social capital structure. It has been found in past studies that geographic proximity has a role in the formation of norms of reciprocity and the strength of ties, particularly in relation to the sense of belonging and membership through the opportunity for face to face contact and reinforcement of norms, particularly information flows. Technology has rapidly changed the effect of space and time on social capital networks. Email is increasingly being utilized for communication, which offers cheap and fast connectivity that compresses the space-time continuum. More recently SMS (short message service) is increasing networks of mobility. Both of these technologies have different impacts on social capital because of the lack of personal contact.
of face-to-face interaction. The type of social capital that is produced from this interaction is significantly different from that found in traditional relations (for further discussion see (Kavanaugh and Patterson 2001; Meredyth and Ewing 2003; Pruijt 2002; Sullivan et al. 2002; Wellman et al. 2001)). Although there are benefits, this contributes to social isolation, particularly in urban centers of developed countries. Whereas in the past, social networks were commonly based on proximity, they are now based more on work and interest groups. The strength of networks based on proximity has decreased because people know few of their neighbors, particularly in medium to high density areas and where there is high residential mobility. The result is limited opportunity for repeated interaction, which is fundamental to the equilibrium concept for social capital generation.

Alignment has received little attention in the literature but is significant for similar reasons to spatial features. Alignment refers to the interests, beliefs and views of individuals or groups. People may be aligned to groups or communities for various reasons, and this ‘membership’ results in a range of social capital manifestations. There is a dynamic relationship between all of the components described above with the other factors identified in figure 14 under the social capital structure bubble. These factors include, specific context, level, externalities, chance and feedback loops.

Just as the determinants are context specific, the consequences that result from the social capital structure strongly relate to circumstances that change rapidly over time. For example, only under certain circumstances can social capital be realized; one cannot cash in a favor anytime. Also, the social capital structure operating behind vastly different manifestations, such as collective action and organized crime, are not necessarily different – only the circumstances. The level at which social capital is located has pervaded much of this discussion of social capital conceptualization. This is because different components of social capital operate at different levels. Ties operate at the individual level by their very nature (refer to figure 16), but aggregates of ties, described by network theory, operate at the meso and macro levels. Meso level studies look at groups, but these groups are still made up of individuals, with ties to other individuals outside the group and to other groups through ties with individuals who are members of other groups and through multiple membership. The complexity of these meso level interactions cannot be effectively graphically represented.
Another example is belonging (types) that exists within levels or scales as one feels belonging to family, community, profession, country simultaneously.

Due to the transitory, impermanent nature of social capital, *chance* plays an important role. Chance meetings and chance events both play an important role in the structure of social capital but also in realizing the manifestations of social capital. For example, an individual might meet, by chance, a work colleague away from the workplace. This is likely to transform the weak tie from being associated with the same employer to a strong tie associated with belonging, mutual interest, and so on, and strong norms of reciprocity, thereby transforming the organizational social capital – representing changes at both the micro and meso levels. Another chance event may prevent this potential from being realized, for example, if the colleague is away in a time of need.

There is evidence to suggest that there are a series of *feedback loops* that operate within the dynamic relationships between the components of social capital. For example, a community network created to build social capital has initial benefits in terms of information flows, norms of reciprocity and trust, however, network closure results in norms that restrict behavior with a high likelihood of negative externalities thereby self-regulating total benefit and potentially returning community networks to pre-project states through loss of membership. The role of determinants should be highlighted as there may be an underlying reason for propensity for network closure and negative ends – such as history, geographic scale, religion, family and other social norms. This highlights the fact that an event can be a determinant of social capital; a breach of trust for example. In this way, the dynamic relationships of social capital structural elements become somewhat self regulatory, fundamentally based on the context specific determinants. This is what could have led Putnam to state that social capital’s roots were buried in centuries of cultural evolution and therefore cannot be built in the short term. The existence of feedback loops is further supported by other authors (for example, Biox and Prosner 1998) who have posited social capital theories as an equilibrium concept, although as equilibrium in terms of expected returns. It would be more appropriate to think of social capital as an equilibrium caused by limits and determinants, particularly in terms of beneficial manifestations.
Figure 16 identifies the location of social capital at the micro level. It is important to identify that different outcomes of social capital are evident at different levels. At the micro level the main outcomes relate to norms of reciprocity and information flows. In the diagram (figure 16) it can be seen that neither individual ‘owns’ the social capital that exists between them. At the meso level, it can be understood that an individual has a level of ownership or control of his or her social capital by choosing ties and membership and therefore sharing his or her social capital. Some authors refer to structure and quality of relationships as these factors are thought to be important in achieving various outcomes. Norms operate at various levels. Norms of reciprocity exist between the individuals, as do social norms that govern behavior. These same norms operate at other levels simultaneously, both meso and macro.

