

# ENGAGING FOR THE ENVIRONMENT

## THE CONTRIBUTION OF SOCIAL CAPITAL TO COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT IN CAMBODIA



**Edited by Arnaldo Pellini**

**2012**

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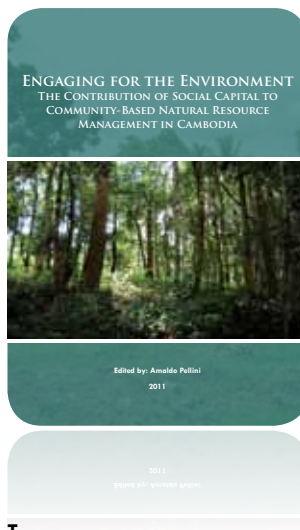
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CAMBODIA





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# FOREWORD

“Social capital is about people and their interactions. Social interaction is an asset that enables people to build communities, to commit themselves to each other and to knit the social fabric” (Field 2003).

As a follow-up to the 3rd annual research symposium held on 9-10 September 2010, key researchers with a common interest in social capital joined together to share and document their relevant research findings. This interesting initiative was facilitated and coordinated by the Learning Institute team, through funding support from the Cambodia Development Research Forum (DRF) and the Heinrich Boell Foundation (HBF).

The process of developing this publication was in itself, an example of the various structural characteristics of social capital including bonding, bridging and linking. First, we can see examples of bonding social capital among the researchers, authors and peer reviewers. This publication has been a remarkable collective effort. The group of multi-disciplinary authors contributed different skills, strengths and their professionalism to the team effort. Second, we can see examples of bridging social capital through the interactions of the researchers, together with students, lecturers and other young researchers who participated in a series of learning seminars that provided useful inputs to improve the chapters of this book. Finally, we can see examples of linking social capital by building networking links between communities and other stakeholders such as government, NGOs and researcher organizations. For example, the Learning Institute has been pleased to work closely with the Royal University of Phnom Penh, as well as partner organizations such as the Heinrich Boell Foundation (HBF) and the International Development Research Centre (IDRC) on this initiative.

We at the Learning Institute have been very pleased to help bring people and organizations together, to learn and share concepts and research findings related to social capital. This process has helped develop a community of social capital researchers in Cambodia. Finally, we have learned that cognitive characteristics such as trust, connectedness, social inclusion and reciprocity are key qualitative elements that help build links and networks among individuals and institutions.

We sincerely hope that the bonding, bridging and linking elements of this initiative can be the foundation for follow-up initiatives and activities that help us understand and continue to develop social capital in Cambodia.

Srey Marona  
Executive Director of the Learning Institute and  
Co-Chair of DRF Steering Committee

# EXECUTIVE SUMMARY

The Irish novelist Colm Tóibín wrote that ‘the future is a foreign country: they do things differently there’ (2010: 84)<sup>1</sup>. Development interventions represent the steps we take towards that foreign country. They are, however, uncertain steps as the future, by definition, remains unknown to us, as do development outcomes and results.

Since the 1950s, when development economics became a branch of economics, theories have been developed, models have been created, strategies have been put in place, programs and projects have been designed. What we know today is that development is not a straight input-output-outcome-impact path, although this linear logic remains attractive as we tend to define rules and simplify reality so the world seems less random than it actually is (Taleb, 2008)<sup>2</sup>.

In this book we look at two elements of this randomness:

1) Social capital as a required ingredient in the development recipe, something that, if it is in place can help the process. It belongs to the category of what is needed to take people out of poverty.

2) Community-based intervention as how (to try) to do that. The background is the access to and sustainable management of natural resources, which is critical in a country like Cambodia, where the majority of the population lives in rural areas and depends on those resources for their livelihoods.

The point of departure is that the concept of social capital has received interest and criticism in development policy debates and research, particularly during the last decade. The concept of social capital varies in the literature. Most definitions of social capital can be clustered around two main themes: structural social capital, which refers to bonding, bridging and institutional relationships between individuals, community groups and government institutions. The second theme, cognitive social capital, is usually associated with the quality of social capital such as trust, connectedness, social inclusion and reciprocity. What we argue through the case studies presented in this book is that the 20 years of warfare in Cambodia have badly damaged, but not destroyed, the structure and elements of social capital. Social capital remains, therefore, a relevant analytical framework to understand the meaning of community in the specific cultural and social context of Cambodia, and therefore to inform development interventions and policies aimed at a more balanced and sustainable management of natural resources, such as Community-Based Natural Resource Management (CBNRM).

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<sup>(1)</sup> Tóibín, C. (2010). ‘The Pearl Fishers’, in *The Empty Family*, London: Viking.

<sup>(2)</sup> Taleb, N. N. (2007). *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.



Social capital emerged in the development sector in the early 1990s. It represented the next step in the discussion around various forms of capital that are deemed necessary to understand what constitutes economic growth, for example, financial capital, industrial capital, technology and human capital. Social capital, focusing on the importance of individual relationships, represented the missing element.

Critics of social capital argue this is a too all-encompassing and generic theory and analytical framework. While it has allowed the social side of development into economics, it has failed to fully address issues such as power and the role of politics. Moreover other forms of capital have emerged as key elements for economic growth and development: natural resources capital and political capital in the forms of good governance and accountability. The social capital theory has become an element of a broader analytical framework which aims first to understand the political, social, cultural and economic contexts, and then develops different theories of change that can lead to desired (future) outcomes under the name of political economy analysis.

CBNRM interventions, which are central to this book, aim to implement co-management approaches, where close collaboration is achieved between government agencies and local communities. The theory of change which underlines this approach can be synthesized, as policies and interventions, including the knowledge and participation of community members and civil society organizations, will result in better policies, improved livelihood for communities, reduced poverty and more sustainable development. In other words, greater collaboration and sharing between communities, civil society organizations and state actors can result in better management of the common good, represented in this case by local natural resources.

Livelihoods of the majority of Cambodian people are under threat, due to unequal access to land and unsustainable management of natural resources. The case studies in this book show that bonding social capital is a driving force behind community mobilisation for natural resource management. Social inclusion and trust are key social-capital characteristics that strongly influence and inform CBNRM initiatives and empower communities to protect and manage their natural resources sustainably. There is however, evidence that the same elements that characterize social capital also exclude weaker and less connected members of communities.

Institutional social capital and the links with line agencies and government institutions are weak. They are often based on the good will of individuals who represent community-based groups on one hand, and government line agencies on the other. Therefore, the links often occur on an ad hoc basis, although there is growing recognition of the mutual benefits, for rural development and natural resource management, of closer collaboration between government agencies and community-based groups.

The case studies presented in this book show that community-based natural resource management interventions cannot be seen in isolation from the social and economic

context in which they are design and developed. The design of these interventions requires a good understanding of the social, political and economic context they want to influence and change. The role of community is central to the design of CBNRM, and therefore requires an in-depth understanding of what community means and what the characteristics of communities are. The social capital theory is one lens through which the meaning and characteristics of communities can be analyzed.

The book is structured as follows:

Chapter One, by Neth Baromey, Rith Sam Ol and Arnaldo Pellini, introduces the theory of social capital by critically describing its emergence in development, its structural and cognitive characteristics and some of its criticisms and limitations. It concludes that political economy analysis can be a more comprehensive analytical framework which can help to define theories of change and development interventions. Social capital can be therefore seen as an element of the political economy analysis. In the Cambodian context, social capital theory remains a useful analytical framework, particularly with community-based initiatives such as natural resource management.

In Chapter Two Keo Piseth and Ken Serey Rotha revisit some elements of the social capital theory to show how the social capital characteristics inform CBNRM. The authors argue that CBNRM interventions use key cognitive characteristics of social capital, such as social inclusion, connectedness and trust, as mechanisms to empower communities to sustainably protect and manage natural resources. The broader outcomes pursued through these interventions are stronger social inclusion and participatory democracy.

The case study presented by Oeur IL in Chapter Three explores linking social capital with governance of the Srepok river in Chey Oudom commune, Lumphat district, Ratanakiri province. Analysis of the experience in Chey Oudom commune indicates that social relationships linking villages to government agencies have occurred as a result of community mobilization efforts and support from NGOs. Village fishery committees have been able to obtain administrative, police and financial support from the Chey Oudom commune which has led to a reduction in illegal fishing.

The committees have been working with the Lumphat district officials to draft a fishery resource management statute to be endorsed by national level authorities. The links with provincial authorities in Ratanakiri are less robust than those with commune and district authorities, although they are improving. Provincial officials from the Department of Fisheries have offered assistance with advanced communication technology and have committed to helping the village fishery committees register officially at the national level. The conclusion by Oeur IL is that linking social capital between local villagers and government officials tends to occur on a case by case basis and between specific individuals. These links need to be institutionalised in formal arrangements of development planning, implementation and coordination to ensure

villagers have access to government, to claim their rights and obtain state support for their participation in the local governance of the Srepok river.

In Chapter Four Oeur IL, Ang Sopha and John McAndrew seek to understand social capital in response to floods and droughts in two ecological zones in Kompong Svay district, Kompong Thom province. More specifically, they attempt to document the experience of natural disasters in villages within and outside the Tonle Sap floodplain, to examine the effects of the disasters on rice production and livelihoods and to explore the role of social capital in enabling those affected to deal with the urgency of their situation. The evidence from Kompong Svay shows that between 2000 and 2001 and 2004 and 2005, households in the San Kor commune villages experienced severe floods and droughts, while households in the Damrei Slab commune villages endured severe droughts. Rice yields during the five years of successive natural disasters were extremely low and forced households in both communes to rely on sources of livelihood other than rain-fed wet-season rice production.

The shift from relying on rice production to other livelihood pursuits marked a process of change that was irreversible for some households. Households responded to the devastation caused by the severe floods and droughts by participating in networks of bonding social capital with relatives and neighbors, and through involvement in networks of bridging social capital with other villagers. At the same time, households were virtually excluded from access to networks linking social capital with powerful individuals and institutions needed to leverage resources for long-term benefits.

Chapter Five by Ear Chariya concludes the book by presenting the experience of the local NGO, Centre d'Etude et de Développement Agricole Cambodgien (CEDAC), with community-based initiatives aimed at establishing Farmer Associations (FA). The case study is derived from the review of the Improving Livelihoods of Small Farmers project which CEDAC implemented between 2003 and 2009 in the district of Tram Kak, in Takeo province. The project successfully developed a network of farmers at different local administrative levels, organized around thematic sectors (agriculture production, savings and credit, women, youth). Ear Chariya's conclusion is that CEDAC's community-based FAs have brought positive changes to social relations, and organizational capacity for the rural communities targeted by the project. They contributed to creating links for farmers to share knowledge, which resulted in increased productivity. The characteristics of FA leaders, drawn from traditional leaders, have been the driving force behind the success of the FA, and key to strengthening the future of the still-weak links with line agencies and technical departments. However, the case study shows that FAs are seen by community members, and increasingly by local government authorities, as essential, viable and powerful tools to empower rural villagers and communities.

# ACRONYMS

3SPN	: Sekong, Sesan and Srepok Rivers Protection Network
AC	: Agriculture Cooperative
ACIAR	: Australian Center for International Agricultural Research
ADB	: Asian Development Bank
ADI	: Analyzing Development Issues
AFA	: Asian Farmers' Association for Sustainable Rural Development
AFDI	: French Agriculturist for International Development
AFTA	: ASEAN Free Trade Agreement
AMK	: Angkor Microfinance Kampuchea
ASDP	: Agriculture Sector Development Program
ASEAN	: Association of South East Asian Nations
BPHHC	: Best Practice Health and Husbandry of Cattle
CAS	: Center for Advance Study
CBET	: Community Based Eco-Tourism
CBNRM	: Community-Based Natural Resource Management
CC	: Commune Council
CCC	: Cooperation Committee for Cambodia
CDRI	: Cambodia Development Research Institute
CEDAC	: Cambodian Center for Study and Development in Agriculture
CEDAC	: Centre d'Etude et de Développement Agricole Cambodgien
CF	: Community Facilitator
CFS	: French Committee for International Solidarity
D&D	: Decentralization and Deconcentration
DAE	: Department of Agricultural Extension
DAHP	: Department of Animal Health and Production
DANIDA	: Danish International Development Assistance
FA	: Farmer Association
FNN	: Farmer and Nature Net
FNS	: Friedrich Naumann Foundation
GRET	: Professionals for fair development
IDRC	: International Development Research Centre
ILFARM-TK	: Improving Livelihood of Small Farmers project in Tram Kak district, Takeo province
IUCN	: International Union for Conservation of Nature
JICA	: Japanese International Cooperation Agency
LAAR	: Local Administration and Reform Program
LMAC	: Land Management and Administration Councils
LVC	: La Via Compensina
MAFF	: Ministry of Agriculture, Forestry and Fisheries
MFIs	: Microfinance Institutions

MoE	: Ministry of Environment
Mol	: Ministry of Interior
NGO	: Non Governmental Organisation
NPRD	: National Program to Rehabilitate and Develop Cambodia
NRM	: Natural Resource Management
OAE	: Office of Agriculture Extension
PAR	: Participatory Action Research
PA	: Protected Areas
PDA	: Provincial Department of Agriculture
PPA	: Participatory Poverty Assessment
PRA	: Participatory Rural Appraisal
RGC	: Royal Government of Cambodia
RQ1	: Research Question One
RQ2	: Research Question Two
RQ3	: Research Question Three
SD	: Sustainable Development
SEDP	: Socio-Economic Development Plan
SRI	: System of Rice Intensification
SSC	: Social Service of Cambodia
UN	: United Nations
UNCED	: United Nations Conference on Environment and Development
UNDP	: United Nations Development Program
UNICEF	: United Nations Children's Fund
UNTAC	: United Nations Transitional Authority in Cambodia
USAID	: United States Agency for International Development
VDC	: Village Development Committee
WB	: World Bank
WFP	: The World Food Program
WSSD	: World Summit on Sustainable Development
WTO	: World Trade Organization



# Chapter I

## SOCIAL CAPITAL DEFINITIONS, CHARACTERISTICS AND THE RELEVANCE FOR CBNRM IN CAMBODIA

By: Neth Baromey, Rith Sam Ol and Arnaldo Pellini

The fall of the Khmer Rouge regime in 1979 marked the end of three decades of warfare in Cambodia. The decade-long Vietnamese presence, until 1989, started in nearly total isolation, the difficult reconstruction of livelihood, infrastructures and, more importantly, a sense of national identity which had been badly damaged by the Khmer Rouge regime. The withdrawal of Vietnamese troops in 1989 resulted in an intensified peace effort that included two international conferences in Paris. In the first, in 1989, representatives from 18 countries, the four Cambodian parties and the UN Secretary General met in an effort to negotiate a comprehensive settlement with the Khmer Rouge rebels. The second resulted in the signing of the Paris Peace Accord on 23rd October 1991, the return of King Norodom Sihanouk to the country as the head of state and a United Nations peacekeeping mission, the United Nations Transitional Authority in Cambodia (UNTAC). This lasted from March 1992 until September 1993 and deployed approximately 22,000 military and civilian personnel.<sup>1</sup> The May 1993 national election marked an important step in the process of reconstruction and democratization, though warfare continued in some parts of the country. In July 1997, troops clashed in Phnom Penh. H.E. Hun Sen emerged as the strong man and was confirmed Prime Minister after the 1998 national elections, which were declared by international observers “sufficiently free and fair to the extent that it reflects the will of the Cambodian people” (Vander Weyden 2000).

Too often the 1993 elections are described as turning the page in Cambodian history and society, the beginning of a new era with limited links to previous history. We argue that social relationships were badly damaged, but not destroyed, by 30 years of warfare and the five years of Khmer Rouge regime, which resulted in the deaths of more than 1.5 million people (or one in seven) from overwork, starvation, misdiagnosed diseases and execution (Vickery 1993); (Duggan 1996); (Chandler 1998). It was certainly an important moment, but it was based on social norms, values and a culture that pre-existed the war and the Khmer Rouge years.

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<sup>(1)</sup> The mandate of the UN peacekeeping mission was to supervise a ceasefire, repatriate the displaced Khmer along the border with Thailand, disarm and demobilize the factional armies and prepare the country for free and fair elections.

Social capital, as social reality made of norms and values that mark and regulate relationships between individuals, has always existed in Cambodian society and other societies. What is new since the early 1990s, and is central to this book, is the development of social capital as a concept that provides analytical frameworks to describe the characteristics of the links between individuals and their contribution to social development. For example, Pellini found evidence of pagoda associations established in the pagoda of Botum in the province of Kampong Thom in 1952, one year before France granted independence to Cambodia and well before the arrival of international donors and the development of social capital theories (Pellini 2007). These associations not only contributed to restoring the pagoda buildings, but established two elementary schools, one in the pagoda which is still there today, and one in a nearby village. The associations served as networks to support the establishment of the solidarity groups (*kromsamaki*) during the 1980s and were re-established as independent associations (without donors or government support) in the early 1990s, as soon as security conditions allowed.

The relative stability that followed the 1993 elections allowed Cambodia to continue its journey of transformation towards becoming a modern state by embracing the sustainable development paradigm that had emerged in the 1990s.

