

The Role of Social Capital for Environmental Governance:

A Socio-Ecological Critique

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Abstract:

This paper argues that the current Social Capital (SK) theories cannot explain why SK has the ability to create collective action; rather they mystify the process. To open the black box of SK, the paper will argue that; i) the ability of SK to foster collective action lies in its ability to create 'common knowledge' and to proliferate it among the community members and; ii) which knowledge becomes 'common' is a matter of 'symbolic power', as well as rational calculation. In other words, each agent has different cost and benefit according to their social position they occupy inside the social structure; however, for collective action to be successful we need to create a common understanding of 'our' cost and 'our' benefit. Here, 'symbolic power' refers to the ability of the dominant group to impose their own perception of cost and benefit as 'common knowledge', jettisoning the other alternative as 'irrational' and 'unthinkable'. By further understanding SK in relation to 'symbolic power', we argue that we are able to capture two fundamental aspects of SK; i) agents do not have a free-hand to craft SK in term of rational behaviour, ii) at the same time, agents do not blindly follow the incentive mechanisms created by SK, instead they some times misunderstand and even challenge these mechanisms. This implies that SK is not a stable instrument to provide optimal solutions for market failure, nor a cheap enforcement mechanism for rules and norms. Creating collective action for CPR management is a more complex issue than the rational choice theory may suggest.

Keywords: *Social Capital, institutions, 'common knowledge, 'we-intentions', 'symbolic power'*

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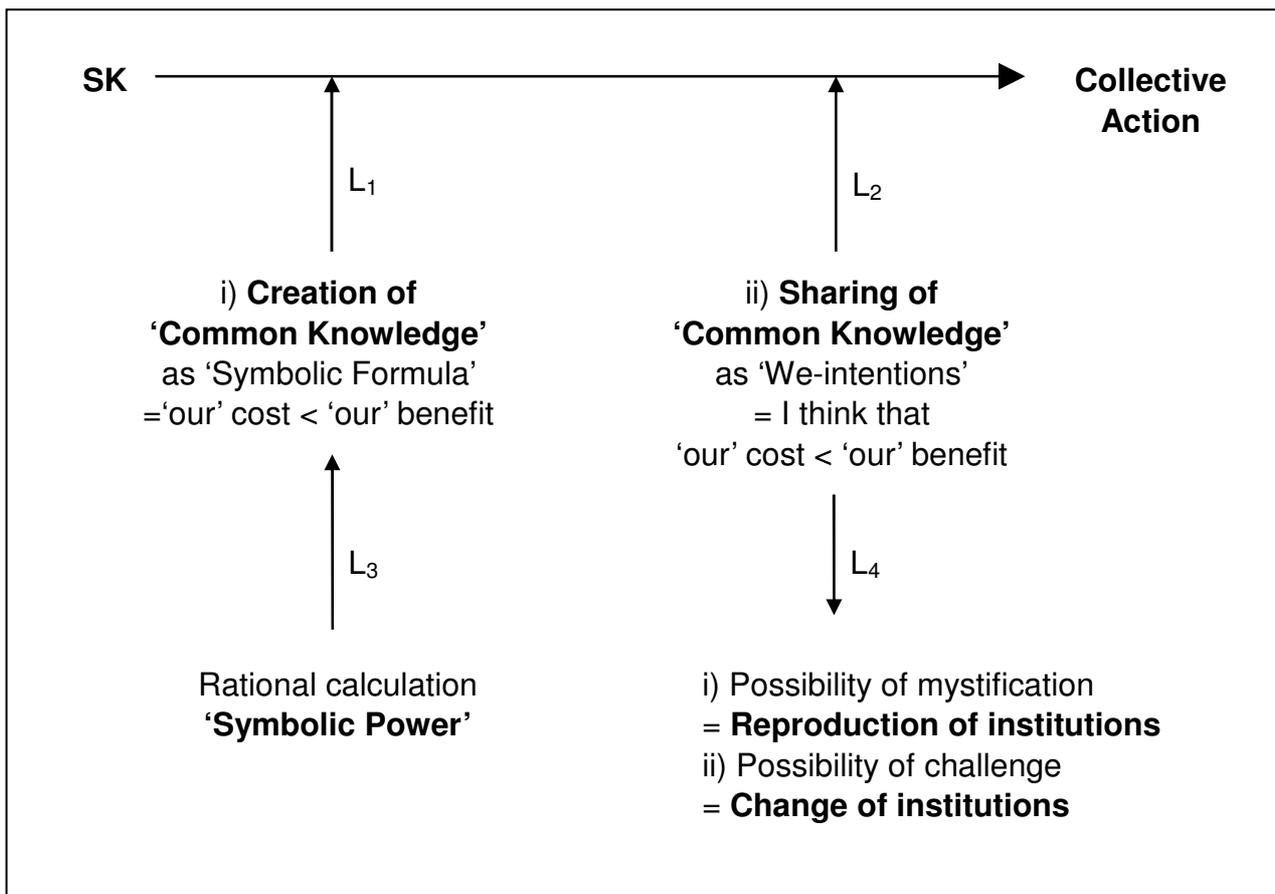
1. Introduction

