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**Social Capital and Collective Action in
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Social Capital and Collective Action in Environmental Governance Revisited

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Abstract

Since the 1990s, a growing number of authors have argued that social capital has positive effects in creating collective action and achieving favourable economic/political outcomes. However, in this paper we argue that despite this plethora of social capital literature, the connection between social capital and collective action is far from clear. By drawing on to a pluralistic perspective, i.e. ecological economics, sociology and anthropology, and introducing two key concepts, *common knowledge* and *symbolic power*, we aim at unravelling the missing links between social capital and collective action for environmental governance. By introducing these two concepts we aim to recapture a recursive relationship between social structure and human agency and to regain the explanatory power of the concept of social capital.

Keywords: Social Capital, institutions, collective action, 'common knowledge', 'symbolic power', human agency

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1. Introduction

With the respect to the future, my feeling is that sociologists don't know game theory and economists, who do, are hopeless naïve about social structure. The best work remains to be done by those who have mastered both disciplines (Bonacich quoted in Swedeberg 2001).

The conversation between two sister disciplines in social science, i.e. economics and sociology/ anthropology¹, has not been successful due to epistemological differences that they embrace regarding human agency (Appadurai 1989; Bardhan and Ray 2008). On the one hand, economists tend to view human agents as rational welfare maximizers making choices according to their stable preferences. On the other hand, anthropologists/sociologists view agents as socialised beings who follow rules and norms that the social structure determines. Despite the establishment of ecological economics as an interdisciplinary field (Kapp 1976; Söderbaum 1992; Røpke 2005) and some serious attempts to facilitate this conversation (Vatn 2005; Bardhan and Ray 2007), the conversation has had very few scholars involved (Ray 2008).² One of the very few areas that the conversation has been occurred is that in the social capital³ debate (Lehtonen 2004). This concept has been used by various authors from different intellectual backgrounds creating confusions and criticisms from both parties, including economists and sociologists/ anthropologist alike (e.g. Arrow 1999; Cleaver 2000; Harris 2001). In this paper, we aim to unravel some of the confusion and to facilitate the conversation between these disciplines as we deem it necessary for a better understanding of

¹ We note that there is a difference between anthropology and sociology however; when juxtaposed to economics, we believe that they are in a same camp.

² This type of conversation has been especially impeded by their different positionalities in social science, i.e. economists preoccupying more dominant position and more influential in policy making whereas anthropologists/sociologists preoccupying more marginal position. As a result the anthropologists/sociologists have a tendency to be more defensive and have even developed a school inside their discipline which specialises in criticising Economics (Ray 2008).

³ This paper does not argue whether social capital should be termed as 'capital' or not. Solow (1999) and Arrow (1999) argue that social capital is a by-product rather than deliberate investment, thus it does not qualify to be termed as capital. We agree with McNeil's (2007) recent proposition that the concept should be termed *sociality* rather than social capital. However, considering the popularity of the concept and the fact that it is one of the fields where interdisciplinary conversation is taking place, the paper uses the latter term

collective action towards environmental governance, for instance of common pool resources (CPR).

With the seminal work by Putnam (1993) the concept of social capital has proliferated not only in the academia but also in policy arena, especially with regard to development policy (Harris 2001). Putnam has defined social capital as “features of social organization such as networks, norms and trust that facilitate coordination and co-operation for mutual benefit” (*ibid*: 35-36). This concept was introduced into the literature about CPR management as an incentive mechanism or institutional arrangement to curve individuals’ incentive to free-ride regarding the provision of public goods (Ostrom 2000; Aoki 2001b). It is also generally argued that the existence of networks among the agents and a dense flow of information lower the transaction costs of creating collective action (Putnam 1993; Ostrom 2000; Pretty and Ward 2001; Collier 2002; Paavola and Adger 2005).

However, these institutionalist arguments have also been criticised by both economists and anthropologists/ sociologists. Economists argue that the institutional angle cannot explain why some communities succeed in creating collective action while others fail to do so despite the existence of networks and dense flows of information. As governments and markets fail, communities can fail as well (Bowles and Gintis 2002; Bulte and Engels 2007). Additionally, anthropologists and sociologists argue that the explanatory power of social capital has been destroyed by divorcing social capital from social structure (Harris 2001; Cleaver 2003; Mosse 2006). It is argued that what is missing in this game theorist and institutionalist angle is the explicit recognition of the power relations and its implication for sustainable cooperation (Ray and Bijarnia 2007). The relationship between social capital and environmental outcomes and governance through collective action is far from clear (Lehtonen 2004). According to these critics, existing social capital theories have left social capital as a black box (Harris 2001) and do not explain how collective action towards CPR management (Ray and Bijarnia 2007).