In 1994, the Cambodian government launched a medium-term adjustment and reform program that sought to restore macro-economic stability and strengthen institutional structures with the aid of the international community.<sup>2</sup> This helped Cambodia embrace a market economy and open its borders, by becoming a member of the Association of Southeast Asian Nations (ASEAN) in April 1999 and the World Trade Organisation (WTO) in October 2004 (CDRI 2001). Details of the strategy pursued by the government, with the assistance of the international community, are spelled out in the main national strategies adopted by the Government over the last 20 years, such as the National Program to Rehabilitate and Develop Cambodia (NPRD 1994) the Five-Year Socio-Economic Development Plan (SEDP I: 1996-2000) and the Rectangular Strategy first launched by the Government of Cambodia in 2004 and which entered

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<sup>(2)</sup> It is important to note that the assistance of the international community followed the almost total isolation of Cambodia from 1979 to 1991. The only exception were Vietnam, who had freed Cambodia from the Khmer Rouge and stationed its troops until 1989 on Cambodian territory, the Soviet Union, some Eastern European countries, India and a few international NGOs and United Nations agencies, such as UNICEF and WFP, which provided humanitarian assistance. (Mysliwiec 1988)

Phase II in 2008.<sup>3</sup> The outcome of these strategies has been rapid economic growth which averaged 6.6 percent between 1993 and 1997, with a peak of 7.6 percent in 1995. The rate of economic growth continued to be relatively high throughout the Asian financial crisis in 1997-1998, at 2.6 percent.

While contributing to an increased income per capita, the rapid economic growth had some negative outcomes, one of which is sustained environmental degradation. While it is true that the relationship between economic growth and environmental degradation is complex, and influenced by population growth, education and the existence or absence of rule of law, in the case of Cambodia economic growth has also been guided by the trade of primary products and raw materials.

One underlying theme of these reforms is the strengthening of democratization through better governance and decentralization reforms that have contributed to changing the traditional top-down structure of the government and public administration. Decentralization brings, in theory, increased opportunities for citizens to participate in the decision-making processes that affect their lives. This, in turn, evokes the importance of social capital as an analytical framework to describe and assess the characteristics that define citizens' and communities' involvement in the development process.

This chapter introduces the notion of social capital, which is central to this book. It will describe various forms and definitions of social capital from academic literature as well as practitioners' reports, and an analysis of some of the limitations of the concept of social capital. It aims to present the analytical framework used as the lens through which the case studies in this book are then explored. The next section provides the background to the critical review of the principles of the social capital theory. In the last section we will link social capital theory to the Cambodian context.

## Social capital: structure and norms

According to Ben Fine it is no coincidence that the rise of social capital coincides with the emergence of the post-Washington Consensus, that is, the realization that structural adjustment programs of the 1980s and 1990s caused considerable social harms while attempting to realign macro-economic imbalances in developing countries (Fine 2001). In a sense, the emergence of social capital represents the opening of

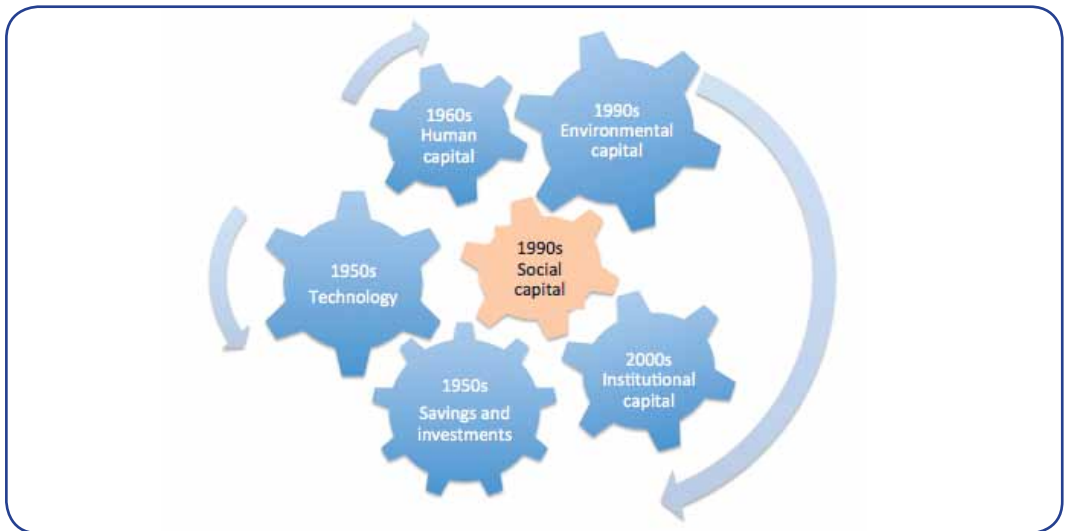
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<sup>(3)</sup> The Rectangular Strategy sets out Cambodia's long-term development vision and the Government's intention to build Cambodian society by strengthening peace, stability and social order, promoting sustainable and equitable development, and entrenching democracy and respect for human rights and dignity. The four growth components of the Rectangular Strategy are (i) agricultural development, (ii) infrastructure rehabilitation and development, (iii) private sector development and employment creation, and (iv) capacity building and human resource development. Good governance is at the core of the strategy. The Rectangular Strategy was first launched in 2004, and updated in 2008.

economics to the perspective on non-economists such as sociologists' and anthropologists' whose views, through the concept of social capital in the early 1990s, began to complement the economists' views of development.

If we depict the development process as an engine that has several turning cogs, the complexity of the engine's mechanisms has increased over time similar to an inventor who would discover new parts of the engine the closer s/he looks at it.

**Figure 1 - The development engine**



In the 1950s, development discourse was heavily influenced by anti-communist rhetoric. Economic modernization was to be achieved in linear and well-defined stages of economic growth through capital accumulation and an increase in saving and investments [(Rostow 1960) in (Arndt 1987)] . In the mid 1950s, Robert Solow (in Arndt 1987), argued that there were some unexplained elements in the linear model of economic growth. The development engine, as it was designed at that time, did not fully explain how it worked. He introduced technology as the missing variable (i.e. mechanism) in the linear economic growth models. The development engine became more complex. In the early 1960s, Hans Singer reasoned that the main problem in economic development was not the increase in the capital stock but rather the capacity to increase capital and produce wealth (Singer 1961). This led Theodore Schultz to add to the complexity of the growth engine by adding what he called the *human capital* to describe the crucial contribution of knowledge and schooling on economic growth (Schultz 1962). Human capital can be defined as “the sum of skills embodied within an individual (education, intelligence, charisma, creativity, experience). What would be left if somebody would be stripped away of all assets: job, money, home, possession” (Wheelan 2002).

While human capital added to the complexity of the development engine, some still sensed that this was not the whole story and that some parts were still missing. Dudley Seers argued that the economic doctrines of industrial economies could not be applied to developing countries because of entrenched land tenure systems, economic and political dependency and poverty. The realisation of these differences resulted in development approaches such as the basic-needs approach, the human-development approach and participatory development approaches that take into consideration specific social and cultural elements and requirements (Escobar 2006).<sup>4</sup> During the late 1980s and early 1990s the concept of social capital was coined to describe, in addition to other forms of capital, the positive effect for development and democratization of the interaction and exchange between individuals, voluntary groups and institutions (Putnam, Leonardi, and Nanetti 1993).

More recently, different mechanisms have been added to the development engine. Environmental capital and functioning and accountable public institutions are now considered critical elements for the engine to function. The complexity of development and economic growth, therefore, increases with time. Jane Jacobs highlighted this complexity and unpredictability, describing development as an open-ended process, a qualitative change that “can’t be usefully thought of as a line, or even a collection of open-ended lines (Jacobs 2000). It operates as a web of inter-dependent co-developments”. In the next sections we look in more detail at the key elements of social capital and analyze its relevance and limitations for the design and implementation of policies.

## The relevance of social capital for development

Social capital is about people and their interactions. For John Field the central thesis of the social capital theory is that ‘relationships matter’ (Field 2003). Social interaction is an asset that enables people to build communities, to commit themselves to each other and to knit the social fabric.

Robert Putnam defined social capital as ‘the features of social organizations, such as networks, norms and trust that facilitate coordination and cooperation for mutual benefit’ (Putnam, Leonardi, and Nanetti 1993). With this definition, Putnam captures the idea that shared values, norms and beliefs are important elements for achieving positive results in society.

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<sup>(4)</sup> Other important scholars worth mentioning here are: Robert Chambers, Hans Singer, Richard Jolly, Paul Streeten, Mahbub Ul Haq, and Karl Polanyi.



## Box 1 – Key social capital definitions

**Bourdieu:** ‘Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition’ (Bourdieu 1983).

**Coleman:** ‘Social capital is defined by its function. It is not a single entity, but a variety of different entities, having two characteristics in common: they all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure’ (Coleman 1994).

**Putnam:** ‘Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense, social capital is closely related to what some have called ‘civic virtue’. The difference is that ‘social capital’ calls attention to the fact that civic virtue is most powerful when embedded in a sense network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital’ (Putnam, Leonardi, and Nanetti 1993).

**The World Bank:** ‘Social capital refers to the institutions, relationships and norms that shape the quality and quantity of a society’s social interactions. Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together’ (World Bank 1999).

Fine (2001) sees the concept of social capital as emerging from different discourses or perspectives. For Bourdieu, ‘social capital is broadly understood as the cultural non-economic counterparts to an exploitative notion of capital’. Social capital for Bourdieu is therefore linked to specific contexts and cultures, as well as economic and social practices. A second perspective highlighted by Fine, is the work of economist Gary Becker who expanded the works of Schultz and added, to the skills and experiences of individuals typical of human capital theory, the influence of all personal social interactions as a means to an end of development and growth. This is sometimes referred to as social capital networks.

Lin (2001) specified some of the elements of social capital as resources (information, ideas, support) that individuals are able to procure by virtue of their relationships with other people. These resources are social in that they are only accessible in and through these relationships, unlike physical or human capital, which are properties of individuals. Relationships with other people are defined as networks characterized by who interacts with whom, how frequently and on what terms. They have a major influence on the flow of resources between network members, as well as between networks. Those who occupy strategic positions in the network can be said to have more social capital than their peers because their network position gives them

heightened access to more and better resources (Rowley 1997); (Lin 1999); (Burt 2000); (Lin 2001); (Kilduff and Tsai 2003); (Hsung, Lin, and Breiger 2009).

Coleman offers an additional perspective on social capital, seeing social capital as a means for better achieving individual goals. According to this perspective, the concept of social capital can be seen as an additional asset, an extra amount of capital that benefits individuals and in turn, society. Therefore, for Coleman, social capital is a structure of relations between and among actors that encourages productive activities (Coleman 1988).

Fine (2001) argues that Bourdieu's critical view of the concept of social capital and its implication has been dropped by development actors. In Fine's opinion, Bourdieu looks at social capital in critical terms of its concepts and implications, which do not serve the purpose of development actors, always seeking new models and discourse to promote their interventions in support of development, (and beyond the sense of limited successes that permeates the development sector). However, it is possible to argue that Bourdieu's analysis has influenced the perspectives of Becker and Coleman, who have contributed to the popularization of social capital in the development world and have been fully endorsed, at least for some time, by international agencies.

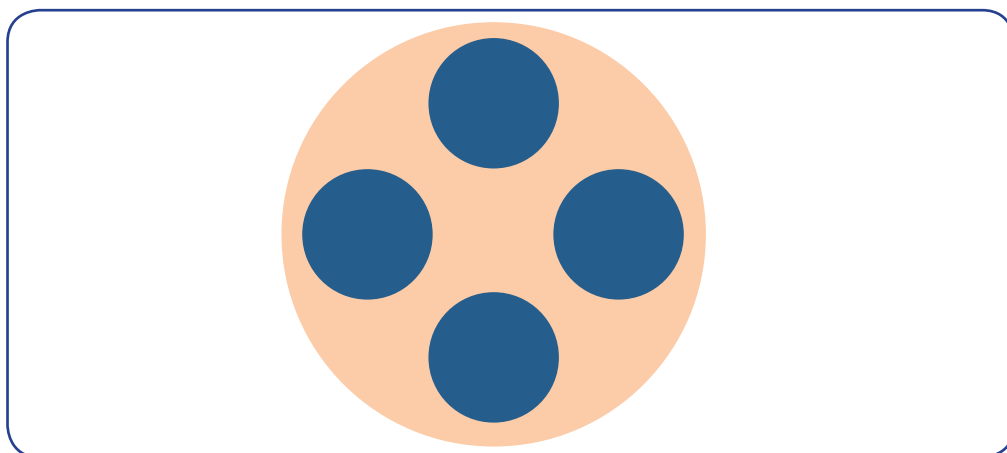
The general definition presented in this section helps give an idea of what social capital is and why it has become popular in the development sector. In the early 1990s, it offered an alternative model that related the economic to the social and that rejected the neoliberal ideology attached to the structural adjustment programs sponsored by the World Bank and the International Monetary Fund during the 1980s, the so-called Washington consensus. We will see later whether the emergence of social capital is based more on the influence of its appeal rather than its veracity. However, first it may be useful to describe what social capital is by distinguishing two main characteristics which help cluster the work of various authors and scholars: structural characteristics and cognitive characteristics.

## Structural characteristics of social capital

The structural dimension of social capital refers to the characteristics and qualities of the networks and links among individuals and institutions. It helps discover and analyze the extent to which people participate in various types of social institutions, as well as formal and informal networks (Krisna and Shrader 1999); (Onyx and Bullen 2000); (Schuller, Baron, and Field 2000); (Woolcock and Narayan 2000); (Warren, Thompson, and Saegert 2001); (Grootaert and Bastelaer 2002); (Grootaert et al. 2004); (Memmott and Meltzer 2005); (Kilpatrick and Abbott-Chapman 2007). The structural dimension of social capital can be divided into bonding, bridging and linking social capital.

- **Bonding social capital** includes networks and ties among social groups, within a specific local organization, based on interest. It represents, as noted by Granovetter, an embedded form of social capital or strong ties (Granovetter 1973). Putnam defines bonding social capital as the 'link that exists between like-minded people that contribute to reinforce homogeneity but can also build walls that exclude those who do not qualify' (Putnam, Leonardi, and Nanetti 1993). Examples of bonding social capital include kinship relationships and religion. These forms of social capital refer to internal social connections that build on similarity and informality, and can be both embedded in a community and new links established, for example, through a project. These types of links between community members are called horizontal links among community stakeholders with similar interests and comparable capacity and education levels (Schuller, Baron, and Field 2000); (Memmott and Meltzer 2005); (Narayan 2002). Bonding social capital usually contributes to quality of life by promoting mutual understanding and support (emotional support, advice, capital). It binds individuals together and directs them toward the pursuit of collective group needs and aspirations. It provides the foundations on which group members can develop their capacity, seek solutions to shared problems and achieve a measure of control over their lives (Warren, Thompson, and Saegert 2001); (Narayan 2002).

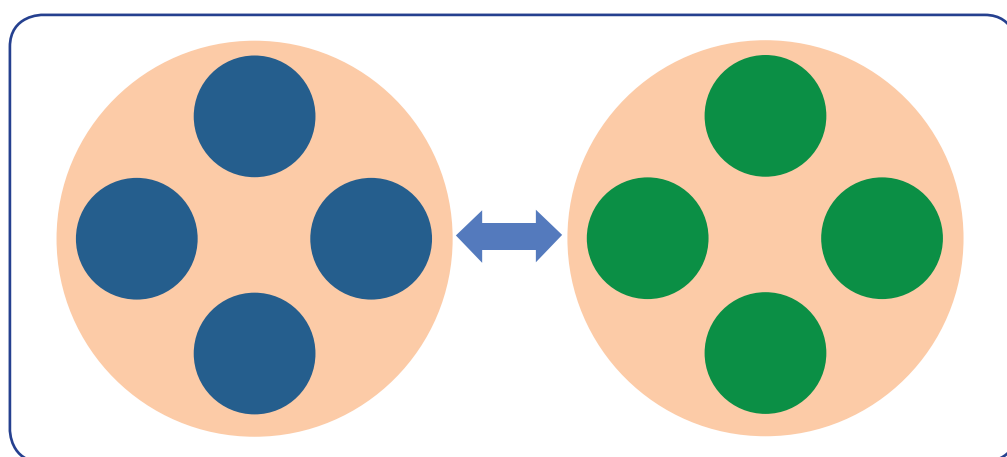
**Figure 2 - Bonding social capital**



- **Bridging social capital** refers to embedded forms of social capital or the strong ties noted by Granovetter (1973). It is different from bonding social capital as it refers to connections between heterogeneous groups. These links are usually more fragile than the ones within a specific community, but they have greater potential to foster social inclusion (ibid.). Bridging social capital is embedded in social networks and the associated norms that influence community productivity and wellbeing [see (Bebbington 1997); (Woolcock 1998); (Narayan 1999); and (Krishna 2000)]. This view recognizes

that horizontal ties are needed to give communities a sense of identity and common purpose, but also stresses that without bridging ties that transcend social divides such as religion, ethnicity and socio-economic status, horizontalties can be the basis for the pursuit of narrow interests, and can actively preclude access to information and material resources that would otherwise be of great assistance to the community (Krishna 2000). Networks can link different types of institutions, such as community-based initiatives, local authorities and organizations within and outside the immediate geography, though they all share and pursue a common goal or interest. These ties between different groups, which form the rationale of many community-based development interventions, are considered important as they increase opportunities for community groups to access capital and knowledge, that can be turned into investments for improving the community well-being (Dale and Onyx 2005); (Dredge 2006a); (Jones 2005); (Gibb 2005). The sum of bridging social capital and bonding social capital contributes to enhancing local solidarity as well as a sense of identity, which can be useful when confronting external economic and political institutions and forces. Therefore, bonding and bridging social capital provide the foundation for the political power necessary when social conflict and tensions emerge (Dredge 2006a); (Dredge 2006b); (Taylor 2000); (Wilson 1997).