![Diagram]

Figure 16. Location of social capital at the individual level within the framework of micro level social capital interactions.

From this discussion it can be seen that social capital involves complex interactions between its determinants, structure and manifestations. The structure of social capital is marked by dynamic relationships between its components with the roles of chance, feedback loops and externalities that determine the outcomes or manifestations largely unknown. These relationships are further complicated by the level of investigation. Components operate at different levels and there is considerable interaction between components operating at different levels simultaneously. This complexity highlights the inadequacy of the current conceptualization of social capital, particularly for application to measurement and building attempts. As identified throughout this study, there is further need for research to determine the various causal factors and their relationships to determinants, structure and manifestations. Application should be primarily descriptive and process oriented in the area of
applied theory as further work is required to enable appropriate conceptualization upon which to base appropriate operationalization.

5.0 Conclusions

To date, attempts to conceptualize social capital have not taken into account the complexity of interactions between determinants, structural elements and consequences or manifestations. The result is a tenuous link between the operationalization and theoretical understanding of the concept. This study aimed to lessen this problem by developing a more rigorous conceptualization of social capital. This aim was met by achieving the three objectives: (1) synthesis of current literature, (2) identification of appropriate measurement framework, and (3) the development of a more appropriate conceptualization. The first objective was achieved through an extensive review of existing literature on social capital, particularly looking at theory, conceptualization and operationalization (chapter 2). The major finding from the literature review was that there are serious deficiencies in the current understanding of social capital that result in questionable operationalization.

The second objective was achieved through an analysis of current theory in terms of measurement. Various aspects of the theory were identified and discussed (chapter 4.1). The major finding was that there is currently no appropriate measurement framework, and therefore no framework for application to natural resource management, because such a framework would need to be based on an appropriate conceptualization of social capital.

The third objective required extensive analysis of current theory on social capital, made possible by the broad literature review. Chapter 4.2 highlighted the complexity of social capital, particularly in terms of level and structure. This complexity was conceptualized in terms of the relationships between determinants, structural elements and manifestations and included externalities, chance, level, feedback loops and specific context. The dynamic relationship between the structural elements included various aspects of the current theory, with deficiencies accounted for. One of the important findings involved the relationships of space and time. Another vital element of the conceptualization that has so far been overlooked is the concept of an event as a determinant. This has significant consequences
for a range of circumstances in relation to building efforts and in minimizing loss. This study also highlighted the importance of building and measurement activities focusing on different components of the conceptualization. The most important finding is that social capital is highly context specific and it can be theorized that the structure and consequences of social capital are not highly correlated due to importance of specific context. These findings contribute considerably to the current theoretical understanding of social capital, thus achieving the third objective.

This study provides the basis for further conceptualization and identifies a number of areas where further research is required. There are currently a plethora of categorizations of social capital in the literature that require further work to establish a rigorous set of types. Another area that requires work is the causal relationships that determine productive / perverse social capital that appear to be highly context specific. A particularly important area is in the development of sufficient tools for empirical measurement and theoretically informed building attempts. There are a number of other research areas identified, including:

- processes working to reduce the costs associated with working together thereby facilitating collective action;
- the various levels, and ownership of social capital as well as the types, to establish an agreed framework and definition (with empirical support);
- processes and how they operate to build or improve social capital structure; and
- each of the elements of the conceptualization and measurement based on this theoretical framework.
6.0 References


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