By introducing two key concepts, namely, *common knowledge* as defined by Chwe (1999) and *symbolic power, sensu* Bourdieu (1990), this paper identifies the connection between social capital and collective action. By bringing these two concepts together, we argue that the creation of collective action is not just the result of rational calculation about how much

to invest in collective action by individuals but also a social construction of what the community perceives as being optimal. In other words, we argue that the creation of collective action involves social perception or knowledge which is in turn crafted by power relations inside society.⁴

The paper is structured as follows: The next section brings in the concept of ‘social embeddedness’ proposed by Granovetter which gave birth to the original theory on social capital and we briefly address how social capital is regarded by the new institutional economics school. We point out that standard social capital theories suffers from both ‘over-socialised’ and ‘under-socialized’ models of human. This section addresses the deficiency of the standard social capital theory. In section 3, we present an alternative conceptual model of social capital. The model creates linkage between social capital and collective action by introducing two key concepts, common knowledge and symbolic power. We will argue that the potential for creating collective action cannot be considered just as the result of pure rational calculation by individual members of a community. Rather, it should be understood as a process of social construction where some of the groups in the community have the power to impose their vision as legitimate ‘common knowledge’ due to their position in the social structure. This discussion leads us to explore how common knowledge can be diffused among community members and also how common knowledge may be challenged by some marginalised groups. In other words, the existence of social capital does not always lead to the creation of collective action but it embraces a possibility of failure in fostering it. The last section concludes by addressing the implication of this argument in the context of CPR management and collective action.

⁴ The existence of power in the creation of knowledge has been fiercely debated between Habermas and French post-modernist, i.e. Foucault, Derrida and Deleuze (see Kelly 1994). While Foucault (1965) analysed the genealogy of reasons using the concept of power and attempted to deconstruct the idea of rationality itself. He argued that the creation of knowledge or the rationality, which discipline the human agency from within and monitors their action from inside, legitimises the existing power relations. Later his argument was further developed by authors of Subaltern studies. They revealed how Western academics have deprives the voice of the powerless, especially in the non-Western world, and their ability to express themselves in public (Said 1979; Spivak 1988). On the other hand, Habermas argued that it is possible to make a normative distinction between legitimate and illegitimate use of power using communicative rationality (Habermas 1984). The latter argument has led to the discussion on ‘public sphere’ and discursive democracy often which has been recently introduced in environmental evaluation methodologies (e.g. Dryzek 1990; Goodin 1996). Further, institutional economists tend to use the Habermasian concept whereas anthropologists and sociologist tend to rely on Foucauldian concept, but such debate is outside the scope of this paper. We would only argue that power relations influence the creation of common knowledge and by doing so we attempt to bring the notion of power into the pluralistic perspective of ecological economics.

2. What is the problem with standard social capital theory?

2.1. Social embeddedness and human agency

Since the 1950s, gradually social scientists started to recognise that economic activity is embedded in social a structure, i.e. individual rational calculation and stable preferences are not only the driving forces that determine certain individual choices (Polanyi 1957). For example, Geertz (1992) analysed that businesses by merchants in Moroccan bazaars are dictated by social networks and connection that they have, not just by market principles or rational calculation of cost and benefit. Similarly, Granovetter (1973; 1985), who was the leading author concurring with this view, argued that the ‘weak ties’, the ties outside the immediate circle of families and close friends, has a significant impact on the amount of information individuals can obtain regarding job opportunities. To take into account the influence of social structure, he put forward the argument of ‘social embeddedness’, i.e. “the argument that the behaviour and institutions to be analysed are so construed by ongoing social relations that to construe them as independent is a grievous misunderstanding” (Granovetter 1985:481).

These arguments by economic sociologist had a profound influence on some institutional economists who have conceptualised economic activity as an institutional process (Williamson 1981; North 1990). Throughout the 1990s ecological economics, as an alternative to neoclassical economics, has recognized the ‘embeddedness’ of the economic system not only within the broader ecological but also as well as within social systems (Spash and Villena 1998; Paavola and Adger 2005; Røpke 2005). Out of this embeddedness in the social structure and the relationship between the social structure and environmental outcomes, the idea of social capital has been developed especially by the expanding CPR literature (Ostrom 1990; Aoki 2001b; Lehtonen 2004). But what was the original proposition by Granovetter? Have these institutionalists who succeeded him taken his proposition as he originally intended?

Granovetter criticised both the mainstream utilitarian economics with its tenets of the almost robotic human agency by both sociologists and economists. Sociology tends to regard human agents as basically constructed by a social structure through the internalization of symbolic systems, social norms, and customs. On the other hand economists treat human agents as rational welfare maximizers. He thus regarded the sociological one as being ‘over-socialised’ and the utilitarian economic model as ‘under-socialised’. However, he also recognized that both disciplines share a key common trait in that they see human agents as atomized actors, i.e. automata of rational calculation and norms/ rules. Granovetter (1985) eloquently clarifies this point by saying that “fruitful analysis of human action requires us to avoid automation implicit in the theoretical extremes of under- and oversocialised conception. Actors do not behave or decide as atoms outside social context, nor do they adhere slavishly to a script written from them by the particular intersection of social categories that they happen to occur. Their attempts at purposive action are instead embedded in concrete, ongoing system of social relations” (*ibid:487*).

It is through the concept of social embeddedness that Granovetter attempts to avoid both the ‘over-socialised’ approach of generalized morality and the ‘under-socialised’ one of impersonal, institutional arrangements. Later Giddens (1984) and Archer (2003) developed Granovetter’s idea of social embeddedness into that of human agency.⁵ Human agency arises from the agent’s control of resources, which means the capacity to reinterpret or mobilise an array of resources creating new meaning of resources and new position inside the social structure (Giddens 1984; Bourdieu 1990; Sewell 1992). Human agents are born into a social structure and are constrained by the social structure, i.e. structured. However; the fact that they are constrained does not deprive them of their ability to change and transform social structures (Giddens 1984; Bourdieu 1990).⁶ Here in this paper we use the term human agency to refer to the capacity of individual agents to reinterpret and transform the social norm/rules within certain limits (Giddens 1984; Bourdieu 1990; Elias 1991). This agency varies among the agents according to the social position that they occupy (Goffman 1967; Lin 2001).