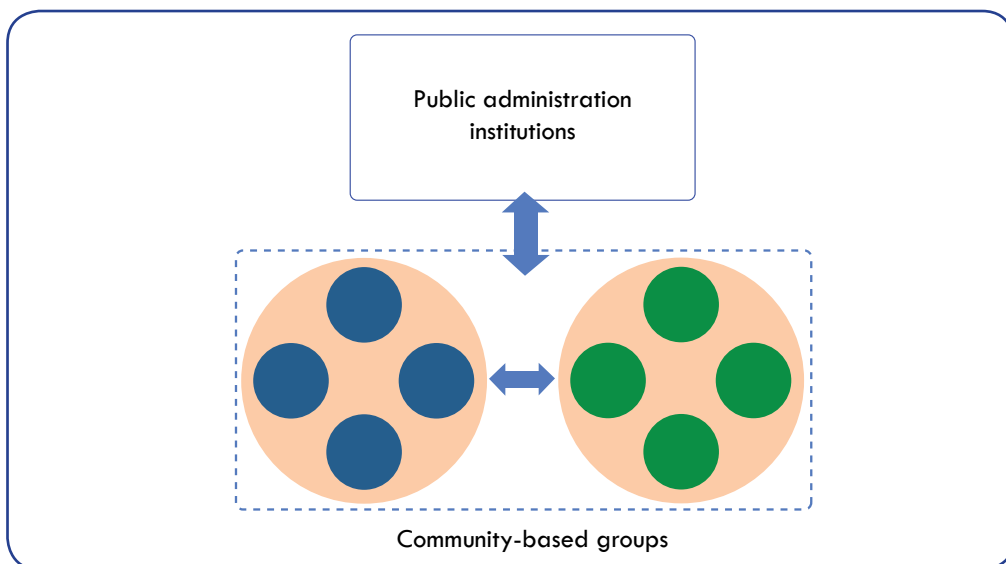
**Figure 3 - Bridging social capital**



- **Linking social capital** refers to the external relationships between people and institutions in positions of authority, such as government agencies, donor organizations, NGOs, the private sector, media groups and academia (Ben and Onyx 2005); (Woolcock 2002); (Warren, Thompson, and Saegert 2001); (Woolcock and Narayan 2000); (Onyx and Bullen 2000). It categorizes Granovetter (1973) linking social capital as the weak ties or 'novel social capital'. In other words, the concept of linking social capital helps to describe the vertical links of community-based associations with local government

agencies and other non-community actors (Woolcock and Narayan 2000); (Warren, Thompson, and Saegert 2001); (Cohen 2001); (Anderson and Miligan 2006); (Taylor 2000); (Wilson 1997); (Messer and Kecskes 2009). This analysis extends the importance of social capital to formalized institutional relationships and structures, such as government, political regimes, rule of law, the court system and civil and political liberties. This view not only accounts for the importance of the ties within and across communities, but recognizes that the capacity of various social groups to act in their interest depends on the support (or lack thereof) that they receive from the state, as well as the private sector. Likewise, the state depends on social stability and widespread popular support embedded in linking social capital with citizens, the community and civil society groups. In short, economic and social development thrives when representatives of the state, the corporate sector and civil society create forums in and through which they can identify and pursue common goals.

**Figure 4 - Linking social capital**



The relationship between the three forms of social capital described above is summed up by Uphoff who states that bonding and bridging social capital pre-dispose individuals to collective action, while linking social capital creates the conditions and spaces that facilitate collective action (Uphoff 2000). A community's internal stock of social capital (bonding and bridging) can be the foundation for new development initiatives. However, in order to achieve a level of sustainability, these must be complemented by other forms of social capital, for example, links with non-community actors such as government agencies.



## Cognitive characteristics of social capital

The cognitive elements of social capital refer to the qualities of social capital: that is, the qualitative characteristics, or norms, that tie links and networks together (Memmott and Meltzer 2005); (Kilduff and Tsai 2003); (Lin 2001); (Lin 1999); (Grootaert et al. 2004); (Krisna and Shrader 1999). While in the previous section we described three different structures of social capital, in this section we look at the elements that define the quality of those structures, the 'rules of the game' (Pretty and Ward 2001). We focus on four main cognitive characteristics: trust, connectedness, social inclusion and reciprocity.

- **Trust** is the extent to which people can believe in each other and, in turn, in the possibilities of the social networks they belong to (Fukuyama 1995); (Herreros 2004). Trust is important in any society as it promotes cooperation between individuals. It has acquired a certain importance in complex social and political environments such as those of the developing world (Pretty and Ward 2001); (Lin 2001); (Fukuyama 1995); (Herreros 2004). Trust promotes collaboration for reaching some public objectives: constructing public facilities, providing revolving credit schemes, participating in selecting a leader or drafting rules and regulations (Dale and Onyx 2005); (Pretty and Smith 2004); (Woolcock 2002); (Pretty and Ward 2001); (Fukuyama 1995); (Herreros 2004). In this book the focus is on community-based initiatives to preserve natural resources. People need a certain level of trust in each other, in the state and in the rule of law to feel comfortable about cooperating in a joint undertaking (Knowles 2007). Trust is particularly strong among extended family networks (bonding social capital), to a lesser extent among different types of community-based groups (bridging social capital) and less strong towards state institutions (linking social capital) (Pellini 2007). Several scholars have identified trust as a critical element of all forms of social capital. Uphoff (2000) defines it as 'the essential glue for society'. The basic argument is that trust can grow and facilitate exchange and interaction between individuals, groups and institutions. It is linked to the availability of information as well as formal and informal norms and rules. We trust individuals and/or institutions because we know that in the past they have behaved correctly. We trust them because we know that there are laws and a judicial system that regulate and punish bad behaviour. There can be strong informal norms and rules which, as in many parts of Southeast Asia, reward trustworthy behaviour by applying social sanctions, such as shame, to those who violate the norms (Pye 1999). Dasgupta suggests that trust is central to the discussion about social capital, though 'until recently it was treated like a background environment, present whenever called upon, a sort of ever-ready lubricant permitting voluntarily participation in production and exchange to take place' (Dasgupta 2000). He argues convincingly that

when trust erodes, for example through wars and civil conflicts, 'it can bring an awful lot down with it' (p. 332).

- **Connectedness** between individuals contributes to building or enhancing a sense of belonging to a community. Communities are not homogeneous entities. They are formed by a variety of groups which are characterized by specific interests and values. This diversity is reflected in the outcome of an international conference, the *Meaning of Community in Cambodia*, which took place in Phnom Penh in 1999. Summarizing the proceedings, Thion, noted that it is possible to speak of a geographical community, the people who live and share common institutions in a certain geographical area, for example, a village and a functional community, people who join in formal or informal groups to share problems and act together to solve them, that is, they are connected (Thion 1999). The sense of connectedness serves to bring different groups together and link them around specific activities or objectives. It is vital that these diverse groups have some sense of connection and mutual understanding to engage in the activities. Connectedness is about engagement in collective actions. Connectedness within, between and beyond communities is a key quality required to build and sustain bridging and linking types of social capital. It is key to working toward common shared goals (Ben and Onyx 2005); (Dale and Onyx 2005); (Grootaert et al. 2004); (Pretty and Ward 2001).
- **Social inclusion** is a specific form of connectedness. It is defined here as connections to government agencies and institutions, in being part of, or at least aware of, their activities (Murphy and Murphy 2004); (Pretty and Ward 2001); (Grootaert 1998). While citizens and communities need to feel trust towards the state and its institutions, the state and institutions need to strengthen and develop a sense of social inclusion for their citizens and communities, for the linking social capital to develop and grow. The combination of social inclusion and connectedness can help achieve greater cooperation and collaboration between citizens, community groups and policy and development actors.
- **Reciprocity** refers to the notion of diffusing and exchanging available resources, such as goods, ideas, manpower and knowledge (Kilduff and Tsai 2003); (Lin 2001); (Pretty and Ward 2001); (Lin 1999). There are two types of reciprocity that can be defined: 1) *specific reciprocity* refers to simultaneous exchanges of items of roughly equal value; 2) *diffusing reciprocity* refers to a continuing relationship of exchange that is repaid and balanced over time (Pretty and Ward 2001). Sharing can occur between individuals and among communities. Sharing between individuals refers to sharing among selected family and group members. Community sharing refers to diffusing resources across the whole community and between community groups (Mommott and Meltzer 2005). Reciprocity can help reduce transaction costs and information distortions typical of the developing world (Kilpatrick and Vanclay 2005); (Kilpatrick, Rowena B., and Falk 1999); (Jones 2005);

(Gibb 2005). Results can include enhanced human capital, better sharing between groups, stronger trust and empowerment (Coleman 1988); (Gibb 2005); (Porter 1998); (Porter 1990); (Sabatier and Jenkins-Smith 1993); (Memmott and Meltzer 2005).

## The limits of the concept of social capital

The rise of social capital as an influential concept in development intervention has been quite astonishing. Ben Fine (2001) describes social capital as the latest conceptual *wunderkind* and tries to understand why social capital has been so readily accepted as analytical, empirical and policy panacea (ibid.). In doing so he has highlighted some of the limitations of the concept of social capital which we present here to provide a critical context and background.

Fine proposes that the varying definitions given to social capital over the last years means the concept is akin to 'a sack of analytical potatoes' (2001:190). Having analyzed the World Bank's social capital web site, he found that social capital brings together several development topics such as economics, trade, nutrition and population, which have been widely researched and have informed many World Bank interventions. Fine (2001) argues that these are disciplines with rich intellectual traditions, which are not scared to accommodate social capital as the organizing concept.

We have already shown in the definitions and characteristics of social capital that social capital can be intrinsically good. However it can be bad if improperly used. Bonding ink can also exclude individual and community groups from activities and sharing resources and knowledge. These can be powerful barriers to social cohesion and collective action that can result in an uneven distribution of benefits and opportunities.

Social capital has the potential to promote wellbeing through closer and better social interaction, but also has the potential to reinforce the pack identity which can lead to exclusion. Critics of the social capital theory argue that it suffers from a romanticized view of the opportunities it helps describe, while the evidence on human behavior seems to suggest that it is about pursuing individual interests, group thinking and risk aversion. For these critics, the duality of social capital means that through its lens almost any outcome, good and bad, can be explained, with the risk that social capital is more a metaphor than an rigorous analytical framework (Fine 2001).

Yet we believe that there is a great deal of value in the concept of social capital. It has contributed to opening the field of economics to non-economists. It shows the limits of economic science in explaining complex development processes and economic growth, and has allowed for the social to complement the economic. It has influenced

the development of the post-Washington Consensus through more progressive policy agendas.

Social capital is one important mechanism of the development engine. In recent years, some of the shortcomings of social-capital analysis, power and incentives, have been the focus of intense analysis by academics and practitioners. They have contributed to the wider adoption of political-economy analysis as the new framework for designing, implementing, monitoring and understanding social development. This is not surprising. Social capital represents an analytical step forward from human capital in the explanation of what contributes to economic growth. Political-economy analysis builds on economic and social analysis and explicitly adds politics to them. It focuses, in a way that social capital analysis has probably not done, on power and how resources are distributed and contested in different contexts, the implications for development and policy outcomes, and analyses the incentives that enable or frustrate change.

Donor interest in political-economy analysis is relatively recent and represents a continued search for the missing elements of the development recipe. It represents the evolution in donor thinking that recognizes the political nature of developmental processes and the need to engage as knowledgeably as possible with local contexts (Harris, Michelle, and Jones 2011). It focuses on interests and incentives, formal and informal institutions, social norms, human behaviors, the influence of ideas and political ideologies. The main benefits associated with political-economy analysis are (DFID 2009); (Harris, Michelle, and Jones 2011):

- It can help identify gaps in knowledge and mitigate unjustified assumptions and individual biases held by country-office staff (even those who are well informed).
- It can provide an analytical approach that helps organize knowledge (tacit and other) into consistent causal stories. In doing so, it can help validate assumptions, explain outcomes and identify potential entry points for interventions to facilitate changes of, and/or within, the political system.
- It creates explicit and systematic knowledge that can help to facilitate knowledge sharing.
- It helps us understand what drives political behavior and who are the main 'winners' and 'losers' from development strategies and programs.

Political-economy analysis is the latest step in the search for knowledge about what enables and what obstructs development. It does not make social capital obsolete, but actually contains and enriches elements of social capital analysis. This means that social capital analysis is not a faded fashion and still has a considerable value, particularly with analysis of community-based initiatives such as the case studies described in this book.

Political-economy analysis can provide additional perspectives to the research and assessment of CBNRM. The analysis of the social capital characteristics (bridging and linking social capital) can integrate and benefit the analysis of power structures and incentives that enable or prevent community engagement and sustainable use of natural resources. As noted by Li (2002), political-economy analysis 'offers an opportunity to go beyond the simplifications of the CBNRM model, and locate its assumptions more precisely within the changing political economy and ecology of a specific rural setting' (p. 278). In particular, Li argues that political-economy analysis can contribute to communities being seen as part of the state and not as separate entities (Li 2002). In other words, CBNRM, can be considered an approach that offers governments an opportunity to rearrange the ways in which rule is accomplished, while offering communities an opportunity to realign their position within (but not outside) the state system.

We will provide some context to the social capital characteristics described above, linking them to the Cambodian social and natural environment.

## Social capital and natural resources in Cambodia: a brief overview

In little less than 20 years, Cambodia has made considerable steps forward in terms of economic growth and the development of democratic practices and ideas. Democracy is understood here as the right of citizens to participate equally in actions and decision-making, in matters that affect their lives. To ensure these principles continue to influence Cambodian society and development, the Government has taken steps so that citizens and community groups have the right and opportunity to participate in the development process. The aim is to achieve sustainable development based on social capital elements such as trust, confidence and social inclusion. This is easier said than done.

Development can be seen as a complex web where economic growth, poverty alleviation, social equity and, in our case, natural resource management contribute to this complexity. It is an expanding web whose complexity grows over time as new priorities emerge, policies are launched, lessons are learned and opportunities are created. This complexity is also evident in the field of natural resources in Cambodia, a country that has, according to the World Bank, the highest per capita endowment of arable land, water and freshwater fish, and possesses one of the highest endowments of forests in East Asia (CAS/World Bank 2007). At the same time, about 36 percent of the population still lives on an income below the food poverty line of USD14 per month. Poverty remains widespread, especially in rural areas where an estimated 90 percent of the poor population lives, relying primarily on agriculture and natural resources (ADB 2001); (ICEM 2003); (World Bank 2006); (RGC 2000a); (RGC



2000b)<sup>5</sup>. For our purposes, poverty is defined as 'the inability to be certain that one can use as much local natural resources as necessary for household purposes or to sell to purchase basic necessities; it is also the inability to be certain that the land one occupies truly belongs to one's family and that no one can take it away (ICEM 2003). Poverty remains four times as common in rural areas as it is in Phnom Penh and other main urban centers. Rapid population growth and privatization reforms have resulted in greater pressure on Cambodian land. The expansion of populated areas and the concentration of land ownership in the private sector exacerbates social inequalities and poverty (ICEM 2003); (Van Acker 2010).

CBNRM was introduced in Cambodia in the paradoxical context of economic growth and socio-economic differentiation. At the end of the 1990s, the Royal Government of Cambodia started to recognize that the system of large-scale fisheries and forest concessions was at an impasse (IFSR 2004); (Hibou 2004); (Mom 2009) as it did not translate into environmentally sound, socially just and economically efficient management of natural resources. Following the international trend to promote decentralized natural resource management, CBNRM was identified as a promising option. As Li puts it, the founding assumption of CBNRM is that people who live close to a resource and whose livelihoods directly depend upon it have more interest in sustainable use and management than state authorities or distant corporations (Li 2002). The Cambodian interest in CBNRM reflects an international trend promoted by multi and bilateral development partners to favor local-level management of natural resources. It is reinforced by various international agreements such as the United Nations Conference on Environment and Development (UNCED 1992) and the World Summit on Sustainable Development (WSSD 2002).

Various state and non-state actors involved in natural resources began to engage rural communities in dialogue, to establish local-level schemes managing demarcated areas and establishing management institutions. Similar processes took place in different domains of resources across the country: Community Fisheries (CFi) in the fisheries domain, Community Forestry (CF) in the production forest domain, under the responsibility of Forestry Administration, and Community in Protected Areas in the protected forest domain, under the management of the Ministry of Environment. CBNRM does not aim to set up independent and autonomous mechanisms for community management of natural resources. In the Cambodian context, CBNRM has to be understood as co-management, where rights and responsibilities over resources are shared between the administration and the communities. This local-level co-management is framed by a set of rules and regulations agreed upon by both parties to promote inclusive natural resource management. It contrasts with other tenure systems, which tend to exclude rural communities from managing the resources: forests-fisheries concessions or certain zones (core-buffer) within protected areas.

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<sup>(5)</sup> See Royal Government of Cambodia, Interim Poverty Reduction Strategy Plan, 2000; Royal Government of Cambodia, Second Five-Year Socio-Economic Development Plan 2001-2005; National Economic Growth and Poverty Reduction Strategy 2001.