Since the 90s, Social Capital (SK), often defined as ‘features of social organization such as networks, norms and trust that facilitate coordination and co-operation for mutual benefit’ (Putnam 1993 pp.35-36), has gathered increased attentions in the literature of Common Pool Resource (CPR) Management and collective action. In these theories, the concept of SK is brought in as an incentive mechanism or institutional arrangement to curve the individuals’ incentives to ‘free-ride’ in the provision of public goods (Ostrom 2000; Aoki 2001b). They argue that the existence of networks among the agents and the dense flow of information lower the transaction cost of creating the collective action (Putnam 1993; Ostrom 2000; Pretty and Ward 2001; Paavola and Adger 2005). According to these theories SK is an independent variable that explains the existence of collective action, part of institutional resource bank which arrangements can be drawn in order to reduce the transaction costs of co-operation (Cleaver 2000; 2003). However, these theories has been criticised that they do not explain why SK has this ability to curve this incentive and lower the transaction cost (Cleaver 2003; Mosse 2006); rather they leave SK as a black box without explaining the mechanism (Harris 2001). Moreover, it cannot explain why some communities succeed in creating collective action while others fail to do so despite the existence of the networks and the flows of information. As governments and market fails, community can fail as well (Bowles and Gintis 2002; Bulte and Engels 2007). This paper aims to explain this SK’s ability to create collective action using the concept of ‘common knowledge’ (Chwe 1999) and ‘symbolic power’ (Bourdieu 1990). It will argue that if SK is to have the ability create collective action, SK should contribute to the following two processes; i) creation of ‘common knowledge’ and ii) sharing of the ‘common knowledge’³. Moreover it is argued that the creation of ‘common knowledge’ involves utilization of ‘symbolic power’ by dominant group of the community⁴. The following figure 1 shows how collective action is fostered from SK.

³ This paper will not argue whether SK should be termed as ‘capital’. Solow (1999) and Arrow (1999) argue that SK is a by-product rather than deliberate investment, thus it does not qualify to be termed as capital. To some degree, we agree to McNeil (2007) proposition that the concept should be termed as sociality rather than SK. 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 used the term SK.

⁴ Regarding the existence of power in creation of knowledge, there has been a harsh debate between Foucault and Habermas (Kelly 1994). Foucault introduces the concept of power to analyse the genealogy of form of knowledge and non-discursive practice. By doing so he attempted to deconstruct rationality, especially the rationality formed through the process of enlightenment (Foucault 1977). Whereas Habermas took a position that it is possible to make normative distinction between legitimate and illegitimate use of power using communicative rationality (Habermas 1984). Considering that institutional economists, e.g. Arild Vatn (2005), uses the Habermasian concept, following these argument has relevance; however it is out of the reach of this paper. We will only argue that power has influences on creation of ‘common knowledge’ formation and attempt to bring in the concept of power into ecological economics.

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



The paper is structured as follows; first we will look into the concept of 'social embeddness' developed by Granovetter, which gave a birth to original SK theory; then in the next section, the paper reviews how CPR management and the concept of SK are linked by the new institutional economics school in order to explain the evolution of CRP 'coordination norms'. It also point out that the SK theories suffers from both 'over-socialised' and 'under-socialized' model human agent which Granovetter attempted to avoid. Section 4 addresses the idea that incentive mechanisms for CPR management crafted by SK cannot explain the existence of collective action alone; rather it is argued here that we need to focus on the SK's ability to create 'common knowledge' and to proliferate this knowledge among the community members. Section 5 explores how the creation of such 'common knowledge' involves 'symbolic power' using Bourdieu's argument. The sixth section, following Granovetter's proposition about 'social embeddness'; this leads to the argument that in order to avoid both 'over-socialised' and 'under-socialised' human agents, one needs to look into the 'common knowledge' that 'activates' institutions (Taylor 1993). Lastly the paper addresses the implication of using the argument of 'common knowledge' and 'symbolic power' in the context of CPR management and collective action.

2. Granovetter's proposition of the 'social embeddedness'

Throughout the 1960s, gradually social scientists started to recognise that the social structure, such as social networks and interpersonal relations which were later termed as SK, has great influence on various economic and political outcomes. Especially Granovetter's seminal work, 'Economic Action and Social Structure'(1985) had a strong impact. In his well-known argument on 'strength of weak ties', he (1973) investigated what kind of connection people in the professional, managerial and technical position used in obtaining their jobs. He found out that the 'weak ties', i.e. ties outside the immediate circle of families and close friends, had a significant impact on the amount of information individual obtained regarding the job opportunity. To put it differently, the social structure has an influence on economic outcome, such as obtaining jobs. To take into account the influence of social structure, he puts forward the argument of 'social embeddedness'; '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 pp.481).

Influenced by these works by economic sociologists and others, especially Polanyi's work (Polanyi 1957), institutional economists started to conceptualise economic activity as an institutional process (Williamson 1981; North 1990). Further, ecological economists recognized the 'embeddedness' of the economic system within the broader ecological as well as social system (Kapp 1976; Söderbaum 1992; Spash and Villena 1998; Paavola and Adger 2005; Røpke 2005). To encounter this 'embeddedness' in the social structure, the concept of SK has been introduced especially in the CPR management and collective action literature, (e.g. Putnam's argument on Italian democracy (1993) and Ostrom's argument on irrigation system in Nepal (1990)), as one of the institutional arrangement to explain the collective action. Before moving on to the next section, we will take a deeper look into Granovetter's proposition to see what he exactly proposed to do by introducing the concept of 'social embeddedness'.

Granovetter opens his discussion by taking into account two sister disciplines in social science, namely sociology and economics. On one hand, for utilitarian economics tend to consider human agents as welfare maximizers who have stable preferences and rationally exchange goods and services until a point is reached where utility is maximized. On the other hand, generally sociologists regard human agents as constructed by a social structure through the internalization of symbolic systems, social norms, and customs. He criticised both concept of human agent saying that economic model is 'under-socialised' and the sociological model is 'over-socialised'. Despite this fundamental difference, Granovetter points out that both disciplines share key common traits; they see human agents as 'atomized actors'. Granovetter (1985) eloquently clarifies this point by stating that;

Fruitful analysis of human action requires us to avoid automation implicit in the theoretical extremes of under- and oversocialized conception. Actors do not behave

or decide as atoms outside social context, nor do they adhere slavery to a script written fro 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, pp.487)

By putting forth the concept of 'social embeddness', Granovetter attempts to avoid both 'over-socialised' approach of generalized morality and the 'under-socialised' one of impersonal, institutional arrangements and to create a space for human agency. This paper argues that despite their assertion to follow Granovetter, SK theories especially those who follow Putnam, by reducing SK to mere institutional arrangement, falls into the pit-fall of both 'under-socialised' model and 'over-socialised' model.