⁵ Bourdieu term this as ‘habitus’. Despite the minor difference between the term agency by Giddens and ‘habitus’ by Bourdieu, these two concepts are very similar (Sewell 1992).

⁶ However, we must admit that these sociologists argument is weak in terms of theorizing the structuring aspect of human agency (Kouch 1995).

Despite current theories of social capital, especially after Putnam's (1993), who is said to follow Granovetter's main tenets, most of them keep on falling into the pit-fall of either the 'under-socialised' or 'over-socialised' model and cannot capture the embeddness of institutional outcomes. As a result, standard social capital theories assume that human agents can craft the social capital according to their rational calculation. They do not acknowledge the fact that human agents are constrained by social structure (Giddens 1984) and are blind of the power relation involved in creating collective action (Ray and Bijarnia 2007). At the same time it is assumed that once the social capital is mobilised human agents follow the norms/ rules automatically. They do not capture that human agents are able to re-interpret and transform the social structure (Giddens 1984; Taylor 1993). Social structure are not just constraining but enabling as well (Giddens 1984; Vatn 2005). This makes it impossible to understand why collective action is sometimes succeed and other times fail in CPRs (Clever 2003). In the next section, we briefly revise how the concept of social capital has been introduced into the CPR literature.

2.2. Social capital in CPR management

The debate on the commons and CPR management was stimulated by Hardin's (1968) seminal work, although he was referring to the issue of open access resources rather than CPRs (McCay and Jentoft 1998). Empirical evidence has demonstrated that coordination norms/rules do exist inside communities that may reinforce the expectation of collective behaviour leading a critical mass of individuals to adopt cooperative strategies. In other words there is an institutional mechanism inside social groups where Hardin's misplaced tragedy can be avoided (Ostrom 1990; Runge 1992).

The existence of coordination mechanisms is explained through the concept of interdependency. That is, any dominant strategy would fail to capture the essence of the motivation of individual decisions if the importance of changing the expectation of others' behaviour is not analysed. In this sense, decision making regarding the use of CPRs involves interdependent choices in which not only the benefits and costs of using the CPRs becomes a function of the aggregate action of individuals, but the decision to use (or overuse) it is also affected by the expected decisions of others (Paavola and Adger 2005). That is, agents do not act in social vacuum; rather they are surrounded by a web of social networks which gives

them information on others' action. These networks also functions as a mechanism to monitor and sanction each other's actions. This web that surrounds the agents is termed social capital. In other words, social capital was originally used to explain how communities are able to impose certain coordination norms without relying on external coercive regulation, such as states or legal systems. Here we briefly review the history of the social capital concept in the CPR literature after Putnam's (1993) contribution and also in ecological economics (e.g. Lehtonen 2004; Rodríguez and Pascual 2004).

Although there were precursors of Putnam, e.g. Bourdieu and Coleman⁷; it was Putnam's (1993) influential work which popularized the notion of social capital. For Putnam, social capital refers to those “features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated action” (Putnam 1993:167). For example, Putnam applied this concept to explain the difference in the institutional performance between north and south Italy. The concept of social capital, which was introduced as a logical framework that explains institutional performance in his first book, later makes an unexpected turn as he also refers to social capital as the object to be fostered by public policy (Putnam 2000; Morotomi 2003). It is this twist in his conceptualization of social capital that has made his argument most popular, especially in the policy arena (Fine 2001). Since then, the idea of social capital has become divorced from a social structure and has become a resource that can be crafted and manipulated by agents to obtain favourable economic and political outcomes. As a result the negative aspect of social capital has been ignored (Portes 1998; Carroll and Stanfield 2003; Dolfsma and Dannreuther 2003; van Steveren 2003).

This trend has been further enhanced when imported into the CPR management literature most notably by Elinor Ostrom (2000) for whom the concept of social capital is mainly interpreted as consisting of coordination norms or institutional incentive mechanisms used to explain the potential for collective action inside communities. In this vein, social capital is understood as “shared knowledge, understanding, norms, rules and expectation about the pattern of interaction that a group of individuals bring to recurrent activity” (Ostrom 2000:176) and as “an attribute of individual and of their relationship that enhance their ability

⁷ Portes (1998) traces back the origin of the concept to Marx and Durkheim.

to solve collective-action problems” (Ostrom and Ahn 2002: xiv). Ostrom’s view goes even further and argues that “to create social capital in a *self-conscious manner*, individuals must spend time and energy working with one another to craft institutions – that is the set of rules that will be used to allocate the benefit derived from an organized activity and to assign responsibility for paying the cost” (Ostrom 2000:178 *emphasis added*). Ostrom thus argues that human agents have the capacity to craft and invest in social capital to provide the (socially and ecologically) efficient amount of collective action according to some predetermined rational calculation.