Design and implementation of these reforms has not been easy. Developing modern and accountable public institutions requires time, adequate technical skills, financial resources and more importantly, political commitment. Cambodia is receiving support from the international community to continue along this path. To achieve these results Cambodia needs to balance intervention and support from the international community with national-level support to ministries and community-based actions.<sup>6</sup> Decentralization reforms, which have been implemented in Cambodia for more than two decades, aim to achieve this difficult balance in several key sectors, natural resources being one of them.

The protection and conservation of natural resources requires the engagement of all citizens, community groups, line agencies, ministries and donors. It is a matter of political will as well as trust within communities, and between government agencies and local communities. The quality and characteristics of social capital are at the center of efforts required to conserve natural resources and manage them sustainably.

The role of communities is central to the design of CBNRM. It requires an in-depth understanding of the meaning of community to inform the design of evidence-based CBNRM policies. The analysis requires an understanding of current socio-economic characteristics and the links/barriers with state institutions. This analysis should take into consideration the influence of history as well as cultural norms and values. Social capital theory is the lens through which external influences, such as co-management arrangements introduced by CBNRM, and those which are part of the historical governance of communities, can be analyzed.

Pellini (2007) argues that rural areas in Cambodia have traditionally been separated from the center by an economic, social and cultural gap. Political decision-making processes in Cambodia are determined by the interests of the ruling elite and have overshadowed opportunities for active participation. Nevertheless, there are clear signs of long-standing social capital associated with traditional associations in rural areas. Bonding social capital is strong in Cambodia. The solidarity that underlines extended family networks survived the Khmer Rouge years. The importance of Buddhism defines the character and activities of traditional associations. Leadership, together with trust for respected community members such as *achars* and, in some cases monks, is the driving force behind community mobilization, and results in the establishment of associations and ad hoc committees involved in specific community-based activities (*ibid.*). The research conducted by Pellini shows that association's members have a close connection with their groups, suggesting the strength of binding social capital is based on solidarity, respect for leadership and trust (Pellini 2007).

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<sup>(6)</sup> Statement by the European Commission delegation and Federal Ministry for Economic Cooperation and Development, "6th Consultative Meeting for Cambodia", (Phnom Penh: Cambodia, 20-21 June 2002)

Bridging social capital tends to be weaker than bonding social capital in Cambodia. The links between different types of community groups and associations involved in social development tend to be fragmented. While pagodas usually represent the center of communal life and the space where groups and traditional leaders meet, the cooperation and exchange between them is limited. This suggests a limited perception of the importance of networking in influencing policy decisions and assisting decentralized authorities and service providers.

Institutional social capital tends also to be weak (Pellini 2007), mainly because of the mistrust that citizens have towards the state and the accountability system within public institutions. According to Meas and Healy, this erosion had started in 1970, with the coup that ousted Prince Sihanouk and marked the beginning of the civil war. During the Khmer Rouge regime, the destruction of trust was almost total as the regime (i.e. the state) recruited people to spy on one another, family members were separated, monks were killed and pagodas destroyed (Meas and Healy 1995). Meas Nee remembers that “as trust was broken, we reached a time when we could think only of ourselves and our great needs; the dignity and pride of our identity, formerly an important part of our lives, entirely disappeared” (ibid. 27).

The accountability system within the public administration does not contribute to strengthening the links between institutions and citizens/communities. Line agencies at provincial and district levels are usually under pressure to follow national guidelines and bound to upward accountability, which limits the willingness by communities to start more fruitful dialogue with them. Commune councils, which were elected for the first time in 2002, represent a promising space, though with limited capacity, to strengthen linking social capital around issues such as natural resources, which concern the livelihood of the majority of the population in Cambodia.

## Conclusion

This chapter presented the main definition of social capital as well as the description of structural and cognitive characteristics of social capital, which are used in the case studies of this book. We show that social capital is one element in the search for knowledge to better understand and plan for development interventions in sensitive sectors such as natural resources. We have shown that social capital analysis is now part of political-economy analysis, which has become a new trend among international donors. We do not believe this diminishes the importance of social-capital analysis, rather it provides a clearer space in the frame of political analysis to understand the meaning of community in a specific social and cultural context, and the forces that enable or prevent better interaction between individuals and groups to achieve sustained collective action and more sustainable development.

This type of analysis is still very valuable in CBNRM, where the issues of access to land, high population growth, privatization and political power have created considerable tension between citizens, civil society organizations, policy makers and private-sector entrepreneurs, on ever-diminishing natural resources.

Social capital provides some answers to these tensions. Local communities need strong bonding and bridging social capital to start collective actions which would put pressure on political actors. They need to lead the development of linking social capital with a stronger downward accountability and rule of law. External support through programs and projects can help this process. It can support building the knowledge and capabilities of community members, to be able to create their own futures and successfully manage their economic, human, and social and natural resources.

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# Chapter II

## SOCIAL CAPITAL AND COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT: ANALYTICAL PERSPECTIVES

By: Keo Piseth and Ken Serey Rotha

### Introduction

The failure of the state to manage natural resources brought about the Community-Based Natural Resource Management (CBNRM) approach, which has been adopted in many countries around the world as an effective way to manage the common pool of natural resources. This approach spread rapidly throughout the world, and reached Cambodia in the mid-1990s. When the Royal Government of Cambodia (RGC) sought assistance in managing Cambodia's deteriorating natural resources, various international donors and NGOs responded with initiatives based on CBNRM. Having accepted CBNRM as the strategic approach, the RGC invested significant effort in designing and implementing important reforms such as decentralisation, Community Fisheries and Community Forestry, participatory management of protected areas (also known as Community Protected Areas) and Participatory Land Use Planning. All these reforms have the principles of CBNRM at their core (Ken et al. 2005).

The integration of the new approach in the mid-1990s, into the existing system of resource management, was not without its difficulties. Practitioners still face significant challenges adapting CBNRM to the realities and contexts of rural areas of Cambodia, due to power relations, unequal benefit sharing and lack of trust among communities, and between communities and the government.

Considering the challenges faced by CBNRM, academics and policy advisors seek alternatives to alter the approach and make it more practical. One such proposal includes introducing the social capital concept into the approach. However, in this paper, the authors argue that social capital and CBNRM are almost, if not completely, identical. Social capital provides a theoretical framework for network building, while CBNRM uses networks as a mechanism to empower local people to manage natural resources.

## Definition of CBNRM and social capital

The complexity of CBNRM makes it difficult to explain with one clear-cut definition. Its definition varies depending on its functions, geography, culture and politics (Ken et al. 2005). For example, the International Development Research Centre (IDRC) defines CBNRM as 'a creative process that relies on adaptive learning and action involving people and organizations who share and use a natural resource' (IDRC 2010). The International Union for Conservation of Nature (IUCN) defines CBNRM as a conservation strategy and calls it 'a development approach for natural resource conservation (Van de Jagt and Rozemeijer 2002). In Cambodia, CBNRM is narrowly defined as 'a diversity of co-management approaches which strive to empower local communities to actively participate in the conservation and sustainable management of natural resources through different strategies' (Ken et al. 2005). This is the definition we adopt in this chapter.

The primary principle of social capital is networks. These are mentioned by various authors on social capital. Bourdieu (1983, p. 7), for example, defines social capital as 'the aggregate of actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition'. He further claims that connections are not naturally given and require continuous effort, known as investment strategies, by individuals. These strategies aim to create or reproduce social relationships that are beneficial in the short and/or long term. Similarly, Coleman (1988) considers social capital as 'the property of social relations and social structure, thus, 'not anything can hold by individual' (Winter 2000). According to Coleman, family ties and society play a very important role in people's lives.

Putnam (2000), the key contributor to the social capital debate, looks at that concept at regional and national levels. His definition of social capital is the 'trust, norms and networks', which make collaboration possible for mutual benefit (Putnam 2000). He strongly argues that networks of civic engagement are important for social capital. As mentioned in Chapter 1, Woolcock and Narayan (2006) provide a useful analytical framework to describe different types of social capital: bonding, bridging and linking social capital (Woolcock and Narayan 2006). Bonding refers to the link between family members and friends. Bridging social capital takes into account the links between different community groups and class, caste, age and ethnicity. Linking social capital, also described by Adhikari and Goldey (2009), refers to vertical networks, to decision-making or service delivery organizations (Adhikari and Goldey 2009). All the contributors conclude that having access to all types of social capital or social networks will enable people to access financial, human and other resources for supporting and improving their livelihoods.

## CBNRM and social capital: the link between theory and strategy/approach

Examining the CBNRM approach, it is evident that CBNRM embeds elements and principles of social capital. For example, CBNRM uses networks and links as its key channels for empowering local communities with regard to managing natural resources (Gruber 2008). CBNRM networks, in other words, resemble the networks described by Woolcock and Narayan (2006). Within CBNRM arrangements, cooperation occurs between family members (e.g. bonding social capital), different communities (e.g. bridging social capital) and with different levels of the public administration and economic sectors (e.g. linking social capital) (Gruber 2008); (Van de Jagt and Rozemeijer 2002); (Marschke and Kim 2003). CBNRM practitioners usually design activities that allow for various stakeholders to meet, discuss and share knowledge and experiences through meetings, trainings, study tours and other social gatherings (PMCR 2008). Having been involved with these events, local people in the community can learn from each other and also share their concerns with outsiders, which would hopefully lead to adequate solutions.

These activities provide valuable opportunities for communities to access key agencies that provide assistance in times of need. For example, Peam Krasoap community in Koh Kong province and Kompong Phluk community in Siem Reap province have benefitted considerably from networking activities. Members of the Peam Krasoap community have learned to effectively use these social networks to stop mangrove forests being illegally cut, which has a major impact on community livelihoods. The community in Peam Krasoap was supported by the Ministry of Environment, the Seila Programme (Royal Government of Cambodia and United Nations Development Programme), the International Development Research Centre of the Canadian Government and the International Union for Conservation of Nature, to develop their communal lands into an ecotourism site (PMMR 2004). In Kompong Phluk, the floating community in Siem Reap province, community members have access to information about the roles and responsibilities of the commune council with regard to forest protection, community development programs, capacity building on agricultural development and support from the ruling political party for community development. In short, networks play a major role in CBNRM and remain an effective tool for helping communities' livelihoods.

Trust, an important element of social capital (Winter 2000), characterizes CBNRM. Putnam (2000) mentions that trust among individuals encourage people to interact in thoughtful and supportive ways. He points out that trust is important in creating reciprocity and networks, which in turn contribute to strengthening trust (Siisianinen 2000). Coleman (1988) highlights the importance of trust in his definition on social capital. He clearly points out that norms, regulatory rules and effective sanctions applied to control actors are fundamental for maintaining trust in a society. He



presents the example of wholesale diamond markets, which are controlled by a close-knit group of Jewish businessmen. There is an extremely high level of trust in the group, which allows the market to function effectively as the buyers are allowed to examine a particular trader's commodity without supervision. The goods could easily be changed, but the buyer does not do so because of a high level of trust in the group. If any particular buyer were caught shifting the borrowed diamond, the individual would be excluded by the community. In such a strongly bonded community, the exclusion would be a high price for instantaneous enjoyment (Coleman 1988).

Trust plays a very significant role in CBNRM. Van de Jagt and Rozemeijer (2002) state that CBNRM is most often introduced as a result of failure to manage natural resources. Failure means there is a decline in the degree of trust between constituents, ranging from community members to outsiders. In other words, competition for diminishing resources leads to distrust between community members and towards governments and other agencies. In this sense, CBNRM can be considered as a trust builder. CBNRM practitioners usually design and implement projects that contribute to building trust for all stakeholders. For example, the Participatory Management of Mangrove Resource project (PMMR) in Koh Kong province, funded by IDRC, is considered one of the most successful. The project aimed to restore and conserve mangrove resources. It was difficult from the outset, as local people did not want to be involved. Past experiences of conflicts with local resource sharing made them distrust outsiders. They felt outsiders were not trustworthy and were competitors for their scarce resources. However, over a period of time, with regular interaction in meetings, discussions and various activities of the project, trust and reciprocity were built among the community, which resulted in more participation (PMMR 2004).

The strength of social norms is a second important qualitative characteristic of social capital. Social norms are embedded in social structures and constructed by the interaction of people in a society. Coleman (1988) sees social capital as an unintended consequence of individuals' pursuit of self-interest which is regulated by social norms, rules and obligations. Bourdieu (1983) holds a similar view and uses the term 'habitus' to refer to the disposition, reflexes and forms that predispose people to perform in certain ways, in other words, performing in accordance with norms and customs (Siisianinen 2000). The importance of social norms is also highlighted by Putnam (2000) who mentions that society would expect people to act in certain ways. For example, participants in voluntary associations would expect that all members have similar commitment.

Social norms are central to CBNRM approaches. CBNRM aims to give local participants bargaining power with the government so that the community can use its management regime or norm successfully. CBNRM provides the space for communities to have a greater say in formulating and implementing local regulations. For example, Article 26 of the Protected Area Law states that 'community protected

area regulations shall be established by local community and indigenous ethnic minorities acknowledged by local authorities and endorsed by the Nature Conservation and Protection Administration of the Ministry of Environment' (RGC 2008). One example of such regulations is that community members are not allowed to cut trees in forest conservation areas, such as spirit forests, and extraction of forests in other zones is regulated by specified quotas. Non-compliance with the regulation leads to community penalties. All community development programs including reforestation, habitat protection and community patrols are compulsory for all households (PMMR 2004). Satisfactory reasons need to be provided for any absence from participating in community activities such as monthly meetings, mangrove replanting and community planning. If the reasons are not acceptable, the village leaders will come up with certain measures to deter people from taking a 'free ride' in the community's obligatory assignment.

Similarities of various components of social capital and CBNRM are not the only elements common to these two theories and approaches. Both of them have very similar objectives.

One of the most important principles that inform social capital theory is stronger bridging and linking connections between community groups and the public administration, which can contribute to limiting social exclusion. As noted by Cleaver (2005), these forms of social capital are useful when bonding capital is deteriorating. Bonding social capital is important in assisting the poor in dealing with shocks and vulnerabilities, through their extended family or networks. However, bonding social capital can also have negative effects. Cleaver (2005) argues that reliance on the immediate family can preclude people from social networks, which are important for accessing information for jobs and services. Moreover, trust and mutual support are not always the result of living together and can be gradually eroded. Thus, bridging and linking social capital play very important roles for poor people when bonding social capital is not effective.

CBNRM interventions translate these principles into activities when disadvantaged groups and the socially excluded need to deal with natural resource problems. It is common that competition over scarce resources affects, first and foremost, poor people. Wealthier people can afford modern equipment to maintain their fields, whereas poor people need to spend more time and effort just to survive. When such problems exist, CBNRM is usually applied with the hope that all stakeholders would discuss common problems and identify practical solutions. Various examples of CBNRM's success are found in Cambodia. One of them was a coastal fishery conflict, which was solved after CBNRM was introduced by Participatory Management of Coastal Resources (PMCR) in 1997. CBNRM dramatically improved the possibilities of discussing the issues and proposing solutions to solve conflicts and tensions between poor and rich people, and all concerned authorities. The outcome was an agreement

to create separated fishing zones. The well-off families agreed to fish offshore so that they did not cause any social or environmental harm to the poor families, who usually fish with small-scale equipment near the shore. If any party violates the agreement, complaints can be made to the relevant agencies (PMCR 2008).

Conflict mediation and resolution, and trust and networks created by CBNRM interventions, provide opportunities for poor people to access additional financial resources when their bonding capital is no longer able to provide assistance. Participation in various community development programs enables people from different social groups to meet and discuss. Wealthier people become aware that just because people are poor, it does not mean they do not work hard, but challenges like poor family ties, resource decline and debts, constrain them from improving their livelihoods (PMMR 2004). With this knowledge and moral understanding, wealthy people are more inclined to provide small financial, in-kind assistance, or jobs for poorer people (PMMR 2004).

Social capital and CBNRM are about deliberate democracy. Putnam (2000) views voluntary organizations or civic engagement as 'social capital' and states that the greater the number of people involved in voluntary associations, the better this is for (good) governance. Gronbjerg and Never (2004) concede that volunteering is one of the various ways in which social capital is constructed, to the benefit of the larger community (Gronbjerg and Never 2004). Similarly, Putnam (2000) emphasizes that social capital makes us 'smarter, healthier, safer, richer and better able to govern a just and stable democracy'. He notes that gathering at formal and informal meetings can generate trust among members, which allows them to interact in a cooperative manner that significantly contributes to improving democracy. Freitag (2006) claims that democracy, with an integrative strategy where all citizens participate, leads to a larger stock of associational activity. Therefore, social capital promotes democracy, which in turn effectively contributes to building social capital stock.

CBNRM approaches involve deliberative democracy. With CBNRM, the community is the key player. It provides opportunities for communities to actively participate in government decision-making processes on natural resource management. Having participated, the community can transfer its local knowledge to decision makers, ensuring an informed decision is made. A number of authors believe that successful CBNRM enables communities to move participation from manipulation to control in decision-making (Arnstein 1969). One of the best examples for CBNRM in promoting democracy is the success of the Casa Pueblo community in Puerto Rico. After ten years of struggling, with pre-existing technical capacity, the community was able to have government delegations design and implement projects for community development (Gonzales et al. 2006). Successful examples are also found in Cambodia, where several policies and laws, for example the Protected Areas Law, Forestry Community Sub-decree and Fisheries Community Sub-decree, clearly acknowledge

the role of communities in natural resource management, after communities demonstrated significant efforts and achievements in natural resource management. Effective and successful CBNRM offers opportunities for citizens to participate in decision-making processes, which considerably add to the improvement of deliberative democracy.