3. CPR management and the concept of SK by new institutional economics

3.1. CPR management and collective action problem

Following Hardin's seminal paper (1968), 'the tragedy of commons' is known to occur as a result of individuals' dominant strategy to 'free-ride'. This problem arises mainly because the interest of the individual and that of the collective as a group do not coincide (Olson 1965). This situation is exemplified by the 'prisoner's dilemma'. To circumvent the prisoners' dilemma of open access or badly regulated CPRs, two possible policy implications have logically followed. First, the state could address the 'tragedy' by direct regulation limiting and granting access to individuals to access the CPR thus addressing the over-exploitation of the public good in question associated with the open access situation. Or alternatively, the state could privatize resources, granting individuals the private property rights.

But Hardin's hypothesis is criticised from two main flanks. First its assumption of the dominant 'free-rider' behaviour leaves no place for cooperative rule unless it is imposed and enforced by the outside power. However, empirical evidence shows that 'coordination norms' exist inside communities that can reinforce the expectation of collective behaviour leading a critical mass of individuals to adopt solutions based on cooperative strategies (Ostrom 1990; Runge 1992). Second, any dominant strategy mechanism, by ruling out the importance of changing the expectation of others' behaviour, fails to capture the interdependence of individual decisions. In this sense, the decision making in the use of CPRs involves interdependent choices in which not only the benefit and the cost of using the resource become a function of the total action of the group, but the decision to use (or overuse) the resource would be affected by the expected decisions of others (Paavola and Adger 2005). Thus, the CPR is associated with the notion of excludability and subtractability as it is difficult to exclude individuals from using the CPR but usage of CPR by one agent effects the consumption of the other (Ostrom 1990). Thus in CPR literature, the concept of SK was introduced to explain how communities were able to impose certain 'coordination norms' without relying on law or violence.

3.2. SK as a solution to the collective action problem

In this section, we will briefly review the origins of SK theories and how it was applied to CPR management and collective action literature. Although Woolcock (1998) identifies Hanifan (1920) and Jacobs (1961) as the first proponents of the concept of SK, it was not until French sociologist Bourdieu's work 'The Forms of Capital' (1986) which became instrumental to develop the concept (Portes 1998). Bourdieu (1986) defines SK as;

aggregate of the actual or potential resources which are linked to the possession of the durable network of more or less institutionalized relationship of mutual acquaintance and recognition – or in other words, to in a group – which provides each of its members with backing of the collectively-owned capital, a 'credential' which entitles them to credit, in various senses of the world (pp.248-9).

Bourdieu revealed that SK transforms the contingent relationships into durable obligations subjectively felt (feelings of gratitude, respect, friendship, etc), or institutionally guaranteed (rights). According to him (1986);

This (production/ reproduction of SK) is done through the alchemy of consecration, the symbolic constitution produced by social institution and endlessly reproduced in and through exchange (of gift, words, women, etc) which it encourages and which.....produces mutual knowledge and recognition. Exchange transforms the things exchanged into sign of recognition and through mutual recognition and the recognition of the group membership which it implies, re-produces the group. (pp.250)

For Bourdieu, SK functions as a mechanism to impose 'coordination norms', i.e. as durable obligations, because it produces mutual knowledge and recognition, 'common knowledge' in Chwe's term. However, Bourdieu's contribution has been mostly ignored in the SK theorists after Bourdieu especially by those who follow rational choice model and the game theory⁵ (Harris 2001; Morotomi 2003). This has resulted in the mystification of the function of SK (Fine 1999; Harris 2001).

The first rational choice theorist who utilised the concept of SK was American sociologist Coleman (1988). Supporting Granovetter's preposition, he aims to maintain the conception of rational action but to superimpose a social and institutional structure. And to explain the effect of this social/ institutional structure, he introduces the concept of SK which he defines as following (1988);

Social capital is defined by function. It is not single entity, but variety of different entities having two characteristics in common: they all consist of some aspect of

⁵ This is partially due the following three facts; i) Bourdieu's main focus is on cultural capital which he argues extensively in relation to his key concepts, 'habitus' and 'fields', rather than SK (Bourdieu 1984), ii) Bourdieu's concept of capital is rather chaotic (Fine 2001), and iii) Bourdieu does not make clear argument on the relation between SK, cultural capital and symbolic capital and at one point these three concept becomes undistinguishable (Swartz 1993).

social structure, and they facilitate certain actions of the actor within the structure.
(pp.S.98)

For Coleman (1988), SK is a public good, which are created and destroyed as a by-product of other activities. But it was American political scientist Putnam's work 'Making Democracy Work' (1993) which popularized the notion of SK extensively within the social science field. In his view SK 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 1994, p.167). Putnam uses SK concept to explain the difference in index of institutional performance between southern Italy and northern Italy. (Putnam 1993).

However, his concept of SK starts takes a strange turn in his next book 'Bowling Alone' (2000) in which he starts to argue the depletion of SK, i.e. the decline in the number of civic organization, has led to the weakening of democratic tradition in US⁶. SK becomes the object to be fostered by public policy rather than the logical framework to explain the 'civic engagement' and institutional performance (Morotomi 2003). It is this strange turn that has made his argument extremely popular among the policy makers and contributed to the proliferation of this concept (Fine 2001; Harris 2001). Here, SK becomes more independent from social structure, an object that can be crafted and manipulated by agents to obtain a favourable economic/ political outcome. This trend was further enhanced in the CPR management literature.

Following the argument by Putnam, the idea of SK was then introduced into the analysis of CPR management by Ostrom (2000). She argues that 'in the establishment of any coordinated activity, participants accomplish far more per unit of time devoted to joint activity if they draw on capital resources to reduce the level of current input needed to produce a joint outcome' (pp.176). The concept of SK, which functions as 'coordination norms', is introduced to explain the existence of collective action inside the community. According to this view, SK is understood as 'an attribute of individual and of their relationship that enhance their ability to solve collective-action problem' (Ostrom and Ahn 2002 pp. xiv), and 'shared knowledge, understanding, norms, rules and expectation about the pattern of interaction that a group of individuals bring to recurrent activity'(Ostrom 2000 pp.176).