Ostrom’s view has been reinforced by game theorists following the idea that social capital is part of an institutional arrangement for which agents have a free hand in crafting it given their rational calculation. For example, Aoki (2001b) applies a ‘linking game’ to exemplify how in the Edo period (1603-1868) in Japan farmers were able to create collective action. They needed to coordinate their actions to maintain the functioning of the communal irrigation system in a context in which individual farmers had the incentive to free ride on such communal effort. Since it was technically difficult to punish cheaters in order to foster collective action coercively, Aoki argue that farmers linked this irrigation game with a social exchange game of ostracism. He shows that the linkage between both games overcomes the incentive to free-ride, especially when the cost of ostracism is high enough.

Another important strand of the institutionalist approach puts more emphasis on social capital in relation to its ability to lower transaction costs (Katz 2000; Pretty and Ward 2001; Paavola and Adger 2005). For example, Pretty and Ward (2001) define social capital as “the structure of relations between actors and among actors” that encourages productive activities. These aspects of social structure are called social capital because it acts as a resource for individuals to use in order to realize *their personal interest*. Local institutions are effective because “they permit to carry on our daily life with *minimum repetition and costly negotiations*” (*ibid:211, emphasis added*). Within this tradition, it is commonly assumed that social capital is useful as it lowers the transaction cost of acting cooperatively for individuals’ mutual benefit. For example, Pretty and Ward (2001) have shown that recent programmes to formulate watershed and catchment management groups based on individual communities have been more successful compared to previous programmes that included whole river basins. When the whole river basin was included and multiple numbers of communities were involved, people

involved had no social networks, making it difficult to monitor the actions of others. As a result, programmes at the local community level have made substantial, often 2-3 fold, improvements in catchments.

In summary, standard social capital theories, especially stemming from institutional economics and game theory tend to assume that social capital is a resource that can be invested in order to circumvent the incentives of free riding and to lower the transaction cost associated with collective action. Further, some economists have also gone a step forward to develop proxy indicators for social capital and have measured the correlation between the institutional outcomes and impacts of social capital empirically (e.g. Narayan and Pritchett 1999; Whiteley 2000; Guiso et al. 2007). Their underlying assumption is that individuals rationally calculate the cost and benefit of collective action and can self-consciously invest and disinvest in social capital.

2.3. Under- and over- socialised human agent

However, there are two major problems to these standard social capital theories. Firstly, the concept of social capital is too vague to be operationalised econometrically (Manski 2000; Durlauf 2002). Bourdieu, the founder of this concept, did not propose this concept for economic methodology (Sobel 2002). Secondly, they cannot explain why social capital has that ability to circumvent the incentive to free-ride (Clever 2000; 2003) or why indeed it can lower transaction cost (Ballet et al. 2007). A theory that explains why agents feel more obliged to comply with ‘coordination norms’ when there are interpersonal networks or dense information flows is missing.

If the role of social capital is reduced to institutional arrangements as argued by game theorists and reduced to proxy indicators in the econometric analysis, then it becomes an independent variable that could in principle help to explain the existence of collective action (Clever 2000; 2003). However, the capacity of social capital to create collective action resides in being part of a hierarchical social structure. Social capital itself should be treated as a dependent variable of social structure, not an independent variable (Sobel 2002). At the very least if instrumented in an endogenous system of equations, this should be taken into

account. As a result, it cannot explain independently how the common understanding of collective action, which we name it as common knowledge in the next section, is formed and shared in the community. The rationalist approach ignores the influence of interdependency and thus holds the under-socialised model of human agent with stable preferences. This under-socialised approach to social capital ignores the role of the social structure and its coercive character (Mosse 1997; Cleaver 2003; Mosse 2006).

At the same time, paradoxically, when game theory is applied to problems such as CPR management, it also suffers from an over-socialised model of human agency. This is because it is often assumed that once self-enforcing incentive mechanisms are build, agents would automatically follow the commonly agreed rules/norms and reach a Nash equilibrium which can be an efficient solution (Hodgson 1997). However, empirical evidence shows that CRP management is also associated with resistance and struggle despite the existence of networks and a dense flow of information (Cleaver 2000; Agrawal 2001). As Ballet et. al. (2007) put it, social capital can also be dangerous to the management of CPR.

As mentioned above, generally economists and political scientist debating over social capital do overlook the recursive relationship between human agency and social structure (Giddens 1984; Bourdieu 1990). Human beings are born into certain social structure however; they have the ability (agency) to change and transforms the social structure. This agency varies among the agents according to the positionality in the social structure (Goffman 1967; Sewell 1992; Lin 2001). In other words, human agents are constrained by social structure but they are also structuring the social structure within certain limits (Giddens 1984; Bourdieu 1990). Lacking this notion of this human agency, the standard social capital literature falls into under and over-socialised model of human agent. Social capital should be considered to forge a link between social structure and agents rather than just being a part of an institutional arrangement *per se* (Paavola and Adger 2005).

If social capital is to be a factor explaining collective action, its interpretation as the density of the networks and rate of these information flows is clearly insufficient. We align with Cleaver's (2000) view that the existence of networks and information flow do not necessarily lower the transaction cost nor guarantee that agents would follow an institutional arrangement. We can use Cleaver's (2000) example where village level meetings to establish

rules for CPR management is lengthy due to its contentious claim often made by villagers despite the existence of daily communication. Mere existence of networks or information flow does not guarantee a reduction of transaction cost. Thus there is still a need to identify the nature of networks and information flows that can lower transaction costs and how would this come about. We need to open the black box of social capital and reveal the process that allows collective action.