## Conclusions

Social capital and CBNRM are valuable and useful, and they are almost, if not definitely, duplicated. Social capital provides a broad theoretical framework for network building, while CBNRM applies network building to empowering local participation in natural resource management. Both concepts have networks, trust and norms as key elements. It is generally accepted that a society is considered as having high social capital when norms of trust and networks are well built. High levels of trust in social capital result in the development and betterment of a society. CBNRM is usually regarded as successful when norms of trust and networks are improved to the extent that people voluntarily work together and help each other. The two concepts have the same objectives: eliminating social exclusion and promoting deliberative democracy. These concepts aim to bring marginal groups into the mainstream by building bridging and linking social capital when the bonding network cannot support them. Being in the network, constituents can raise their voices concerning the impact of certain policies on their livelihood as well as basic needs for their wellbeing.

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# Chapter III

## LINKING SOCIAL CAPITAL IN THE GOVERNANCE OF THE SREPOK RIVER IN LUMPHAT DISTRICT, RATANAKIRI PROVINCE CAMBODIA

By: Oeur IL

### Introduction

Fish and fishing are very important to Cambodian culture (Hortle, Lieng et al. 2004). Fisheries resources are found in seas and inland areas such as lakes and rivers. The Srepok river and its tributaries, which form the case study of this chapter, provide critical habitats for fish reproduction (Baird 2009). The Srepok River has its headwaters in the Central Highlands of Viet Nam, then flows across the Cambodian provinces of Monduliri, Ratanakiri and Steung Treng, where it enters the Mekong River. The total area of the Srepok river basin in Cambodia is 11,250 square kilometers, covering about 144 villages (Swift 2006). The Srepok River provides critical fish habitats, water supply and livelihoods to indigenous river communities. In recent years, it has undergone remarkable changes, due to the construction of a number of hydropower dams in Viet Nam. Evidence shows there have been negative downstream impacts, particularly the decline of fisheries resources, human health and livelihoods (Swift 2006); (Mak 2000); (Hortle, Lieng, and Valbo. Jorgensen. 2004); (Baird 2009).

In addition to the negative consequences of the upstream hydroelectric projects, local fishermen have been using destructive fishing methods, such as natural poisons, blocking streams with traditional barrages made of wood and bamboo, and using gill nets, cast nets and fishhooks, all of which have undermined fish resources. In recent years, more modern illegal fishing methods such as electro-fishing and explosives have led to a substantial decrease in fish stocks (Swift 2006).

Maintaining the sustainability of fisheries in river communities presents a major challenge for commune councils in achieving their objective of poverty reduction. The commune council is the lowest form of national government structure promoted via the decentralization and deconcentration reform program of the Cambodian government. It performs both administrative and development functions and has a poverty-reduction objective (CCC-ADI 2003). Stopping illegal destructive fishing is one of the most critical issues facing the relatively new commune councils, especially in the context of depleted vital river resources. In response to the effects of the dam

projects upstream in Viet Nam, a local NGO named the Sekong, Sesan and Srepok Rivers Protection Network (3SPN), in collaboration with other local and international NGOs in and outside the country, have advocated at national and international levels for a reduction in the downstream negative impacts of the dams. Such high-level advocacy has been important in influencing policy changes and responses to local impacts, however the advocacy efforts often had little involvement or direct connection with local people.

There is an increasingly strong realization that local people, local authorities and government agencies must work together to ensure the sustainability of river resources (Gnui, Oeur et al. 2009), indicating that a multi-dimensional approach is needed. On one hand, the process concerns national and international advocacy efforts for policy changes on hydropower dam effects, while on the other hand, the process involves local communities themselves acting together to stop destructive fishing practices. The processes to be pursued and the decisions to be made in such a complex and multi-stakeholder environment are critical for long-term conservation, not only of the Srepok River but for sustainable development in Cambodia.

This chapter is organized in the following way: first it focuses on the conceptual framework and research approach to the case study, second, it defines social capital and good governance, third it focuses on findings and discussions, and last on conclusions and proposed policy initiatives.

## Analytical framework and research approach to the case study

Before 2007, local communities and authorities living along the Srepok River in Chey Oudom commune in Lumphat District, Ratanakiri Province did not work together to address fisheries problems. In 2007, the Cooperation Committee for Cambodia's (CCC) Analyzing Development Issues (ADI) Project team and 3SPN conducted a participatory action research (PAR) in four villages of Chey Oudom commune: Deilor, Okan, Samkha and Sre Chhouk. As part of the PAR process, the researchers encouraged villagers, informal voluntary fishery committees, NGOs and the commune authorities to work together to mobilize local materials, technical, financial and social resources to conserve river resources and benefit everyone. This represented a new era of local cooperation for resource governance.

These links between villagers and communities represented the important initial steps towards vertical links with commune authorities.



The aim of this case study is to analyze how these links were developed and maintained. At the same time, the study will explore whether local villagers' vertical relationships have moved beyond the commune level, to reach district and provincial levels.

The overarching research question is:

What governance processes have been developed to establish and maintain vertical links between relevant stakeholders in an effort to sustainably manage Srepok river resources?

Specific questions are:

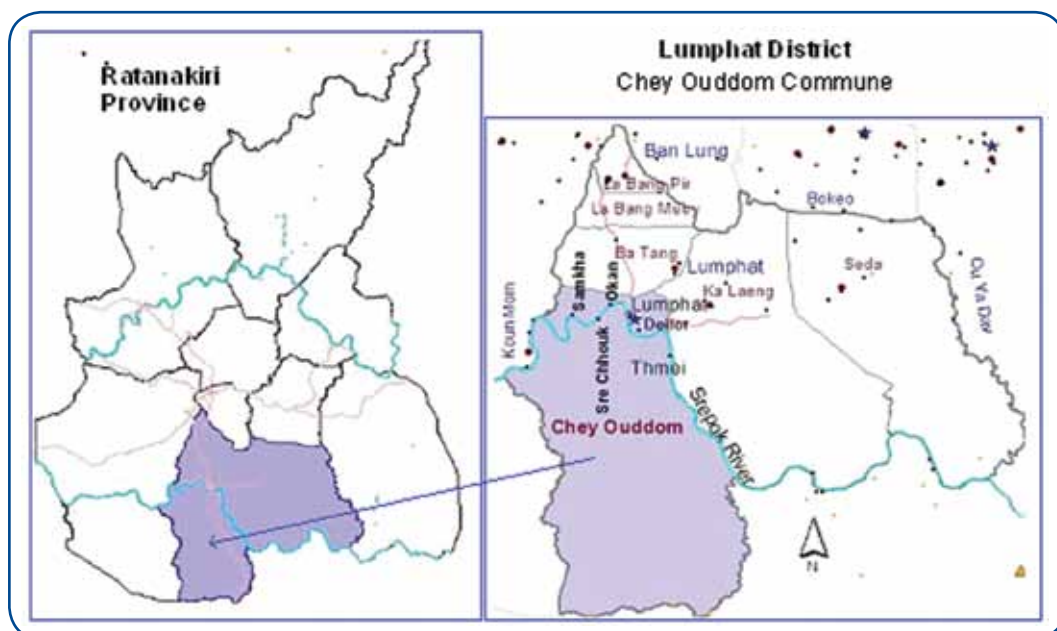
- 1) What steps have been taken to mobilize material, technical, financial and social resources to facilitate these vertical relationships?
- 2) What policy initiatives can be formulated to address the difficulties in establishing and/or using linking relationships to facilitate sustainable management of the Srepok river resources?

The study focuses on linking social networks of the village fishery committees in three villages of Oudom commune: Deilor, Okan and Samkha. Data was collected through semi-structured interviews, conducted in two stages: in October 2009, staff from 3SPN conducted face-to-face interviews with representatives of the three village fishery committees, one commune council representative and one Lumphat district authority representative. While provincial authorities were not interviewed, the interviews with the district authority representative included questions about the relationship between district and provincial authorities regarding the governance of the Srepok River.

During the second phase in November 2009, the author conducted phone interviews with one commune council representative, one community-based district network representative and one 3SPN staff member. In late December 2010, the author made two follow-up calls with the 3SPN staff to update information. These phone interviews helped the author reconcile differences in information, clarify points and probe for more in-depth information. Each interview lasted just less than one hour, which was adequate for the open-ended questions.

The village fishery committees are seen as representing the villagers. The study examines the relationships between the village fishery committees and government structures at the commune, district and provincial levels. The guide questions were formulated with this in mind. The results of the interviews were analyzed against the theories of social capital and principles of good governance. (Hortle, Lieng, and Valbo. Jorsensen. 2004).

**Figure 1: Case Study Area**



**Source:** (Gnui, Oeur et al. 2009) “Gnui, N., I. Oeur, et al. (2009). Mobilizing Villagers to Stop Illegal Fishing along the Srepok River in Ratanakiri Province. Emerging Trends, Challenges and Innovations: Community Based Natural Resources Management (CBNRM) in Cambodia. Phnom Penh, CBNRM Learning Institute.

## Social capital

As seen Chapter 1, social capital was popularized by Robert Putnam in the early 1990s. While there is no one single, accepted definition of social capital, it generally refers to features of social relations characterized by norms of trust, cooperation, connectedness and reciprocity that influence human activities (Lehtonen 2004); (Grafton 2005); (CCC-ADI 2007); (Akcomak 2008). Lehtonen defines social capital (2004, p. 204) as “including not only the largely informal, and often local relationships, but also the more formalized institutions such as the government, the political regime, the rule of law, the court system, and civil and political liberties” (Lehtonen 2004).

Grafton (2005) maintains that there are three particularly relevant principal qualitative characteristics of social capital which we have used to inform the analytical framework of the case study: 1) Trust and trustworthiness, mostly influencing economic transactions, allowing mutual exchange or reciprocity without fear of exploitation; 2) Civic engagement and cooperation ensuring a voice in decision making, sharing responsibilities, solving conflict together and exchanging information (Grafton 2005). Social capital has structural characteristics that have been defined as bonding social capital, bridging social capital and linking social capital. The first, bonding social capital refers to the strong horizontal relationships among families, friends and neighbors. The second, bridging social capital refers to the horizontal

ties that link distant friends, associates and colleagues, both inside and outside the community (Lehtonen 2004); (Grafton 2005); (CCC-ADI 2007). The third, linking social capital is represented by vertical links between communities and institutions, such as government agencies, banks and powerful people beyond the community itself. People who enjoy a high degree of well-being normally have strong networks within and across all three types of social capital (Lehtonen 2004); (Grafton 2005); (CCC-ADI 2007).

Grafton (2005) argues that in fisheries governance, bonding and bridging social capital play an important role in dispute resolution and problem solving, and supporting regional and national levels of management. Since hierarchical approaches involve higher costs of monitoring and enforcement, and normally exclude ideas and expertise of fishermen and women, social capital becomes important and necessary for co-management. By relying on local social networks, regulators incorporate local knowledge on the status of the resources, participation in decisions, set up dispute-resolution mechanisms and offer long-term tenure of resources and legal recognition. Social capital plays an important role in five crucial aspects of governance: legitimacy and voice, direction, performance, accountability and fairness. Through networks of social capital, fishermen and women monitor the behavior of their peers and deal with illegal fishing by maintaining links with higher authorities, who have the power to enforce laws.

## Good governance principles

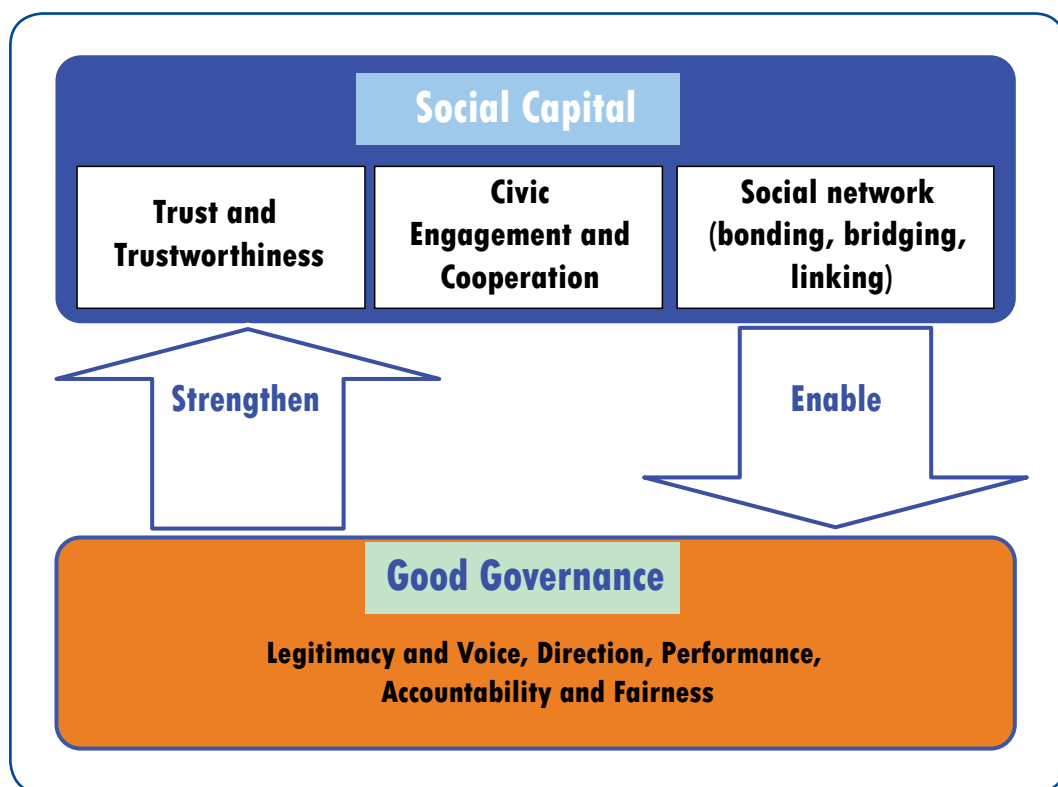
Five good governance principles have been chosen to inform our analytical framework. Good governance principles are described by many authors and institutions and may be seen as complementary in this study's analysis. The five principles of good governance based on the work of (Graham, Amos et al. 2003); (Grafton 2005); (Buck 1998) include legitimacy and voice, direction, performance, accountability and fairness.

- *Legitimacy and voice* refers to the participation of men and women in decision making, their expression of opinions and mediation of differences. It is about the interaction between various actors including villagers, committees and government officials. More importantly, collective efforts are recognized by authorities.
- *Direction* is about leaders and members of the public who have a broad and long-term view on good governance and human development.
- *Performance* means institutions and processes try to serve all stakeholders. Institutions produce results that meet needs, making the best use of resources, and supporting monitoring and enforcement.

- *Accountability* means decision makers in government, private sector and civil society organizations are accountable to the public. It also includes transparency which is built on the free flow of information, ability to monitor rates of change in resource use and clearly define the boundary of resources.
- *Fairness* means all men and women have opportunities to improve or maintain their wellbeing. Legal frameworks should be fair and laws enforced impartially against violators.

The analytical framework that guided the design and analysis of the case study links the concept of social capital with five principles of good governance as shown in Figure 2. This study narrows down the focus by selecting only one of three aspects of the social network: linking social capital by seeing it through the principles of good governance.

**Figure 2: Social Capital and Good Governance**



Good governance and social capital are two separate concepts that overlap in several important ways. Participation, transparency and fairness are important aspects of both concepts. Similarly, the notion of collectivity encompasses trust, cooperation and shared responsibility. NGOs are able to provide resources, technical know-how and coordination. Local authorities have police forces at their disposal to enforce the law. Village fishery committees use their labor and time to tackle illegal

fishing cases. The relationships between these different actors may be considered aspects of social capital (establishing social networks), while the resulting decision making and agreements demonstrate good governance to protect the fishery resources.

While both concepts share elements in our framework, social capital can be seen to inform and influence good governance. For example, participation requires opportunities to voice ideas and concerns. Strong social capital structures (bonding, bridging and linking), make this outcome more likely, while trust and connectedness increase the likelihood even further. Social capital is considered to play an 'enabling role' and good governance a 'strengthening role'. Social capital enables an adherence to good governance principles, whereas good governance strengthens already existing social capital within a specific context, or challenges the existing social capital by questioning an unequal relationship, to achieve an equitable share of resources for all, rather than for a few. The processes are likely to interact when multiple actors at different levels have equal opportunities to work together and identify common ground, a necessary element in sustainable development.

## Findings and discussions

The results of the data collected through interviews with various stakeholders are summarized in Table 2 along the two dimensions of social capital and good governance. Based on these results, linking relationships between the village fishery committees and actors such as 3SPN, commune, district and provincial authorities are analyzed against the selected principles of good governance, namely legitimacy and voice, direction, performance, accountability and fairness.