Here SK becomes part of institutional arrangement that human has free-hand in crafting according to the effectiveness of the collective action and the environmental damages caused in the absence of collective action. She argues;

To create social capital in a self-conscious manner, individuals must spend time and energy working with one another to craft institutions – that is set of rules that will be used to allocate the benefit derived from an organized activity and to assign

⁶ Szreter (2002) argues that the relation between the number association and the democratic tradition is not one-way relationship but two-way relationship. He argues that democratic tradition or the political environment also determines the number of association created in the community.

responsibility for paying the cost (Ostrom 2000 pp.178 emphasis added).

More recently game theorist Aoki (2001b) furthered this argument by using the concept of 'linking game'. He uses the example from Japan in Edo period (1603-1868) where farmers needed to coordinate their actions to maintain the functioning of the irrigation system. Each farmer has an incentive to cheat in the maintenance of irrigation system, which he terms as an irrigation game. However due to technical problem, it is difficult to punish the family that cheats. Therefore to create a collective action, there is a need to link this irrigation game with social exchange game, game of 'Mura-hachibu'⁷ or an ostracism. The family which cheats in the irrigation game is ostracised when they cheat in irrigation game. He argues that this linkage between the games that enables the agent to act collectively. When cost of ostracism is large enough, even if the farmers have the incentive to cheat in irrigation game, they will not cheat. He states; 'some strategies that are not an equilibrium (and thus not self-enforceable) in an isolated commons domain.....could become profitable strategies for agents when linked to a community social exchange domain' (Aoki 2001b pp.113). Both Ostrom and Aoki, being game theorists, argue that SK is a part of institutional arrangement that agents have free hand in crafting according to their rational calculations.

Some others argue the SK in relation to transaction cost (Katz 2000; Pretty and Ward 2001; Pretty 2003; Paavola and Adger 2005). Pretty and Ward (2001) define SK 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 to realize their personal interest. Local institutions are effective because 'they permit to carry on our daily life with minimum repetition and costly negotiations' (pp.211 emphasis added.)

As SK lowers the transaction cost of working together, it facilitates cooperation among the community members. Thus they argue that SK can produce an optimal outcome for the community.

3.3. Under-socialised and over-socialised human agents

SK theories after Bourdieu, especially that of the game theorists, treat SK as a resource that agents utilise to circumvent the incentives 'free-ride' and to lower the transaction cost for the collective action. It is assumed that individual agents are able to rationally calculate the cost and benefit of collective action and self-consciously create SK. However, it does not explain why SK has an ability to circumvent the incentive to 'free-ride' (2000; Cleaver 2003) or why it lowers the transaction cost. Why does agents feel more obliged to comply to 'coordination norms' when there is

⁷ 'Mura-hachibu' literary means 80% separation from the village. There were 10 main events in the traditional Japanese society, i.e. wedding, celebration of coming-of-age, and celebration new-born etc. The household that were separated could only participate in two events, funeral and fire-fighting.

interpersonal network or dense information flow? If SK is to explain the creation of collective action, we need to clarify how the common understanding of the game, 'common knowledge', is formed and shared in the community. Moreover, we argue that it is not the realization of individual cost and benefit that allows agents to act collectively; rather it is the understanding of 'our' cost and 'our' benefit as a community as a whole that enables the agents to act together.

Chwe (1999; 2001) argues that agents, in making choices, do not decide to cooperate, just by calculating their own individual cost and benefit; rather they take into consideration other members' preferences, cost and benefit. This cannot be reduced to incentive mechanism of individual agents rather it should be considered as a 'common knowledge', an understanding that enable to games to exist or the collective action to exist. Game theorists who ignore the influence of 'common knowledge', despite their attempts to embed the human agents into the social structure, still holds the under-socialised model of human agents with stable preferences which take the decision in the isolated situation. Reducing the SK into institutional arrangement, they treat SK as an independent variable that can explain the existence of collective action and they assume that it can be manipulated to create favourable economic or political outcome. Here SK becomes a tool that agents have free-hand to craft according to their rational calculations of the effectiveness of collective action and the environmental damages caused in the absence of collective action, rather in agents' relationship to social structure (Mosse 1997; Cleaver 2003; Mosse 2006).

At the same time, game theorists suffer from over-socialised model of human agents. They assume that once incentive mechanism is build, the agents will automatically follow the rules/norms and to produce the optimal solution. However, it is becoming clear that CRP management sometimes do fail despite the existence of network and dense flow of information (Bowles and Gintis 2002). Game theorists model is not capable of explaining these failures. Here, there is no room for human agency to play a part, a room for human agents to interpret, misinterpret and sometimes to challenge these institutional arrangement. As Hodgson (2000) argues by quoting Wittgenstein, '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' (pp.61). In other words, institutional arrangements are not self-interpreting; without sense of what they are about and affinity with their spirit, institutional arrangements remain the dead letters (Taylor 1993). Here we call this sense and this affinity as the 'common knowledge'.

To summarise, despite its attempts to take into account Granovetter proposition, the current SK theory have fallen into pitfalls of both 'under-socialised' model of human agency and 'over-socialised' one. And by reducing the SK to institutional arrangement, the SK loses its explanatory power. SK should be considered as something that mediates institution and agents (Paavola and Adger 2005) rather than part of the institutional arrangement per se. However, if SK were to explain

collective action, it is not sufficient to define SK as 'the density of the networks and rate of these information flows' (Paavola and Adger 2005 pp.363). As Cleaver (2000) argues that existence of networks and information flow do not lower the transaction cost nor guarantee that agents will follow the institutions. We need to explain what networks and information flow do and how they lower the transaction cost.