3. Towards a new conceptual model between social capital with collective action

To open the black box of social capital and collective action, we propose that social capital positively contribute to (i) the creation of ‘common knowledge’, identified with the link “L₁” in Figure 1 and how (ii) through its sharing or diffusion among community members (L₃), it may successfully lead to collective action in order to solve CPR governance problems (L₄).

The model focuses on the often neglected negative pathway between social capital and collective action, shown by the link L₁ – L₅ - L₆. This complex pathway is mediated by ‘symbolic power’ or the capacity to represent social preferences (L₂) in communities affected by collective environmental problems. In this section we will explain our two key concepts common knowledge (Chwe 1999; 2001) and symbolic power (Bourdieu 1990). Table 1 summarises the main concepts used in our argument which form the building blocks of the conceptual model that connects social capital and collective action in the context of the governance of complex environmental public goods such as CPRs.

[FIGURE 1]

[TABLE 1]

3.1. Creation of common knowledge

3.1.1. Node L₁: What is “common knowledge”?

Even ‘super-rational’ game theorists assume that individual agents do not make their decision in a social vacuum but that they take into account other agents preferences and decision. In other words, they do acknowledge that human agents are interdependent with each other (Gachter and Fehr 1999). The understanding of the preferences of others is referred to as ‘common knowledge’ (Chwe 1999; 2001). Here we define common knowledge as the set of understanding embedded in social structure, which enables to put resources to a particular use following Newel et. al (2004), thus enabling agents to take into account the preference of the other agents in the community (Chwe 1999; Chwe 2001). Common knowledge gives certain value to the non-human resource, such as natural resource, and decides who has the right for access and has the responsibility for conservation (Sewell 1992). Community members may tend to act collectively only when they can formulate a common knowledge that acting collectively creates benefits that outweigh the costs of such effort at the individual level. This common knowledge is especially important in environmental governance where resources are scarce and decision by one agent affects the decision of the others (Paavola and Adger 2005; Vatn 2005).

However we depart from standard game theorists’ understanding of common knowledge in claiming that the creation of common knowledge is not a simple process of averaging out the preferences of members of the community. Rather, it is a process of influencing (or in an extreme case imposing) certain arbitrary form of individual preferences, often by a dominant group⁸ in the community. Even in small communities where CPR is at stake, the preferences of individual members are often highly heterogeneous and varied according to their gender, cast, ethnicity, etc. Agents with different social positions have different preference structures (Leach et al. 1999; Agrawal and Gibson 2001). Given our cognitive limitations, it is not possible to deal with all such different preferences in a mechanistically rational way (Hodgson 2000). To avoid this overload, as human agents we economize our cognitive

⁸ Here the dominant/marginalised group does not necessarily mean a dominance/subordination in terms of demographic weight, rather it has a political/social connotation linked to the idea of power. Here we define dominant group as group or agents that seize economic, political and social resources and occupies superior position in the hierarchical social structure. In other words, there is always an alternative narrative or discourse to the common knowledge and there is a possibility for these alternative narratives to become the common knowledge. Legitimacy of common knowledge is challenged through daily struggles (Bourdieu 1984; Giddens 1984). However, for the simplicity of the argument, in this paper, we will state just dominant group and marginalised group. But this does not exclude the possibility that dominant group falling to marginalised group or vice versa.

capacity by relying on what Douglas (1986) calls ‘symbolic formulae’⁹. For an individual member of the community the symbolic formulae *represent* the generalised preferences of the other members and as such the preference of the whole community as common knowledge. In other words, we need to account for the need to *socially construct* a ‘symbolic formula’ as common knowledge that shows that ‘our’ benefit (benefit for the community as whole) of collective action exceeds ‘our’ incurred cost (cost as a community as whole) from engaging in collective action.

This goes beyond the argument of bounded rationality and embraces the notion that common knowledge needs to be socially constructed (Berger and Luckmann 1966; Bourdieu and Wacquant 1992). Social construction implies that agents interacting together form, over time, a typifications or ‘symbolic formula’ of each other's preferences, and that these typifications eventually become habitualised into reciprocal roles played by the actors in relation to each other (Berger and Luckmann 1966). It is important to note that this process of social construction is neither a process of averaging out the existing preferences in the community nor a purely rational calculation, as often modelled in game theoretical approaches. Rather it is a process of political struggle over who has the legitimacy to represent their preference as common knowledge.

3.1.2. Node L₂: What is symbolic power?

Whose calculation of benefits and costs are represented as common knowledge out of the manifold preferences existing in a heterogeneous community? The answer should focus on those who have the power to influence what is a legitimate vision of the social world and of its division (Bourdieu 1990; Swartz 1997).¹⁰ This is where the notion of symbolic power comes in, interpreted as Bourdieu (1990) as “world-making power”. The creation of common knowledge is not just the result of rational calculation, but mostly the result of a hierarchical power relation existing within a given social structure, which in turn legitimises certain groups in the community and can even monopolise symbolic power (Mosse 1997; Cleaver

⁹ This concept is very similar to Veblenian’s notion of ‘habit of thought’ (Hodgson 1997; 2000).

¹⁰ In similar way, Habermas (1986) argues ‘the fundamental phenomenon of power is not the instrumentalization of another’s will, but the formulation of a *common* will in a communication directed to reach agreement’ (*ibid*:76, *emphasis added*).