3SPN's role has been vital in strengthening linking social capital for good governance in the areas of legitimacy and voice, direction, performance, accountability and fairness. 3SPN initiated and facilitated regular monthly meetings with village fishery committee members and local commune and district authorities. It established contacts with provincial authorities to amplify the voice of local committees at the provincial level through various meetings and workshops. During these meetings 3SPN ensured there was sufficient information sharing from all sides to allow everyone to do their work. 3SPN also provided some financial support to these meetings and workshops. 3SPN provided direction to the overall process, including collaboration across provinces, an important step in scaling-up efforts necessary for greater impact. 3SPN and the village fishery committees in Chey Oudom commune are in contact with Provincial Department of Fisheries officials in the adjacent province of Mondul Kiri. These officials support fishery projects in Mondul Kiri province. Through support provided by 3SPN, fishery committees from Mondul Kiri province and those from Ratanak Kiri Province's Andong Meas district came together with the Chey Oudom fishery committees of Lumphat district to develop an annual implementation plan. During the workshop, statutes were prepared with the Provincial Department of Fisheries, for

the village fishery committees to obtain official recognition from the National Fisheries Administration.

## Dimension 1 - Legitimacy and voice

Legitimacy is stronger when authorities are located nearby. Face-to-face interaction with commune and district officials at monthly meetings provided excellent opportunities for village fishery committees to voice their concerns directly to local authorities. Previously, this level of formal and regular communication did not exist in the Srepok river commune. Commune authorities strengthened relationships with fishery committees through visits and by sharing information about the Fishery Law. They encouraged them to share the information with other villagers. The fishery committees now report illegal fishing cases to the commune chief. This strong support from the commune officials empowered the committees, and as a result, they have had remarkable success against illegal fishing since 2007. The relationship has reached provincial level, with Department of Fisheries' officials making some informal visits and meetings with the village fishery committees in 2009.

## Dimension 2 - Giving direction

Face-to-face interactions with government authorities have helped the fishery committees clarify their strategic direction. However, opinions on the sustainability of the fishery committees are diverse. Some village fishery committee members from Samka and Okan are optimistic that they will continue to be active after 3SPN withdraws its support. Their roles need to be formally recognized at provincial and national levels and a clear statute is needed to strengthen voluntary efforts. Without support, the local government will continue, as they had already become involved in providing knowledge about the types of illegal fishing tools, procedures for dealing with illegal cases during patrols and occasional financial support. The fishery committee in Deilor village and the district authority were more pessimistic about the lack of funds to support meals and fuel during patrols. Social relations between the fishery committees and the Provincial Department of Fisheries were strong, as they promised to facilitate official registration at the national level. Since the commune chief signed the deika, or commune order, against illegal fishing, the fishery committees have been recognized locally. Despite having yet to encounter objections about their right to perform their roles, the committees feel the need for full recognition at a higher level.

## Dimension 3 - Performance

Support and information sharing strengthen performance. Several cases of illegal fishing were dealt with successfully through horizontal and vertical links between the committees and other stakeholders. For example, indigenous people used poisonous herbs to catch fish in the Ototeung stream which borders the communes of Serey

Mongkul and Chey Oudom. This case was addressed successfully with support from the military police, the commune police, the commune chief and officials from the District Environment Office. In another case, in April 2009, the commune authority and staff of 3SPN reported six illegal fishermen, who were chased out of the commune by authorities and police after they used illegal electrocuting fishing equipment, and in another case, even without the support of the commune authority, villagers and the fishery committee were courageous enough to seize destructive fishing equipment. The fishery committee in Samkha village said illegal fishermen have become afraid of the fishery committees because the relationships between the committees and the higher authorities have become much stronger. The close collaboration between the fishery committees and government authorities in the study villages has increased the ability of local villagers to respond to illegal fishing activities.

## Dimension 4 - Accountability

Accountability strengthens legitimacy and, as a result, direction and performance increase. To some extent, the commune authorities bridged the information gap between the fishery committees and the district and provincial authorities. The commune authorities have also responded positively to requests from fishery committees. After receiving boat engines from an NGO, two of the committees asked the commune council for permission to cut logs from nearby forested areas to build patrol boats. The commune authorities agreed, stipulating the volume of logs to be cut and the duration of the cutting, to avoid potential for abuse. The district authorities are committed to developing fishery resources over the next five to 10 years. This commitment has seen a plan at the district level to create a committee to intervene in cases of illegal fishing. The fishery committees welcome this institutional arrangement, as it gives them immediate access to a single entry point to the higher authorities, in cases of illegal fishing. Prior to this planned arrangement, the committees had to approach several people and authorities to solve their problems against illegal fishermen.

## Dimension 5 - Fairness

Fairness depends on levels of interaction and collaboration between stakeholders. Commune financial resources and police intervention have been distributed without discrimination, based on real needs. For example, when Samkha committee approached for assistance in dealing with cases of illegal fishing, the commune chief provided 100,000 riels (USD 25) from the commune budget to cover the cost of boat fuel. Similarly in Thmey village, the commune chief provided the cash equivalent to 30 liters of fuel for patrol boats. Fishery committees were able to enforce the rules and regulations for violations committed by outsiders in one case in Thmey village. Under the existing arrangement, all villages involved in the efforts against illegal fishing have equal rights to use the boats for patrolling and dealing with cases of illegal



fishing. In this way the patrol boats have been used to benefit the entire commune. In December 2009, at a meeting of the village fishery committees and the district and commune authorities, the commune officials declared that they would cover the fuel expenses of the boats patrolling the river. This arrangement facilitated equal access to resources, especially for those villages which had recently joined the efforts against illegal fishing and had not received support in the past. As a result of the collective action, villagers now see tangible economic benefits, as all informants claimed that fish resources had increased since efforts began to stop illegal fishing.

## Conclusions and proposed policy initiatives

Linking social capital relationships have been established robustly between the village fishery committees and the commune and district authorities as a result of the cooperative efforts to prohibit illegal fishing in Chey Oudom commune. This case study shows how local people can take control of their own development, rather than waiting passively for development projects. The case study has shown that commune authorities provided financial resources to support the fishery committees and the district authorities were involved in providing direction and sharing information. To support the community effort, district officials organized a special task force in response to illegal fishing activities. The district authorities have supported the preparation of statutes for the official registration of the village fishery committees.

The emergence of linking social capital of the fishery committees with Ratanakiri provincial officials has not been as strong as those with Chey Oudom commune officials or the Lumphat district officials. Nonetheless, these relationships are steadily increasing. The Provincial Department of Fisheries offered awareness-raising sessions through an NGO, and has promised to assist the committees to officially register at the national level. This is seen as a major step forward in supporting local efforts to sustain the Srepok River fishery resources. The Provincial Department of Fisheries has taken steps to help the fishery committees access telephones to allow them to seek support and advice when it is needed.

Establishing networks of linking social capital with higher authorities has been a relatively new experience for the village fishery committees. At the same time, the benefit of establishing these vertical social relations for the local governance of Srepok River resources is clearly evident. Personal relationships that have been established between committee members and the charismatic officials need to be institutionalized, to ensure that the ties of linking social capital become permanent. Institutionalizing relationships at commune, district and provincial levels would help ensure that the villagers and fishery committees would maintain access to higher level authorities, irrespective of specific individuals holding positions. These institutional arrangements need to be established at the sub-national level to maintain the sustainability of present efforts and help support the local governance of the river resources in the long term.

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# Chapter IV

## UNDERSTANDING SOCIAL CAPITAL IN RESPONSE TO FLOOD AND DROUGHT: A STUDY OF FIVE VILLAGES IN TWO ECOLOGICAL ZONES IN KAMPONG THOM PROVINCE

By: Oeur IL, Ang Sopha and John McAndrew

### Introduction

Cambodia entered the 21st century hoping to usher in an era of peace and prosperity, only to suffer the devastation of floods and droughts for five successive years. The flood of 2000-01 was considered the worst in 70 years, affecting 3.4 million people in 19 of the country's 24 provinces and municipalities, and leaving 347 dead. The government estimated total physical damages at USD 157 million. Overall 317,975 houses were damaged and 7,068 were completely demolished. Around 616,750 hectares of rice fields were flooded and of these, 374,174 hectares were destroyed. Total relief assistance by November 2000 amounted to 18,000 tonnes of milled rice, which was about 4 percent of the estimated production loss of 424,000 tonnes of milled rice (Chan 2001); (ADRC 2003); (Helmerts and Jegillos 2004).

In 2001-02, Cambodia was struck by both flood and drought. The flood affected 2.1 million people in many regions still recovering from the deluge of the previous year. Many rice farming households did not have sufficient rice seeds to plant. About one million of the flood victims suffered food shortages. A total of 62 people died. Meanwhile, drought that same year left about half a million people with food deficits in six provinces<sup>1</sup>. In many of these areas people and livestock also suffered a lack of drinking water. Overall, the irregular rainfall and serious flooding in 2001-02 damaged about 250,000 hectares of rice crop. The total damages of the disasters were estimated at USD 36 million (Nhim 2002); (ADRC 2003); (Helmerts and Jegillos 2004).

In 2002-03 the country was once again ravaged by the combined effects of flood and drought. The government reported the drought experienced that year was the worst in two decades. While the drought affected the entire country, eight provinces

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<sup>(1)</sup> The food deficit provinces were Battambang, Pursat, Prey Veng, Kompong Speu, Kompong Cham, and Svay Rieng.

were hit especially hard<sup>2</sup>. More than 2 million people and 134,926 hectares of rice crop were affected. The damages of the drought were estimated at USD 21.5 million. Several provinces, particularly those situated along the Mekong river, encountered floods that same year due to heavy rains throughout Southeast Asia<sup>3</sup>. Nearly 1.5 million people were affected by the floods and 29 lost their lives. The floods decimated an estimated 40,027 hectares of rice crop. The damages of the floods in 2002-03 were estimated at USD 12.45 million (Nhim 2002); (ADRC 2003).

In 2003-04 Cambodia suffered a harsh dry season with lakes in the deepest part of the flood plain drying out completely. While some areas of the country were affected by drought, rice crop losses did not result in a national disaster (Mao 2005).

In 2004-05, Cambodia experienced extremely low rainfall, with 14 provinces hit by drought<sup>4</sup>. Overall, 2 million people and 62,702 hectares of rice crop were affected. The World Food Programme (WFP) reported that half a million people faced food shortages. Oxfam UK noted that people had resorted to selling their land and livestock, taking children out of school to work and borrowing money from local businessmen at high interest rates. The overall damages of the 2004-05 drought were estimated at USD 21 million (Mao 2005); (WFP 2005); (Oxfam United Kingdom 2005).

## Nature of floods and droughts

Rural livelihoods in lowland areas of Cambodia are inextricably linked with the annual cycle of flooding. Normal floods improve soil moisture and fertility for agriculture, restore ground and surface water and replenish fisheries and forests. Likewise, normal floods have no adverse physical impact on village settlements, and only a limited effect on wet season rain-fed rice fields. Annual floods become disasters for rice farmers only when they come too early in the crop growing cycle, destroying rice seedlings before transplanting, or come too high for too long, destroying established wet season rice crops. Invariably, rice farmers define disaster floods as those that destroy the wet season rice crop and result in extended food shortages. While a link to global climate change has yet to be established, disaster floods have occurred in Cambodia with greater frequency in the new millennium (CARE 2002); (Helmerts and Jegillos 2004).

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(2) The drought affected provinces included Kompong Speu, Takeo, Battambang, Pursat, Prey Veng, Kompong Cham, Kandal, and Odor Meanchey.

(3) The flood affected provinces included Stung Treng, Pursat, Kratie, Kompong Cham, Kandal, Prey Veng and Takeo.

(4) The drought affected provinces were Kompong Speu, Takeo, Prey Veng, Kandal, Kompong Cham, Pursat, Battambang, Banteay Meanchey, Strung Treng, Kompong Chhnang, Kratie, Kompong Thom, Siem Reap and Kampot.

Droughts in Cambodia affect a larger geographical area and more people than floods, and therefore may be considered a more severe type of disaster. Four characteristics of agricultural drought have been identified. These are: 1) unpredictable delays in the onset of rainfall in the wet season; 2) erratic variations in the onset, amount and duration of rainfall across geographic areas; 3) early cessation of rains during the cropping season; and 4) dry periods of three weeks or more during the cropping season which can damage or destroy rice crops without irrigation. Agricultural drought occurs during periods of crop growth, and therefore is a characteristic of the wet season. While some areas of the country experience drought, others may encounter floods. In the floodplains, rice crops may suffer droughts and floods in the same season (Helmerts and Jegillos 2004).

## Local responses to floods and drought

Cambodia Development Resource Institute (CDRI)'s Participatory Poverty Assessment (PPA) of the Tonle Sap, conducted in 2005, in 24 villages in the six provinces around the lake, describes the disruptive effects of floods and droughts on the lives of the poor. The study's policy brief succinctly articulates that "the poor and the destitute are increasingly dependent on land and water-based natural resources to sustain their fragile livelihoods. Several years of drought and flooding, along with poor soils and a lack of water management capacity, however, has eroded farming productivity, while people's traditional access to forests and fisheries is increasingly subject to the pressures of a growing population and to conflict with local elites and powerful actors from outside the village. As a result, a greater number of the poor are selling their labor locally or migrating elsewhere within the country or to Thailand and Malaysia in search of employment (Ballard 2007a)".

The PPA argues that the situation of the poor and destitute in the Tonle Sap area is becoming increasingly difficult due to debt, illness, flooding and drought, and a lack of institutional safety nets and protection. The poor often sell their land in response to these shocks and then become landless. Meanwhile, the natural resources base around the Tonle Sap is rapidly depleting from over-exploitation by outside investors operating in collusion with powerful government officials, and by more people cutting wood, collecting non-timber forest products and fishing with illegal techniques. Without sufficient land to produce their own food, and unable to gain access to or rely on dwindling national resources, the poor resort to rural wages and migrant labor. The PPA observes that the management of natural resource assets is crucial to the government's efforts to reduce poverty and promote the wellbeing of the rural poor. At the same time, the study highlights the viewpoint of the people living around the lake: that governance and management failures have allowed the situation to worsen (Ballard 2007b).

A study conducted out of the Helsinki University of Technology in the Tonle Sap area provides insights into the relationship between water-resources management and poverty. The study observes that people living closest to the Tonle Sap lake are, in many ways, worse off than those living closer to the National Roads, as they depend heavily on common property resources for their livelihoods. People living in ecological zones further from the lake rely largely on rice cultivation, and are restricted by decreasing availability of agricultural land due to population growth. These people situated on the periphery of the floodplain are not prepared for severe flooding and therefore, may experience more adverse impacts from an exceptionally high flood than those living in the lake's immediate vicinity. Lack of occupational diversity within and between villages increases people's vulnerability to sudden environmental changes, as secondary livelihood sources are unable to sustain the sudden and simultaneous shift that takes place when primary livelihood sources fail. The study argues that the decline in natural resources and rapid population growth will undoubtedly exacerbate the poverty of rural households and result in an increase in people migrating to urban areas (Keskinen 2006).

The CDRI Moving out of Poverty Study conducted in 2004-05 in nine villages, including two Kompong Thom villages, traces the impact of shocks such as natural disasters and illness on community wellbeing and household mobility over time. The study argues that these shocks frequently act as triggers for downward mobility or to keep households poor. Between 2000-01 and 2004-05, income from agriculture declined sharply in poorer villages and households. Floods and droughts in these years, coupled with a lack of good soil and irrigation, were primarily responsible for the lower rice yields and consequent drop in productivity. At the same time, poor households earning a living from fishing, forestry and other common property assets were adversely affected by widespread natural resources depletion, and were unable to produce enough rice to compensate for this decline. Poor households offset the loss of income from rice production and natural resources by increasing their reliance on wage work, hiring out their labor locally or migrating to Thailand or other destinations for jobs (FitzGerald, So et al. 2007).

## The concept of social capital

The concept of social capital offers much promise in the analysis of how people respond to natural disasters such as floods and droughts. Robert Putnam, whose work helped to popularize the concept, defines social capital as the “features of social organization, such as trust, norms and networks, that can improve the efficiency of society by facilitating coordinated actions” (Putnam, Leonardi et al. 1993). For Putnam, the primary source of social trust is found in norms of reciprocity and networks of civic engagement, which can be measured by people's participation in associations. Density of such associations, gauged mainly through quantitative surveys, indicates the extent to which a society possesses a solid supply of social capital.



Recent critiques of Putnam's approach, employing more qualitative research methods, focus on people's access to stocks of social capital and the context in which social networks are embedded (Grix 2001). Factors such as education, employment and social class are crucial to understanding one's access to social capital, given that participation in associations and networks depends largely on one's resources and social status. Similarly, specific social contexts shape the forms of social capital and the direction that access is likely to take.

The shift from treating social capital as an amorphous entity, measurable by the number and density of associations, to that of identifying various stocks or pockets of social capital in specific social contexts, was greatly aided by the distinction made between structural and cognitive social capital. Norman Uphoff (2000) suggests that structural social capital consists of relationships, networks, associations and institutions, while cognitive social capital pertains to values, norms, civic responsibility, reciprocity and trust. Clearly, stores of structural and cognitive social capital are interlinked, as expressions of human attitudes and behaviors are manifest in social structures. Granting that reserves of structural and cognitive social capital are relational, it follows that a transformation in a society's economic and social structures would shape the types of associations and networks that people develop and rely upon. Social change would also affect the extent to which individual and collective actors could access resources, articulate interests and influence decisions (Grix 2001).

Access to various stocks of social capital in society thus determines, to a large extent, one's social inclusion or exclusion. In this regard, social networks may be classified into three basic types: bonds, bridges and links (Woolcock 1998); (Narayan 1999). Bonding social capital comprises the strong horizontal ties which connect family members, friends and neighbors. Bonding with family, friends and neighbors helps to reduce vulnerability and provides a social safety net in times of need. Bridging social capital embodies the weak horizontal ties which connect people from different groups and networks with those of similar economic backgrounds. Bridging with people inside and outside the community opens up opportunities for improving livelihoods and mobility. Linking social capital represents the vertical ties which connect people with those in positions of power and influence such as banks, government agencies and elected officials. Linking with powerful individuals and institutions allows people to leverage resources for long-term benefits.