4. SK and 'common knowledge'

To construct a SK concept with explanatory power, we need to open the black box of SK. Here in this paper, we argue that SK contributes to the following two process; i) creation of 'common knowledge' and ii) sharing of the 'common knowledge' as we have shown in the chart 1. First of all, we argue that agents to act collectively only when they can formulate a 'common knowledge' (Chwe 1999; 2001) that shows that the benefit of collective action as a community as a whole exceeds the cost of collective action. This is the linkage shown in the chart as L₁. Secondly we argue that this 'common knowledge' have to be shared among the community members as 'we-intentions' (Tuomela 1995; 2007). This is the linkage shown in the chart as L₂. For the linkages L₃ and L₄, we will discuss in the following section, section 5.

4.1. Creation of 'Common knowledge': L₁

Using the 1989 student demonstration in Tiananmen Square, Chwe (1999) argues that Chinese students were able to act together by 'sharing their anger'. He argues that without such a communication process, which enabled the student to know that many others felt the same way, the student demonstration was impossible. It is not enough for everyone to know that there is a necessity for collective action; but what is required is 'common knowledge'; everyone has to know that there is sufficient need for a collective action, everyone has to know that everyone knows, everyone has to know everyone knows, and so on (Chwe 1999).

Taking other agents preference into consideration is especially important in CPR management where the decisions of agents are interdependent. As we have seen in the previous section, in CPR, when one agent subtracts a resource from the CPR, this affects the other agents' subtractability. With most of the natural resources, resources are scarce and agents have incompatible interest (Vatn 2005). In other words, all the decisions are interdependent. When only small numbers of agents are involved and their interests are homogeneous, they can observe the behaviour of others and maintain accountability for it. However, when a large number of agents are involved and the interest is heterogeneous, SK plays an important role in reducing the transaction cost (Paavola and Adger 2005). If SK is to reduce the transaction cost of coordinating the heterogeneous interests among the agents, it should be through creation of 'common knowledge', creation of understanding of preferences of the others.

Chwe goes on to argue that agents can be strategically rational, they are completely rational and make decision knowing that others are completely rational. According to him social structure and rationality are not mutually exclusive rather compatible

(Chwe 1999; Rao 2005). If you have only three or four neighbours, as it is in Chwe's model, it might be possible to know preferences of the others rationally. However is it possible to know preference of the others rationally especially in situation where various agents have heterogeneous preference and when there are numerous combination of preferences. Even inside the small community where most of the CPR reside, the members of the community have different environmental priorities and natural-resource claims according to their social position that they occupy (Leach, Mearns et al. 1999; Agrawal and Gibson 2001). If we have to deal with the whole community and deliberate upon everything, our reasoning would be paralysed by the weight of data (Hodgson 2000). Our brains are not capable of deliberating all the possible combinations of preferences. To avoid this overload, we need to economize our cognitive energy by relying on 'symbolic formulae' (Douglas 1986) or 'habit of thought'⁸ (Hodgson 1997; 2000). We need to socially construct 'symbolic formula' that represents generalised preference of the others and the preference of the whole community as a 'common knowledge'. In other words, we need to socially construct a symbolic equation that shows 'our' benefit of collective action exceeds 'our' cost of collective action.

Douglas calls this process of construction as 'intellectual bricolage', extending the notion developed by Levi-Strauss (1966). According to her, agents (bricoleurs in her term) have to use existing repertoire of 'symbolic formulae' to analyse and to categorise the situation. Thus the shaping and reshaping of the institutions are constrained by pre-existing institutions and are path dependent. Even when the agents encounter totally new situation, such as sudden natural disaster where he/she has to totally change his/her action, agents are still constrained by the pre-existing 'symbolic formula'. Agents are not instrumentally rational in the construction of institutional arrangements or SK as game theorists assume. Thus, we argue that construction of 'common knowledge' is not done through rationally calculating the preference of the others rather through socially constructing generalized preference of the others as a 'symbolic formula'⁹. It is not sufficient argue that agent's rationality is bounded by the amount of information that they have to process, but 'common knowledge' needs to be social constructed and internalized by the agents (Berger and Luckmann 1966; Bourdieu and Wacquant 1992). Agents interacting together form, over time, typifications or mental representations of each other's actions, and that these typifications eventually become habitualized into reciprocal roles played by the actors in relation to each other (Berger and Luckmann 1966). Symbols have power to make the world and to constitute the reality (Foucault 1977; Bourdieu 1992; Kohn 2000). In this social contract of 'common knowledge', it is not possible to retain the rational choice model since some agents have more power than the others

⁸ This concept was originally developed by Veblen.

⁹ In this sense, the 'common knowledge' here is very similar to notion of Bourdieu's 'habitus'. Bourdieu introduced the notion of 'habitus' to explain the fact that economic behaviour of Algerian society which did not conform to the modern economic system. 'Habitus' is defined as "*a system of durable, transposable disposition, structured structures predisposed to function as structuring structures, that is, as principle which generate and organize practice and representation that can be objectively adapted to their outcomes without presupposing a conscious aiming at end or an express mastery of the operation necessary in order to attain them*" (Bourdieu 1990, pp.53).

according to the social position that they occupy, as we shall see in section 5.

4.2. Sharing of 'Common knowledge': L₂

In the previous section we have argued that for collective action to be possible, we need to create 'common knowledge' that shows that 'our' benefit exceeds 'our' cost for collective action. However it is not sufficient for this 'symbolic formula' to be created rather it needs to be shared by the members of community. Here we do not term this process as internalization as Berger and Luckmann (1966); rather we would like to use the term 'we-intention', term created by Tuomela (1995). He argues that 'we-intention is an individual agents' attribution of an intention to a community that the agents believe is reciprocally held by other agents in the same community. In other words, agents A feels obliged to do X, because A is a member of community G (Davis 2002). There are two major characteristics that Tuomela (1995; 2007) emphasizes; i) the agent expressing a 'we-intention' believes that this intention is widely if not universally held by others community members, and ii) the agent believes this intention is mutually held by the members of the community. If we put his argument in collective action and CPR management context, each agent believes that 'common knowledge' that shows that the collective action is beneficial for the community is widely and mutually held inside the community.