2000; 2003; Mosse 2006). For example, if we come back to Aoki's (2001b) linking game of the Edo period in Japan, there are numerous games in society and which game to be linked to which one is arbitrary. Deciding that the irrigation game is to be linked to the social exchange game might be the result of rational calculation. But at the same time, it might be also the result of the fact that this specific type of linking game gives advantage to the dominant group. In this sense, there is no guarantee that the preferences that gain such common character would achieve the level of collective action needed for the desired (ecological or economic) outcome. The dominant preference which becomes common knowledge is arbitral. In addition, by legitimizing the arbitral symbolic formula as common knowledge, other preferences become 'unthinkable' or 'irrational' (Bourdieu 1971).

Following Bourdieu (1990), we have argued that symbolic power is fundamental to create common knowledge. Symbolic power allows the arbitral preference of the dominant group in the community to be represented as common knowledge due to the advantageous position it holds within the social structure. By disguising as 'common', the preference structure and ordering of the dominant group, this overrides other preference orderings as illegitimate (and even 'irrational').

However, it is not enough just to create common knowledge. This has to be diffused and shared among the members of the community (L_3). Even when this commonly shared preference regarding the collective provision to a public good effectively becomes common knowledge, some individuals, especially from powerless or marginalized groups may be implicitly forced to act collectively despite their real preferences not coinciding with that of common knowledge. In such cases, the possibility of challenging the common knowledge arises (L_5), leading to a possible failure of the process of collective action (L_6).

3.2. Sharing and challenging common knowledge

3.2.1. Node L_1 - L_3 - L_4 : Towards the success of collective action

For common knowledge to function as an incentive mechanism for collective action, it is not enough to create it but it also has to be shared or diffused effectively among the members of the community. That is, common knowledge has to be internalised. According to Berger and Luckman (1966) in their argument about *social constructionism*, such internalization is a

long-term process of consolidating and embedding one's own beliefs, attitudes, and values, when it comes to moral behaviour. Through this process, the arbitral symbolic formula becomes the 'natural order' of things distancing itself from its origin and jettisoning other possibilities as illegitimate (Bourdieu 1971; 1990). While the common knowledge becomes a frame of reference for the community members to decide upon their action, there is also the possibility that common knowledge is interpreted differently or misinterpreted from the original content. If it is assumed that internalisation automatically creates collective action without any form of challenge, we would fall into the pitfall of over-socialising the model of human agency. To understand either possibility, i.e. common knowledge being shared by the members of community (L_3) or being challenged by community members (L_5), we call this process where common knowledge is internalised as the creation of '*we-intentions*'.

According to Tuomela (1995; 2007), 'we-intention' can be defined as individual agents' attribution of an intention to the whole community when agents believe such attribution is reciprocally held by other agents in the community. Additionally, this belief needs to be mutually held and shared among the majority of the community members (Tuomela 1995; Davis 2002). If we put his argument in the context of collective action for CPR management, 'we-intention' implies that each individual member in the community would agree with the given common knowledge showing that 'our' benefit exceed 'our' cost of creating the collective action. However, while in reality all individual agents deliberate on the content of the common knowledge, it is not necessarily shared by all, thus allowing room for interpretation/misinterpretation and a challenge to the common knowledge to arise from within the community. For collective action to be successful an effective number of members have to share the common knowledge and consider it to be the legitimate symbolic formulae.

Fundamentally, it is the capacity to diffuse the idea of common knowledge within a social group that ultimately enables social capital to reduce the level of transaction cost that arises in collective action. This is so especially when there is a heterogeneous set of preferences within the community, associated with groups that are hierarchically related in terms of the power they have to impose what would become common knowledge. We thus argue that symbolic power plays a key role in reducing transaction costs. It also follows that the existence of networks and information flows does not by its own guarantee the reduction of such transaction costs. Rather, we argue that networks and information flows instead become

instrumental and enable dominant groups to spread their (rational and self-legitimated) vision of the costs and benefits associated with collective action.

McKean (1992) shows in a very similar manner to Aoki how CPR was managed in the Edo-period in Japan. McKean (1992) claims that it was managed successfully due to sufficient level of homogeneity in the community.¹¹ The village chief had the exclusive right to decide when to open and close the mountain for the extraction season to fetch fodders or wild edible plants. The regulations were so strict that it went as far as to identify the equipment to be used for collecting. Those who violated the rules were punished with ostracism called ‘Mura-hachib¹²’, ostracism, which had serious effects upon the survival strategy of the household who breached the rules. Such a harsh punishment was only possible because villages in Edo-period had an strict hierarchical social structure between the village chief and the peasant farmers (Takeuchi 1990). As a result, it was possible for the common knowledge to be created and shared.

3.2.2. Nodes L₁-L₅ -L₆: The failure of common knowledge

Despite community members tending to share common knowledge as ‘we-intention’, it does not usually go without challenge. This is due to the sharing process of common knowledge process as ‘we-intention’ is not perfect due to alternative discourse that exists in the society. It includes both the problem of interpretation/misinterpretation of the common knowledge and the challenges created according to the alternative discourses. Firstly, not all members can always interpret the common knowledge as the dominant group would wish, but rather they can interpret and misinterpret its content according to the context they face. Secondly, there is also the possibility that alternative discourses challenge the common knowledge in cases of strong social capital within the marginalised groups.