People who have strong networks within and across all three types are normally better able to cope with disasters such as floods and droughts. The challenge is to understand how these types of social capital overlap and interact with one another, how members within bonding networks come (or do not come) to extend and enlarge their connections with bridging and linking networks, and how changes in society affect differential access to stocks of social capital in the context of local communities.

## Research objectives

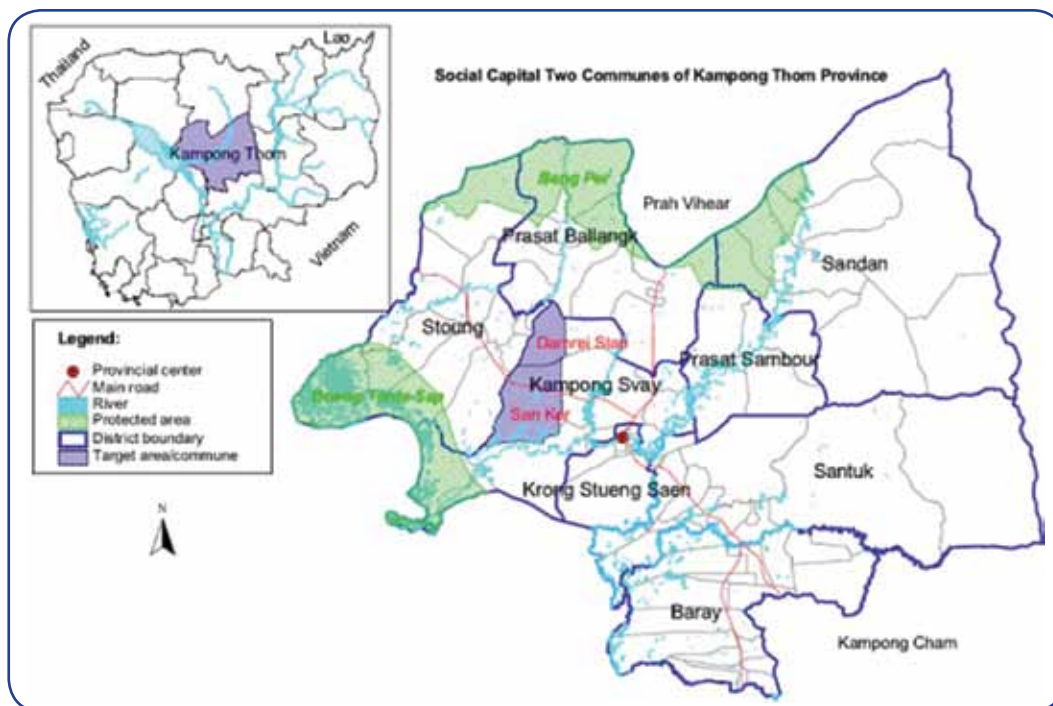
This research seeks to understand social capital in response to floods and droughts in two ecological zones of Kompong Thom province. More specifically, it attempts to document the experience of floods and droughts in five villages of the two zones; to examine the effects of the disasters on rice production and livelihood strategies in the zones, and to explore the role of social capital in enabling those affected to deal with the demands of their situations.

## Research methods

The field research for the study was conducted in June 2005 in two ecological zones of Kompong Svay district, Kompong Thom province. San Kor commune was one ecological zone of the study and three of the commune's 14 villages were included in the sample. These villages were located in the floodplain of the Tonle Sap lake along the western boundary of National Road 6 near the San Kor commune market. Damrei Slab commune constituted the other ecological zone of the study and two of the commune's five villages were included in the sample. These villages were situated on higher ground outside the floodplain of the Tonle Sap Lake, off the eastern boundary of National Road 6, from 8 to 12 kilometers from the San Kor commune market, in what was a restricted war zone until the late 1990s (see Figure 4.1).

The San Kor villages selected for the study were Ampil, Chey and Slaeng Khpos, with a total of 155 households interviewed through purposive sampling. The sample included 53 of 113 households in Chey village, 51 of 63 households in Ampil village and 51 of 114 households in Slaeng Khpos village. The Damrei Slab villages selected for the study were Sangkum and Voa Yeav, with a total 100 households surveyed in these villages again, through purposive sampling. The sample included 50 of 199 households in Sangkum village and 50 of 172 households in Voa Yeav village. The completed questionnaires represented 53 percent of the San Kor sampling frame and 27 percent of the Damrei Slab sampling frame. In addition to the household survey, focus group interviews were done with local authorities, local leaders and village men and women. Key informant interviews were conducted with selected village households.

**Figure 1: Map of San Kor and Damrei Slab communes in Kompong Svay district, Kompong Thom province**



## Findings and analysis<sup>5</sup>

### Experience of severe floods and droughts

A large majority of the households surveyed in the San Kor villages suffered severe flooding in 2000-01 and again in 2001-02, and more than one-third experienced severe flooding in 2002-03 (Table 4.1). More than one-quarter of the households interviewed were forced to evacuate their homes because of severe flooding, and nearly 9 out of 10 had members who had become ill, most commonly from diarrhea and intestinal ailments. The successive years of severe floods caused widespread damage to rice production and prevented villagers from making a swift recovery. In contrast to the households in the San Kor villages, the households interviewed in the Damrei Slab villages, situated outside the Tonle Sap floodplain, experienced no flooding in the years 2000-01 and 2004-05.

The households surveyed in both communes experienced severe droughts from 2000-01 and 2004-05 (Table 4.2). Except for the crop year 2002-03, the San Kor villages suffered a higher annual incidence of severe drought in the five years under the study than the Damrei Slab villages. This is notable given that the San Kor villages

<sup>(5)</sup> A summary of the study findings appeared as Ang, S., I. Oeur, et al. (2007). "Understanding Social Capital in Response to Floods and Droughts." *Cambodia Development Review*. 11(4).

endured severe floods during the same periods. However, incidents of related health problems, again most commonly diarrhea and intestinal ailments, and incidents of rice production losses, were slightly higher in the Damrei Slab villages. Proportionally, a smaller percentage of households in both communes received assistance during severe droughts than the households in San Kor, which obtained aid during severe floods. Generally, needs were much less visible during severe droughts than during severe floods.

The following sections describe the sample households' experience of floods in the San Kor villages and the sample households' experience of droughts in both the San Kor and Damrei Slab villages.



## Experience of Severe Floods in the San Kor Villages

Situated in the floodplain of the Tonle Sap lake on the western boundary of National Road 6, the households surveyed in the San Kor villages of Ampil, Chey and Slaeng Khpos experienced severe floods in the five-year period 2000-2001 to 2004-2005. Overall, 98 percent of the 155 households interviewed in the San Kor villages experienced a severe flood in at least one of these five years. By far the most severe flooding occurred for the large majority of households in the years 2000-01 and 2001-02. Severe floods dropped markedly in 2002-03 and were virtually negligible in 2003-04 and 2004-05 (Table 4.1). In years when households did not encounter severe flooding, normal flooding usually prevailed.

The most serious consequence of the severe floods experienced in the years 2000-01 to 2004-05 was the death of a family member, which occurred in two of the households surveyed. Moreover, 88 percent of the 152 households which experienced severe floods in the five years studied encountered health problems. While not all of the ailments were caused by the severe floods, prevailing conditions contributed to their prominence. Household members suffered mostly from diarrhea and intestinal ailments, and less so from respiratory afflictions, malaria, skin rashes, malnutrition, red eyes and dengue fever.

**Table 4.1. Household experience of severe or normal floods in years 2000-01 to 2004-05 Ampil, Chey and Slaeng Khpos villages, San Kor commune June 2005**

Year	Experienced severe flood		Experienced normal flood	
	Number	Percent	Number	Percent
2004-05	3	2	102	66
2003-04	9	6	105	68
2002-03	58	37	70	45
2001-02	134	86	18	12
2000-01	147	95	5	3
N=155				

As well as the debilitating effects on human health, households attributed losses in rice production to the severe floods. In all, 93 percent of the 152 households which encountered severe floods in the San Kor villages reported damaged rice seedlings or rice crops. Households also sustained damaged vegetable gardens, poultry (chicken and duck) diseases, poultry deaths, livestock (cow, buffalo, pig) diseases and livestock deaths.

More than one-quarter of the 152 households affected by severe floods in the five years studied were forced to move out of their homes. These families sought temporary shelter on higher ground in relatives' houses, tents along the road, schools or the commune office. Meanwhile, nearly half the 103 households with children of school age reported that their children were unable to go to school without interruption in the years of severe floods.

In the San Kor villages surveyed, 74 percent of the 152 households which suffered severe floods in the period 2000-01 to 2004-05 received assistance of rice, rice seeds, supplies or materials. This was largely from the Cambodian Red Cross, and to a lesser extent from NGOs, local authorities or political parties, relatives, friends, neighbors and village associations. While it was helpful, this assistance was limited, compelling households to rely mainly on their own resources for rehabilitation. Reciprocal assistance from neighbors and friends, prominent at the onset of the floods, was limited by the ability of poor villagers to make exchanges.

In years of severe floods, more than half the households affected had made preparations beforehand to minimize the consequences of impending disaster. These provisions included getting access to boats, preparing food stocks, identifying higher ground for household members and animals to live, stocking firewood, preparing hay for animals on higher ground, storing rice seeds for future cultivation, making shelves to place assets, keeping updated on information about floods and even making bamboo floating homes. Of note, less than 15 percent of the households which experienced severe floods indicated that external agencies had come to the village to discuss flood preparedness.

Once the flooding had begun households took precautions to ensure the safety of members and assets. They looked after their property, kept their children in a secure area, took turns looking after animals, took turns to patrol the village, did not overload boats, took turns to patrol relocation areas, locked up valuables in their homes and kept their cows and buffaloes on higher ground.

### **Ampil Village San Kor Commune**

Ampil was one of the poorest of San Kor commune's 14 villages. The 63 households living there in 2005 subsisted mainly on paddy rice farming and fishing. In dry seasons watermelons were grown as a cash crop. Situated on the western border of National Road 6 in a low-lying area of the commune, the village was subject to flooding and droughts. The worst flood in recent memory occurred in 2000-01. The storm that accompanied the flood destroyed five houses. Water rose to people's waists and residents had to use boats for transport. Livestock and poultry drowned. Village rice fields were submerged and rice crops were totally damaged, causing rice farmers to buy milled rice to eat from the market. Due to reduced rice consumption and lack of proper sanitation, household members, especially children, became sick with diarrhea and dengue fever. A flood in the following year 2001-02, while not as severe, inhibited the villagers from making a quick recovery.

During periods of severe flooding, Ampil villagers tried to offset their losses by shifting their immediate attention to fishing in the Tonle Sap lake. Women gathered morning glory and men cut wood in forest areas to earn money to buy rice. Once the flood waters receded, households started to plant watermelon as a cash crop, people worked as agricultural laborers for daily wages in nearby villages and some residents left the village temporarily to work as migrant laborers in Thailand. Young women sought more permanent employment in the garment factories of Phnom Penh. Still, recovery from the floods at the turn of the

main source of livelihood, although their rice yields in subsequent crop years, 2002-03 to 2004-05, were diminished by droughts.

During times of floods and droughts, Ampil households relied principally on their own members to respond to the demands of the situations confronting them. Tasks were normally divided along lines of sex and age and one's position in the household. But the sheer demands arising from the disasters, especially at the height of floods, compelled households to assist one another. Villagers helped each other transfer animals to higher ground, take care of young children, transport sick people to health centers and ferry students to school by boat. Neighbors shared small portions of rice, fish and vegetables with each other. Understandably, endemic poverty in Ampil restricted the capacity of villagers to make reciprocal exchanges. As one villager lamented, "We are all poor together and have little means to help one another."

## Experience of severe droughts in the San Sor villages

Households surveyed in the San Kor villages of Ampil, Chey and Slaeng Khpos experienced severe droughts in the years 2000-01 to 2004-05. Overall, 99 percent of the 155 households interviewed in the three villages experienced severe drought in at least one of the five years. Nearly 60 percent of the sample households suffered severe droughts in 2003-04 and more than 40 percent suffered severe droughts in 2002-03 and 2004-05 (Table 4.2). When the sample households in San Kor commune did not experience severe droughts, they usually faced normal droughts.

In total, 88 percent of the 153 sample households in the San Kor villages, which experienced severe droughts in the five-year period, sustained health problems. In large measure these illnesses were related to the harsh circumstances of the severe droughts. Household members suffered mostly from diarrhea and intestinal ailments, and to a lesser extent, respiratory illnesses, malnutrition, malaria, skin rashes, dengue fever and sore eyes.



**Table 4.2. Household experience of severe or normal droughts in years 2000-01 to 2004-05 Ampil, Chey, and Slaeng Khpos villages, San Kor commune and Sangkum and Voa Yeav villages, Damrei Slab commune June 2005**

	San Kor villages				Damrei Slab villages			
Year	Experienced severe drought		Experienced normal drought		Experienced severe drought		Experienced normal drought	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2004-05	67	43	66	43	7	7	69	69
2003-04	92	59	55	35	41	41	53	53
2002-03	67	43	73	47	76	76	21	21
2001-02	42	27	66	43	19	19	72	72
2000-01	34	22	65	42	9	9	67	67
	N= 155				N=100			

As well as the negative health effects, households attributed plunges in rice production to the severe droughts. In all, 89 percent of the 153 San Kor households which endured severe droughts reported damaged rice seedlings or rice crops. Households also cited damaged vegetable gardens, lack of water supply, poultry (chicken and duck) diseases, poultry deaths, livestock (cow, buffalo, pig) diseases and livestock death.

In the San Kor villages 30 percent of the 152 drought-affected households surveyed received assistance of rice, rice seeds, supplies or materials in years of severe droughts. This came largely from NGOs and the Cambodian Red Cross, and to a lesser extent, from local authorities or political parties, relatives, friends or neighbors, village associations and rich and powerful patrons.

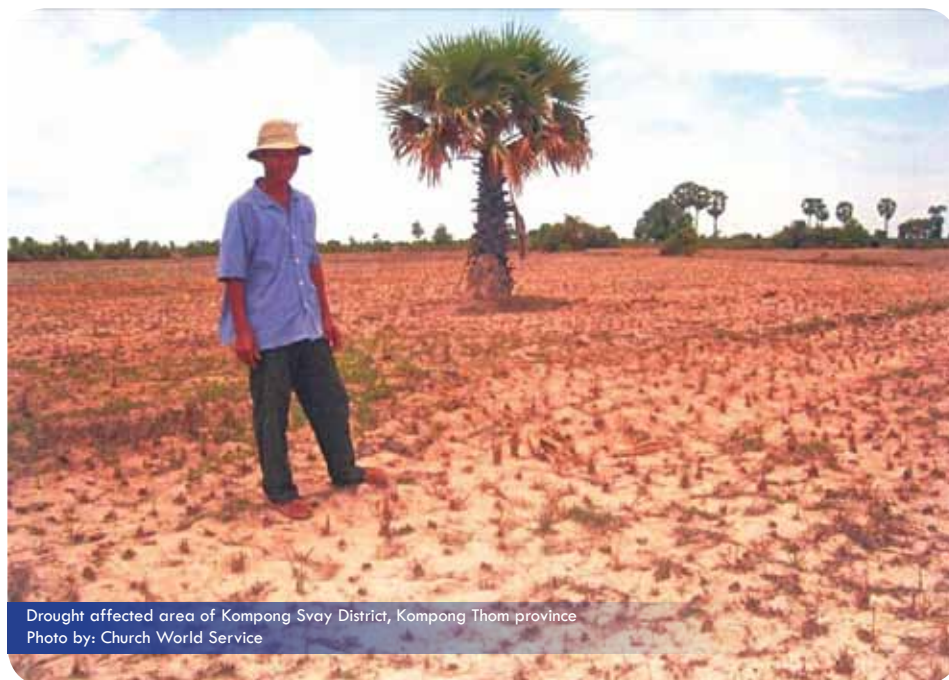
In years of severe drought, 30 percent of the drought-affected households surveyed in San Kor commune had made preparations beforehand to reduce adverse effects. These preparations included storing rice and vegetable seeds for future cultivation, preparing household food stocks, preparing hay for animals, keeping updated on information about droughts and, in a few cases, digging wells. Of note, less than 20 percent of the households that experienced severe droughts indicated that external agencies had come to the village to discuss drought preparedness.

### Experience of severe droughts in the Damrei Slab villages

Households surveyed in the Damrei Slab villages of Sangkum and Voa Yeav experienced severe droughts during the years 2000-01 to 2004-05. In all, 98 percent of the 100 households interviewed in the Damrei Slab villages suffered a severe drought in at least one of the five years. More than three-quarters of the sample households experienced severe drought in 2002-03 and more than two-fifths of the sample

experienced severe droughts in 2003-04 (Table 4.2). When the sample households in Damrei Slab commune did not experience severe droughts, they usually faced normal droughts.

Nearly all of the 98 households which experienced severe droughts from 2000-01 to 2004-05 in the Damrei Slab villages contracted health problems. To a considerable extent these illnesses were linked to the difficult conditions of the severe droughts. Household members suffered primarily from diarrhea and intestinal ailments, and less frequently from malnutrition, malaria, respiratory ailments, skin rashes and dengue fever.