Here it is important to distinguish between 'we-preference' and 'we-intentions'. 'We-preferences are held in the essentially same way by all team members, and there is no difference between the way we-preferences properly represent the team and the way an individual might understand the team's we-preferences' (Davis 2002 pp.22). Here there is no room for human agency to play a role. Whereas 'we-intention' is individual commitment to use 'we' language (I think we want to....., or I believe we ought to do.....) that (self) imposes obligation to individuals. The concept of internalization developed by Berger and Luckman (1966) and applied by institutional economists to encounter problem of 'social embeddedness' (e.g. Aoki 2001a; 2001b; Vatn 2005) suffers from this problem of 'we-preference'. We agree that internalization occurs to certain extent, creating a sense of obligation, but we do not agree that agents fully internalize the institutional arrangements. Rather there is always a possibility of interpretation and misinterpretation (Hodgson 2000). Agents are not mere rule/norm follower (Taylor 1993) Institutions are negotiated in everyday social life practice¹⁰ (Bourdieu 1990; Cleaver 2003). For example, Cleaver (2003) mentions a case of women who breaks CPR management rules but pass without punishment. Her action is justified from the fact that she is poor and hard-working. In our every day life, institutions are modified according to the context that agents live in. Agents have to act as bricoleurs, as Douglas argues, by building on existing institutions, but at the same time they have the capacity to improvise and modify the existing institutions. In this sense, institutions are enabling and constraining (Hodgson 2000; Vatn 2005).

¹⁰ As many ethnomethodologists argue the concept of 'negotiated order', there are instances where categories that presupposed by the institutions dose not fit the case that they are categorizing (Turner 1991) where agents feel awkward or daunted.

To summarize, SK, as being 'the density of the networks and rate of these information flows', contributes to; i) creation of 'common knowledge' and ii) sharing this knowledge among the community members. Without the understanding of the preferences of the others, agents will not choose to cooperate; rather they will act individually (Chwe 1999; 2001). However, considering that even in small community, the preferences are heterogeneous among each agent (Leach, Mearns et al. 1999; Agrawal and Gibson 2001), our brains are not capable of comprehending all the possible combination of preferences of others. It is not possible to rationally understand preferences of the others; rather we need to socially construct a generalised preference of the others. A 'symbolic formula', equation that shows 'our' benefit, i.e. community's benefit, exceeds 'our' cost of collective action. This 'symbolic formula' has to be widely and mutually shared by the community members as 'we-intention' (Tuomela 1995; Davis 2002; Tuomela 2007). Here we did not term this process as internalization because although internalization do occur, agents do not fully internalise the 'symbolic formula'. Rather human agency interpret/misinterpret and sometimes challenge these institutional arrangement (Giddens 1984; Bourdieu 1990). But then the next question is whose cost and benefit should be considered as 'ours' cost and 'our' benefit, welfare of community? In a community with heterogeneous preference, how do agents come to a consensus of 'our' cost and 'our' benefit? In next section we will discuss i) how 'common knowledge' becomes 'common' (Linkage L₃ shown in the chart) and ii) as a result of sharing this 'common knowledge', how institutions get reproduced or changed (Linkage L₄).

5. Social capital, symbolic power and institutions

5.1. 'Common knowledge' and symbolic power: L₃

As we have seen the previous section, it is often argued that it is excessively naïve to consider a "community" as a small spatial unit with homogenous social structure and shared norms (Agrawal and Gibson 2001). Various elements, gender, caste, wealth, age, origins and other aspects of social identity divided and cross-cut so-called community. These various segments of community politically bargain over their priorities and rules to be employed (Leach, Mearns et al. 1999). Thus we need to come to a consensus from these heterogeneous preferences on whose benefit and cost to be represented as 'ours'. This is where 'symbolic power' comes in.

Bourdieu (1984) defines symbolic power as 'world-making power'; the power to impose the 'legitimate vision of the social world and of its division' (Swartz 1997 pp.13). 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' (pp.76, emphasis added). For Bourdieu, 'symbolic power' does not reside in force of the idea, i.e. rational calculation of the effectiveness of collective action and the environmental damages caused in the absence of collective action, rather in agents' relationship to social structure (Bourdieu 1990). According to him certain agents have more power to impose their view of cost and benefit as generalised 'our' benefit and cost of the

community. For example, Boyce (2007) argues that Hispanic and black populations in United States shares disproportionate amount of disposal centres in their neighbourhood compared to middle-upper class communities. Discourse of effective collective action, i.e. it is cheaper to build in neighbourhood of the Hispanic or the black population because land is cheaper, labour is cheaper, disguises and mystifies the fact that these agents are bearing disproportionate cost of collective action in the name and the fact that their cost and benefit is not reflected in the 'common knowledge'.

In creation of 'common knowledge', 'symbolic power' is involved. It imposes the certain 'symbolic formula', often that of socially and economically dominant group as legitimate formula of understanding the world despite the fact that that their 'symbolic formula' is culturally arbitral (Fukui and Yamamoto 1986; Ishii 1993). It is culturally arbitral because it does not represent the cost and the benefit of the entire community. For example, if we come back to Aoki's linking game, there are numerous games in the society, which game to be linked to which game is totally arbitral. Deciding that irrigation game to be linked to social exchange game might be result of rational calculation; however at the same time it might be also the result of the fact that this specific type of linking game gives advantage to dominant group. 'Symbolic power' jettisons other possible linking games as illegitimate and irrational (Calhoun, LiPuma et al. 1993). In other words, 'it set up an opposition between the things deemed suitable object of thinking and taking about, and those unworthy of speech and thought, the "unthinkable" or "unmentionable"' (Bourdieu 1971). For this reason, anthropologists who work on CPR argue that construction of institutions are not just the result of rational calculation; but a result of hierarchical power relation inside the social structure, which legitimize the certain group to monopolise 'symbolic power' (Mosse 1997; Cleaver 2000; 2003; Mosse 2006).