¹¹ From the ecological point view, whether this was optimal amount of collective action or not is questionable. For example, Mizumoto (2003) point outs that landscape of Japanese mountains were quite different from we see it today. Most of the mountains were deforested during this period due to high demand for grassland for fodder production. This has resulted in frequency of floods which has lead the succinct Meiji-government to promote tree plantation project to regulate the water.

¹² ‘Mura-hachibu’ literary means 80% separation from the village. There were 10 main events in the traditional Japanese society, e.g. wedding, celebration of coming-of-age, and celebration new-born. The ostracised household were excluded from 8 ceremonies and were allowed to participate only in two events, funeral and fire-fighting.

With regard to the first point, Hodgson (2000) quotes Wittgenstein to argue that, “there are all sorts of interpretive problem involved in moving from the existence of rule to behaviour that follows the rule. The feeling that one is being guided by rules does not guarantee that the rules are being followed” (*ibid*:61). Community members interpret and misinterpret the common knowledge according to their position inside a certain social structure, even if such social structure is continuously being transformed by them. There is always a possibility that community members displace the original content of the common knowledge and create a new interpretation of it (Sewell 1992; Lin 2001). This implies that whether common knowledge is shared by individuals as ‘we-intention’ depends on the circumstances of the interaction between them in the community. Hence, even if common knowledge exists, this is no guarantee that community members would accordingly accept it. Rather, it implies that common knowledge cannot be directly linked with collective action through the process of internalisation.¹³ Community members are not mere rule/norm followers (Taylor 1993).

The second point, namely that some members may have alternative discourse which may in turn challenge the common knowledge is of great importance. It is possible that marginalised groups do not share the common knowledge and do not accept its legitimacy. According to their alternative discourse, marginalised groups may challenge the arbitrary nature of common knowledge especially when they have to bear a disproportionate cost associated with collective action (Taylor 1993).¹⁴

However, these cases are rare as it is difficult to reflect the voice of the marginalised groups within the public discourse that favours the dominant group’s interests (Spivak 1988). It is important to note that human agency varies according to the position that human agents occupy in the social structure. Often, dominant groups have more freedom in terms of creating new interpretation and new common knowledge because they have more access to resources, technology and information (Sewell 1992; Lin 2001). However, this does not mean that the arbitrariness of common knowledge cannot be disclosed. Disclosure does occur

¹³ The concept of internalization applied by institutional economists regarding social/institutional embeddedness suffers from this oversimplification. It is also important to note that social constructivism is criticized in relation to the fact that human agents are born into a certain social structure and are not free to construct it as they wish (Bourdieu 1984; Giddens 1984). This is the basis of the structuration theory (Tanabe 1995).

¹⁴ It should be noted that this challenge does not arise from a neoclassical rationality idea. It is the dominant group who defines what is ‘rational’ (Foucault 1965; Bourdieu 1990).

and thus the legitimacy of common knowledge is implicitly negotiated in everyday social life practice (Willis 1977; Bourdieu 1990; Cleaver 2003).

Cleaver (2003) mentions a case of poor woman in Tanzanian village who break CPR management rules but that go without punishment. In this village, the villagers have to pay for water to maintain the pumping facility according to amount they consume. This woman pays the least amount but fetches water more than she has paid for. However, her action is justified from the fact that they are poor and hard-working. In other words this case shows that such women are able to exercise their agency by bringing in other virtues such as being hard-working and to reinterpret to the common knowledge. This is an example that helps to illustrate that most vulnerable groups in society, i.e. poor females are capable of exercising agency despite their constraints. Another example of re-interpretation or violation of common knowledge is in the case of communal forestry in Japan. McKean (1992) notes that there were some incidents where the decisions by the village chief were revoked farmers. These farmers thought that the day for opening the season for collecting fodder from the communally owned mountain was excessively delayed and as a consequence community members could not collect their desired amount of fodder. Their agency allowed them to collect fodder outside of the permitted season. However they were not punished. In other words human agents sometimes can challenge common knowledge and reinterpret it according to the context they face.

In another case, Agrawal (2001) reports cases of Nepal and India where females do challenge the common knowledge by intentionally violating the rule of CPR management determined by the males who are dominant in the communities. Despite that females are the daily users of the CPR and have accumulated valuable knowledge of how to manage it effectively, such knowledge is not reflected in the dominant rule of CPR management. Common knowledge is instead dominated by male preferences. However, due to their strong bonding social capital inside their female community, they are able to maintain the alternative discourse that challenges the males' common knowledge.¹⁵ It is rather easy to imagine that this female

¹⁵ It would be interesting to relate debate on bonding social capital and “subaltern counter-public” which enables the powerless to form their voice by forming their own public sphere (Benhabib 1992; Fraser 1992). Also, Agrawal (2001) notes the difference in agency even inside the female group according to their social positions.

alternative discourse may gain some attention to overcome the marginalised position within the social structure of women as regards international development policy of participatory forestry management or in the global discourses of feminism. Therefore whether the common knowledge is shared or challenged may depend on the type of capital that exists in society, i.e. bonding social capital and bridging social capital (Granovetter 1973; Putnam 2000; Woolcok and Narayan 2000; Adger 2003).