5.2. 'Common knowledge' and institutions: L₄

In this section, we will discuss when the 'common knowledge' is shared as 'we-intention', how institutions are reproduced and changed. As we have discussed in the previous section, 'symbolic power' imposes the cost and the benefit of particular group, as 'our' cost and 'our' benefit to the dominated group, who has different preferences. By legitimizing the specific 'symbolic formula' as 'common knowledge' and spreading it, it mystifies the fact that some agents have different preferences, different cost and benefit from that of dominant group. 'Symbolic power' creates a misrecognition that misleads agents' action. It is this power to mystify that enable the SK to reduce the transaction cost of collective action. The existence of the network and information flow does not guarantee the reduction. On the contrary, Cleaver (2000) reports the Tanzanian village, where the meetings to establish the CPR management rule was lengthy due to its contentious claim made by various villagers despite all the existence of daily communication. By mystifying the real cost and benefit of the some of the agents, the SK contributes to reproduction of the social structure. As Calhoun Lipuma et. al. (1993) puts it;

The undisguised reproduction of economic capital world would reveal the arbitrary

character of the distribution of the power. Symbolic capital (Symbolic power) functions to mask the economic domination of the dominant class and socially legitimate hierarchy by essentializing and naturalizing social position. That is, noneconomic field articulate with, reproduce, and legitimate class relations through misrecognition (1993 pp. 5).

However, 'common knowledge' does not go without challenge. There is a daily struggle over which 'symbolic formula' to be legitimised/ represented as 'ours' and who should be monopolizing the exercise of the 'symbolic power' (Bourdieu 1984). In some occasions, the dominated group 'penetrates'¹¹ and discloses the myth of 'common knowledge' (Giddens 1977; Willis 1977; Scott 1985). They claim that 'common knowledge' does not represent their own preferences. Agrawal (2001) reports cases of Nepal and India where female intentionally violates the rule of CPR management determined by male who dominates the society. Females, being the daily user of CPR, have accumulated knowledge of the CPR management. They protest rules that are determined by other agents by breaking the rules. In this sense agents do not just blindly follow rule or obey norms but improvise it as well (Taylor 1993). Agents do not fully internalise the 'common knowledge' as 'we-preference' but rather they feel or recognise the discrepancy between 'I-intention' ('my' cost and benefit) and 'we-intentions' ('our' cost and benefit) (Tuomela 2007). Agents may not be totally free to craft the institutions however still they are able to shake and change them.

To summarize, in this section we have argued that what becomes 'common' is often result of exercise of 'symbolic power' as well as the rational calculation of the effectiveness of collective action or the environmental damages caused in the absence of collective action. 'Symbolic power' disguises the cost and the benefit of certain group as 'our' cost and 'our' benefit. 'Symbolic power' mystifies the fact that 'common knowledge' is not representing the cost and the benefit of the whole community and the fact that it is culturally arbitral. It is this power of mystification that lowers the transaction cost of negotiating the collective action rather than the existence of network and information flow itself. At the same time, we have argued that the exercise of the 'symbolic power' is challenged and at times the myth of the 'common knowledge' is disclosed (Giddens 1977; Willis 1977; Scott 1985). The SK's ability to create collective action, i.e. create 'common knowledge' and impose it as 'common', is always challenged and negotiated in our daily life (Bourdieu 1990; 1992). The agents might not be totally rational but still able to recognise the discrepancy between their individual cost/ benefit, and 'our' cost/ benefit. In this sense SK is by its nature very political and contested. In the following table we have summarized definition of the concepts that we used in the previous two sections and its main contributors and key literature.

¹¹ 'Penetration' is the key term for Paul Willis's (1977) analysis on working-class school culture. He argued that working class boys in the school disclose the myth of education, the fact that obtaining a good education is not a faire game for them and it is not worth putting the effort for. But his argument is very ironical since it is their 'penetration' that leads to these boys to take the blue colour jobs and result in the reproduction of the class-structure.

Table 1. Main concepts as roadmap between SK and collective action

Concepts	Definition	Major contributors and literature
<i>Common knowledge</i>	Understanding of preferences of the others/ Generalised preference of the others	Chwe (1999; 2001)
<i>Symbolic formula</i>	Frame of reference that provide agents with understanding of the world: formation of 'our' cost and 'our' benefit	Goffman (1967) Douglas (1986)
- Concepts related to creation of 'common knowledge': L₁		
<i>Intellectual bricolage</i>	Process of gathering and applying analogies and style of thoughts already part of 'symbolic formula'	Levi-strauss (1966) Douglas (1986) Derrida (1978) Deleuze and Gattari (1977)
<i>Social construction</i>	Process which agents interacting together form, over time, typifications or mental representations of each other's actions, and that these typifications eventually become habitualized into reciprocal roles played by the actors in relation to each other	Berger and Luckman (1966) Bourdieu and Wacquant (1992)
- Concepts related to sharing of 'common knowledge': L₂		
<i>Internalization</i>	Process of consolidating and embedding 'symbolic formula' to a point where self impose sanction mechanism by creating feel of guilt or shame	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: I think 'our' benefit > 'our' cost so we should do X	Etzioni (1988) Tuomela (1995; 2007) Davis (2002)
<i>We-preference</i>	Perfect internalization: 'our' benefit > 'our' cost so we should do X	Tuomela (1995; 2007) Davis (2002)
- Concepts related to 'symbolic power': L₃		
<i>Symbolic power</i>	Power that legitimize the certain 'symbolic formula' as 'our' cost and 'our' benefit	Bourdieu (1971; 1984; 1986; 1990; 1992; 1992) Habermas (1986)
<i>Mystification</i>	Power to disguise the agents real cost and benefit	Bourdieu (1971; 1984; 1986; 1990; 1992; 1992)

5.3. SK theory as ‘anti-politics machine’

SK theories has been criticised as ‘anti-politics machine’ (Harris 2001). This concept was coined by Ferguson (1994). He analysed why the poverty alleviation policy in Lesotho were renewed despite its ‘failure’ in reaching its objectives. He argued:

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 (pp.256).

Ferguson termed this as ‘anti-politics machine’ following the analysis of Foucault (1977) who analysed that it is the ‘failure’ of prison which contributes to creation of micro-level power/ discipline of body (1994).