4. Conclusion

In this paper we concur with Harris (2001) in that the standard social capital theory becomes an *anti-politics machine*¹⁶ given that the theories are depoliticised even if it is the very political nature of social capital that can be instrumental in creating collective action. To put it differently, social capital can help to foster collective action because it has the ability to impose certain visions as legitimate views in a given social context, despite the fact that it does not represent all the preferences in the community. We have thus attempted to bring into our model of social capital and collective action the concepts of common knowledge and symbolic power in order to capture the intrinsic political nature of social capital.

At the same time we have argued that standard social capital theory as it stands, fails in so far as human agency falls into either an ‘over-socialised’ model or an ‘under-socialised’ model. That is, where individuals become an automaton that follows the social norms and rules or is a rational agent with stable preferences outside any social structure. We prefer to leave some room for interpretation/ misinterpretation and challenge by the alternative discourses and create a space for human agency to play a role. In other words, we argue that there are both possibilities; (i) the possibility of reproducing a social structure (Bourdieu and Passeron 1977), i.e. success in creating collective action which will give benefits to the dominant group in reproducing the social structure that they dominate, and also (ii) the possibility of ‘unintended results of behaviour’ (Foucault 1977), i.e. failing to create collective action

¹⁶ This concept is coined by Ferguson (1994) has analysed why the poverty alleviation policy in Lesotho were renewed despite its ‘failure’ in reaching its objectives. He argued that ”uncompromisingly, reducing poverty to a technical problem, and by promising technical solutions to the suffering of the powerless and oppressed people, the hegemonic problem of ‘development’ is the principle means through which the problem of poverty is depoliticized in the world today” (*ibid*:256).

which may lead the dominant group to be challenged from inside the community and thus for social structure to change.

In this chapter, we have identified two main processes by which social capital contributes to: (i) the creation and (ii) diffusion of common knowledge. Here we interpret the common knowledge as the understanding of the preferences of others which enables agents to act together and to bear the costs and responsibility of collective action. In the face of limited cognitive capacity, such common knowledge needs to be socially constructed by generalising preferences in turn represented by symbolic formulae. This has led us to address the question of whose preference should be represented in that common knowledge. We have argued that the process of creation of common knowledge is not a simple process of averaging out the preferences of all community members. Rather symbolic power (Bourdieu 1990) plays a key role in the creation of such common knowledge. In this sense the social capital's ability to create collective action is political in nature (Cleaver 2003; Mosse 2006).

We have also addressed the issue of how common knowledge is shared among community members. By sharing or internalising common knowledge, the predictability of behaviour by other agents enhanced and the social structure remains stable (Sewell 1992). While the sharing of the common knowledge does occur, we also argue that at the same time this does not exclude the possibility of challenging its legitimacy. When the common knowledge is shared by a majority of the community members who also agree to bear the cost of collective action, collective action can be created. However, since the common knowledge is susceptible to misinterpretation and an alternative discourse sustained in community, the common knowledge can be challenged and thus collective action may fail.

It is important to understand the power relations inside the community when designing a policy of CPR management, especially as the dominant groups are not necessarily the primary CPR users and the holders of the knowledge about CPR management (Agrawal 2001). Moreover, even when the common knowledge is shared among the community members, this does not mean that there it would provide the socially or ecologically efficient amount of collective action or may force the marginalised groups to bear a disproportionate cost of the collective action. In the latter case social capital would serve only the objectives of the powerful in detriment of the disadvantaged groups of the community.

After a decade, we concur with Gale (1998) that ecological economics is still lacking a suitable concept of power. Especially a concept of power that incorporates not just the material aspects but the symbolic aspects (Bardhan and Ray 2008). Currently it is mainly sociologists and anthropologists, especially Foucauldians, who discuss power relations and symbolical aspect of power relations (Ray 2008). They are reluctant to generalise their arguments which is making it difficult for the policy makers to incorporate their ideas (McNiell 2007). As a result, the literature linking social capital, collective action and CPR may be overly dominated by political scientists and economists who overlook the issue of power (Fine 2001).

We hope that our approach to social capital and CPR management through collective action integrating the ideas of common knowledge and symbolic power is a step towards revitalising a more pluralistic understanding of CPR management that includes not only a rationalist perspective from economics but also the factor of power and dominance within social structures. The future challenges still lie in advancing in the construction of an interdisciplinary notion of power and incorporating aspects of power into game theory while at the same time acknowledging institutional arrangements. We believe that ecological economics is in an advantageous position to lead this challenge.

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Table 1. Main concepts as roadmap between social capital and collective action for CPR management

Concepts	Definition	Seminal literature
<i>Symbolic formula</i>	Frame of reference that provide agents with understanding of the world	Douglas (1986)
<i>Common knowledge</i>	Symbolic formula that represents the generalised preference of the others	Chwe (1999; 2001)
<i>Symbolic power</i>	Power that legitimize the certain ‘symbolic formula’ as common knowledge	Bourdieu (1990)
<i>Internalization</i>	A long-term process of consolidating and embedding one’s own beliefs, attitudes, and values, when it comes to moral behaviour	Berger and Luckman (1966)
<i>We-intentions</i>	An individual agents’ attribution of an intention to a community that the agents believe is reciprocally held by other agents in the same community	Tuomela (1995; 2007)
<i>Human agency</i>	Ability of the human agents to change and transform social structure	Giddens (1984) Bourdieu (1990)

Figure 1. Conceptual framework of the role of social capital in fostering collective action