Harris (2001) criticises SK theories saying that they depoliticise the very political nature of SK in creating collective action. In similar manner, Fines (2001) argues that SK is a ‘colonization of other social science by economics’. Taking these criticisms, in this section, we have argued that creation of ‘common knowledge’ involves ‘symbolic power’. We argued that we cannot consider that SK is only created from rational; rather we have to consider it to be the result of hierarchical power relation inside the social structure, which legitimize the certain group to monopolise the ‘symbolic power’. ‘Symbolic power’ disguises real cost and benefit of the some agents, leading them to act collectively even if this is not their preferences. SK’s ability to create collective action lies in the fact that certain agents monopolise ‘symbolic power’ due to their position in the social structure. Despite this fact, game theorists isolate SK concept from social structure by reducing it to mere institutional arrangement or incentive mechanism. As a result, it loses the explanatory power (Cleaver 2003; Mosse 2006). Moreover, their theory cannot capture the fact that the legitimacy of the ‘common knowledge’ is challenged through various means in every day life. Although agents are constrained in their ability to expose the myth of the ‘common knowledge’ still the resistance do exists (Willis 1977; Scott 1985). Creation of collective action is a complex issue than game theorists assume and we need to understand the power and social structure properly. We need to create a room for human agency to play a role and to embed the human action inside the social structure (Giddens 1984). In this paper by inserting the notion of ‘common knowledge’ and discussing SK in relation to ‘symbolic power’, we aimed to fulfil the proposition of Granovetter, to avoid both ‘over-socialised’ and ‘under-socialised’ model of human agents.

6. Concluding remarks

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. (Phillip Bonacich quoted in Swedeberg 2001)

To conclude we have argued that current SK theories which follows the tradition of Putnam, cannot explain why SK can create collective action and why it can curve the incentive to cheat in provision of public goods (Cleaver 2003). As a result it has been criticised as an 'anti-politics machine' (Harris 2001). This paper has aimed to clarify how SK creates collective action and how it reduces its transaction cost. We have identified two processes which SK contributes; i) creation of 'common knowledge', and ii) sharing of the 'common knowledge'. Here 'common knowledge' is defined as the understanding of preference of the others, which enables agent to act together and bear the cost of collective action (Chwe 1999; 2001). We do not reject the proposition that human agents are rational or at least interest oriented, in Bourdieu's term. However, we argued that it is not possible to rationally know preferences of the others due to limited cognitive capacity, especially when we have to deal with whole community with heterogeneous preferences (Douglas 1986; Hodgson 1997; 2000). To economise the cognitive energy, we need to socially construct generalised preferences of the others, 'symbolic formula' as 'our' cost and 'our' benefit that legitimise the collective action. This has to be widely and mutually held among the community members as 'we-intentions', understanding that states that 'I think we should do X because we are part of group G' (Tuomela 1995; Davis 2002; Tuomela 2007). We have argued that it is important to distinguish 'we-intention' and 'we-preference' to leave a room for interpretation/misinterpretation and human agency to play a role. Without these 'common knowledge' being shared as 'we-intentions', institutions are dead letters which has no mechanism of imposing certain actions. It is the 'common knowledge' that 'activates' the institutions (Taylor 1993) and creates the collective action.

The process of creation of 'common knowledge' is not an equal process of averaging the cost and benefit of the members rather it is a process with struggles and conflicts. Often certain group in society has more voice to impose their own view of the cost and the benefit as 'our' cost and 'our' benefit. We have termed this as 'symbolic power' which disguise certain cultural arbitral form of 'symbolic formula' as legitimate and rational form that represent 'our' cost and 'our' benefit (Bourdieu 1984; 1990). Socially and economically dominant group usually monopolise the 'symbolic power'. By mystifying the fact that each agent has different cost and benefit, SK reduces the transaction cost of collective action. The SK's ability to create collective action lies in the fact that it has a power to mystify and to mislead agents' action. At the same time, we have also shown that dominant group's legitimacy to monopolise the 'symbolic power' is challenged. There is always a struggle over whose preferences to be reflected in 'common knowledge', whose cost and benefit to be represented as a 'our' cost and 'our' benefit (Willis 1977; Scott 1985). We have argued that SK is very political and contested and that collective action is a complex interplay of 'common knowledge', 'symbolic power' and human agency.

SK theory in line with Putnam is fundamentally ignorant about the relationship between SK, 'symbolic power' and human agency. As a result, it suffers from both 'under-socialised' and 'over-socialised' model of human agent. On one hand their

model of human agents are 'under-socialised' because they argue that agents have free-hand in constructing SK as incentive mechanism for collective action. On the other hand, their model is 'over-socialised' since agents become mere rule/norm follower, once this incentive mechanism is established. Here we cannot explain why community fails (Bowles and Gintis 2002; Bulte and Engels 2007) and agents do not follow rules despite their incentive mechanism build in the community (Hodgson 1997; 2000). It is great irony that SK theory falls into the very pit-hole that Granovetter tries to avoid considering the fact that SK theory was developed from his proposition. In this paper, by introducing the concept of 'common knowledge' and 'symbolic power', we have attempted to recapture human agency which interprets, misinterprets and reconstruct institutions through our daily practice and to avoid the 'under-socialised' and 'over-socialised' model of human agents. By doing so we aimed to introduce a complex model of collective action. Our future challenges lies in how to incorporate aspects of 'symbolic power' into games and understanding of institutional arrangement. Some sociologists have already modelled power as a game (e.g. Goffman 1967; Elias 1978; 1991). Unfortunately, the communication between the economists who deal with games and the institutional arrangements and sociologists who deal 'symbolic power' has not been fruitful. However, there has been serious some attempt for bridge these two disciplines and to create interdisciplinary understanding of collective action and CPR management (Chwe 1999; 2001; Rao 2005; Bardhan and Ray 2007). This paper aimed to contribute to this trend by revealing the mechanism where SK creates collective action by inserting the concept of 'common knowledge' and 'symbolic power'.

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