Over and above the toll exacted on human health, households blamed declines in rice production on the severe droughts. In all, 96 percent of the households experiencing severe drought in the Damrei Slab villages recorded damaged rice seedlings or rice crops. Households also reported lack of water supply, damaged vegetable gardens, poultry (chicken and duck) diseases, poultry deaths, livestock (cow, buffalo, pig) diseases and livestock deaths.

In the Damrei Slab villages surveyed, 46 percent of the drought-affected households surveyed received assistance of rice, rice seeds, supplies or materials, in years of severe droughts. This came mostly from NGOs, and to a lesser extent, from the Cambodian Red Cross, local authorities or political parties and village associations. In years of severe droughts, 40 percent of the drought-affected households surveyed in Damrei Slab commune had made preparations beforehand to lessen disastrous

effects. These safeguards involved storing rice and vegetable seeds for future cultivation, preparing household food supplies, gathering hay for animals, keeping updated on information about droughts and, in a few instances, digging wells. Of note, 35 percent of the households that experienced severe droughts indicated that external agencies had come to the village to discuss drought preparedness.

## Severe floods and drought - Impact on rice cultivation

The San Kor and Damrei Slab villages surveyed in this study were heavily reliant on rain-fed wet season paddy rice production. As a consequence of the severe floods and droughts, villages in both communes recorded extremely low rice yields in the disaster-prevalent years under the study. Not surprisingly, due to village topography, rice harvests in the San Kor villages were at their lowest during the highest incidence of severe floods while rice yields in the Damrei Slab villages were at their lowest during the highest incidence of severe droughts. Even in the best years, and despite their location in two distinct ecological zones, rice productivity in the villages of both communes averaged less than half a tonne per hectare. Rice shortages, common even in normal times, increased in the two communes during times of disaster and resulted in reduced rice consumption for a large majority of households.

### **Sangkum Village Damrei Slab Commune**

Sangkum was the largest of five villages in Damrei Slab commune, with 199 households in 2005. Situated on higher ground outside of the Tonle Sap floodplain 8 kilometers east of National Road 6, Sangkum remained untouched by flood waters. At the same time, in the first half of the new millennium the village suffered severe droughts. The most serious drought occurred in 2002-03, when entire harvests were lost and households had to borrow to replenish their rice seeds for the next crop season. During these times of scarcity, households drastically reduced their rice consumption which resulted in malnutrition, especially among women and children, and heightened susceptibility to disease. Diarrhea, dengue fever, measles, chicken pox and respiratory afflictions were more prevalent in years of drought.

Rice productivity in Sangkum was low even in years of good harvests. With average rainfall, rice farmers were able to harvest between 30 and 40 thang (720 to 960 kilograms) per hectare. In years of severe drought, rice yields fell to 5 thang (120 kilograms) or less per hectare. Rice shortages, which usually lasted up to six months, now extended for most of the year. Households regularly ate

rice porridge instead of boiled rice and then, often only once a day. Five households were forced to go out of the village to beg for food.

Without sufficient food, households exhausted their savings to buy rice. Then they borrowed money from relatives and neighbors, before approaching merchants with stores along National Road 6 for loans. The traders charged 10 percent interest per month and before long, borrowers were embroiled in debt. Poorer households without collateral had relatives guarantee their loans. Several households mortgaged their farms, and a few sold agricultural lands to pay for medical costs or finance migrant work.

With wet season rice farming decimated by the successive droughts from 2000-01 to 2002-03, Sangkum villagers explored other livelihood sources. Some households attempted to grow dry season rice. Others started to grow watermelons. A few households built charcoal kilns. Women made mats and gathered crickets for sale. Men cut wood in the forests. Some even travelled in small groups to Preah Vihear Province to fell timber and haul it back with their rubber wheeled ox carts. While these activities helped sustain the subsistence of the drought-stricken rice-cultivating households, mounting debts and persistent crop failures soon meant that only migrant work could generate the earnings needed to overcome the protracted years of drought.

Selling and mortgaging paddy rice land in the San Kor and Damrei Slab villages were the predominant consequences of severe floods and droughts. The loss of rice farms made it difficult for subsistence households to fully recover from the severe floods and droughts, and still pursue rice cultivation as their main livelihood activity. Differential ownership of paddy rice land indicated social stratification within San Kor and, to a lesser extent, Damrei Slab villages. Households lacking adequate farm areas for rice production and for use as loan collateral were more likely to experience further marginalization as a consequence of severe floods and droughts. Clearing forest areas for paddy rice cultivation offered many San Kor and Damrei Slab villagers an alternative way to expand their landholdings, although the practice diminished the natural resources base so important for water management.

## Rice cultivation impacts in the San Kor villages, 2000-01 to 2004-05

As a consequence of severe floods and droughts from 2000-01 to 2004-05, average rice yields in the San Kor villages were generally low and at times, reached abysmal levels (Table 4.3). With minor exceptions, the rice cultivators in the three villages relied entirely on rain-fed wet season rice production. Not surprisingly, the

lowest average yields in the five years period occurred in the crop years 2000-01 and 2001-02, which corresponded to the highest incidences of severe floods. Large numbers of rice cultivators in these crop years lost their entire crops, which accounts for the depressed average totals. By contrast, the highest average yields attained in the five-year period were recorded in the crop years 2003-04 and 2004-05 when the household experience of severe floods was minimal.

Interestingly, average rice production in the San Kor villages did not, in the identical manner of severe floods, have an inverse correlation to the experience of severe droughts. Indeed, lower average yields in 2000-01 and 2001-02 corresponded to lower incidences of severe droughts, while higher average yields in 2003-04 and 2004-05 corresponded to higher incidences of severe drought. This did not mean that the severe droughts suffered in the San Kor villages had no adverse impact on production, only that the severe floods had more disastrous overriding effects.

**Table 4.3. Average household rice yields in kilograms 2000-01 to 2004-05 Ampil, Chey and Slaeng Khpos villages, San Kor commune June 2005**

Year	Average wet season production (kg)	Average dry season production (kg)	Average total production (kg)
2004-05*	696	166	693
2003-04**	410	180	406
2002-03***	328	0	325
2001-02****	207	480	210
2000-01*****	120	480	124
*N=125 for wet season, 6 for dry season and 127 for total **N= 102 for wet season, 2 for dry season and 104 for total ***N= 88 for wet season, 1 for dry season and 89 for total ****N= 79 for wet season, 1 for dry season and 80 for total *****N= 80 for wet season, 1 for dry season and 81 for total			

During the five-year period under study, households surveyed in the San Kor villages recorded their highest average rice yields in the crop year 2004-05. Notwithstanding, rice production in that year averaged less than half a tonne per hectare (Table 4.4). The low productivity of rice cultivation in the San Kor villages, in even the best years, underscored the difficulty subsistence rice farmers faced in overcoming the shocks of severe floods and drought.

In 2005, 20 of the 155 households surveyed in the San Kor villages did not own paddy rice land, while 37 households owned 0.5 hectares or less. With 20 households absolutely landless and 37 households near landless (0.5 hectares or less), 57 households, or 37 percent of all households surveyed in the San Kor villages, were paddy rice land deficient. By contrast, 28 households, or 18 percent of all households surveyed in these villages, owned more than two hectares of paddy rice land. Differential ownership of paddy rice land marked a divergence among

villagers, with those households lacking sufficient land for food production and for use as collateral for loans more likely to suffer further marginalization as a consequence of severe floods and droughts.

In the years 2000-01 to 2004-05, 20 households in the 155 San Kor household sample reportedly sold a total 37.4 hectares of paddy rice land. Remarkably, 15 of the 20 households sold their paddy rice land as a consequence of floods or droughts. During the same period, 26 households in the same sample mortgaged a total of 20.8 hectares of paddy rice land to others. Notably, 17 of the 26 households mortgaged their paddy rice land as a result of floods or droughts. The sale and mortgage of paddy rice lands considerably depleted the stock of assets needed by subsistence farmers to fully recover from severe floods and droughts, and still pursue rice cultivation as their primary livelihood activity.

**Table 4.4. Average rice land cultivated (in hectares), average rice production (in kilograms), average rice production per hectare (in kilograms per hectare), wet and dry seasons 2004-05, by household, Ampil, Chey and Slaeng Khpos villages, San Kor commune June 2005**

	Wet season	Dry season	Total
Average rice land cultivated	1.43 ha*	0.75 ha	1.44 ha*
Average rice production	696 kg**	166 kg	693 kg**
<b>Average rice production per hectare</b>	<b>478 kg per ha***</b>	<b>221 kg per ha</b>	<b>472 kg per ha***</b>
	*N=132 **N=125 ***N=123	N=6	*N=134 **N=127 ***N=125

In the years 2000-01 to 2004-05, some households in the San Kor sample augmented paddy rice landholdings. A total of 14 households in the 155 households sample bought a total 12.18 hectares of paddy rice land. Meanwhile, 11 households in the same sample acquired a total 5.28 hectares of paddy rice land through mortgage. These numbers paled compared to the 45 households in the sample that enlarged their holdings by clearing a total 45.9 hectares of forest land for paddy rice cultivation. The conversion of forest areas into paddy fields threatened to undermine an area so crucial to the regulation of floods and droughts.

## Rice cultivation impacts in the Damrei Slab villages, 2000-01 to 2004-05

As a result of the severe droughts from 2000-01 to 2004-05, average rice yields in the Damrei Slab villages were predictably low (Table 4.5). As a means of offsetting the prevailing dependence on rain-fed wet season rice production, small numbers of the rice farmers sampled cultivated dry season rice starting from the 2002-03

crop season. Not unexpectedly, the lowest average yields in the five-year period occurred in the crop years 2002-03 and 2003-04, which corresponded to the highest incidents of severe droughts. In the crop year 2002-03, more than three-quarters of the sample households experienced severe droughts, and in the crop year 2003-04, more than two-fifths of the sample households experienced severe droughts. By comparison, higher average yields were registered in the crop years 2000-01, 2001-02 and 2004-05, when household experience of severe droughts was much lower.

**Table 4.5. Average household rice yields in kilograms 2000-01 to 2004-05, Sangkum and Voa Yeav villages, Damrei Slab commune June 2005**

Year	Average wet season production (kg)	Average dry season production (kg)	Average total production (kg)
2004-05*	553	432	595
2003-04**	353	216	363
2002-03***	365	97	367
2001-02****	582	---	582
2000-01*****	691	---	691
*N=91 for wet season, 9 for dry season and 91 for total **N= 89 for wet season, 4 for dry season and 89 for total ***N= 82 for wet season, 1 for dry season and 82 for total ****N= 77 for wet season, --- for dry season and 77 for total *****N= 72 for wet season, --- for dry season and 72 for total			

In the crop year 2004-05, the households in the Damrei Slab sample posted their second highest average rice yields in the five years under study. While the average yield per hectare on the few dry season rice farms was encouraging, total rice production in this year averaged less than half a tonne per hectare (Table 4.6). The low productivity of rice cultivation in the Damrei Slab villages, even in good years, demonstrated the hardship subsistence rice cultivators face recovering fully from the shocks of severe droughts encountered in the recent past.

**Table 4.6. Average rice land cultivated (in hectares), average rice production (in kilograms), average rice production per hectare (in kilograms per hectare), wet and dry seasons 2004-2005, by household, Sangkum and Voa Yeav villages, Damrei Slab commune June 2005**

	Wet season	Dry season	Total
Average rice land cultivated	1.23 ha	0.37 ha	1.26 ha
Average rice production	553 kg	432 kg	595 kg
<b>Average rice production per hectare</b>	<b>451 kg per ha</b>	<b>1168 kg per ha</b>	<b>471 kg per ha</b>
	N=91	N=9	N=91



In 2005, only one of the 100 households surveyed in the Damrei Slab villages did not own paddy rice land and 29 households owned 0.5 hectares or less. With one household absolutely landless and 29 households near landless (0.5 hectares or less), 30 percent of all households surveyed in the Damrei Slab villages lacked sufficient paddy rice land. By contrast, 8 percent of all households surveyed in these villages owned more than two hectares of paddy rice land indicating that differential access to paddy rice land existed among households in the Damrei Slab villages, albeit less pronounced than in the San Kor villages.

In the years 2001-01 to 2004-05, three households in the 100 Damrei Slab households sample reportedly sold a total 3.51 hectares of paddy rice land as a consequence of droughts. Similarly, during these years, 10 households mortgaged to others a total 4.3 hectares of their paddy rice land, with 8 of the 10 households reporting the mortgages were due to droughts.

In the years 2000-01 to 2004-05 several households in the Damrei Slab sample sought to increase their paddy rice landholdings. In all, 11 households of the 100 households sample bought a total 6.6 hectares of paddy rice land. Four households acquired a total 3.16 hectares of paddy rice land through mortgage. Of note, 35 households in the sample acknowledged that they cleared a total 20.3 hectares of forest land for paddy rice cultivation. While converting forest areas into paddy fields provided households with the most accessible way to expand their rice holdings, it destroyed the natural-resource base so critical for water management.

## Credit and migrant work

In the years 2000-01 to 2004-05, households in the San Kor villages borrowed money to buy rice more frequently than households in the Damrei Slab villages, in both normal and disaster times. Nonetheless, the need for households to borrow money to have rice was extremely high in both communes during times of disaster. Overall, 91 percent of the San Kor sample households and 82 percent of the Damrei Slab sample households had borrowed to buy rice in times of severe floods or droughts. More than two-thirds of the households in both communes borrowed large sums of cash to recover from the disasters, and many used part of this money to re-invest in agricultural production, despite the risks this entailed. The heavy reliance on money lenders for credit indicated that, although informal money supplies prevailed, market transactions had largely replaced multi-stranded exchanges of mutual assistance.

In the five years under study, members from nearly 60 percent of the San Kor households, and half the Damrei Slab households, left their villages to work as migrant laborers. Young adult women and men comprised the largest share of the migrant labor force, and worked for the most part as garment workers in Phnom Penh and as agricultural

laborers in Thailand respectively. Migrant workers relied mainly on networks of friends, neighbors, relatives and recruitment agents to help them get their jobs. From 2000 to 2005, earnings from migrant work remittances rose in both communes. Generally, migrant work was viewed as a strategy to rehabilitate and support household livelihoods that had been decimated by the shocks of severe floods and droughts.

## Participation in groups and communal activities

From 2000 to 2005, household involvement in community groups, that is, the percentage of households with a member belonging to a community group, had increased by 22 percent in the San Kor sample and by 62 percent in the Damrei Slab sample. During the same years, the density of household membership in community groups, that is, the percentage of households with members belonging separately to five specified types of groups, had risen by 35 percent in the San Kor sample and by 46 percent in the Damrei Slab sample<sup>6</sup>. These increases were stimulated largely by external support to local associations. In villages of both communes, the highest single membership of households in both 2000 and 2005 was in pagoda associations, although in the Damrei Slab villages, wedding and funeral associations were as important in 2000. In 2000, religious groups in San Kor and Damrei Slab were seen as the single most important type of association. By 2005, this had changed, with credit and savings groups identified in both communes as the most important. This revealed the growing importance of cash for households in the expanding market economy. For the most part, groups deemed the most important in both 2000 and 2005 in San Kor and Damrei Slab did not interact with groups outside the village.

## Conclusions

Located on the periphery of the Tonle Sap floodplain, the households in the San Kor villages experienced both severe floods and droughts, while households in the Damrei Slab villages on higher ground outside of the floodplain, endured only severe droughts. As a consequence, households in San Kor generally suffered more adverse effects from natural disasters than those in Damrei Slab. These included longer average rice shortages, greater frequency of borrowing to buy rice and higher frequency of selling land. While the outcomes of severe floods and droughts often resembled one another, for example, diminished rice yields, acute rice shortages, increased human illness, intensified need to borrow and higher rates of distressed land sales, severe floods in San Kor caused more displacement and physical damage than severe droughts in either commune and therefore, entailed higher recovery costs.

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<sup>(6)</sup> The five groups specified were pagoda groups, wedding or funeral groups, credit or savings groups, health or education groups, and livelihood groups.

Apart from the distinguishing features arising from their location in different ecological zones, contrasts among households in the two communes were also related to their differential participation in the market economy. The three San Kor villages were located along the western boundary of National Road 6, close to the expanding San Kor commune market. By comparison, the two Damrei Slab villages were located from 8 to 12 kilometers off the eastern boundary of National Road 6, in what had largely been an inaccessible war zone until the late 1990s. In the five years under study, the heightened integration of the San Kor households in the market economy, compared to those in Damrei Slab, was evident in several ways. In San Kor, land sales and mortgages were proportionally higher, differential access to paddy rice land was more pronounced, the incidence of landlessness was proportionally higher, as was the percentage of households with migrant workers. These indicators suggest greater social stratification and inequality among households in San Kor than in Damrei Slab, with marginalized and vulnerable households in San Kor likely to suffer debilitating consequences from the shocks of severe floods and droughts.

## Livelihoods transformed

The severe floods and droughts that occurred in the study area from 2000-01 to 2004-05, contributed to a broader process of social change emerging in the Tonle Sap region and other parts of rural Cambodia. Rice yields during the five years of successive natural disasters were abysmally low and forced households from the San Kor and Damrei Slab villages to rely on sources of livelihood other than rice-fed wet season rice production. These included fishing and forest resources and migrant wage work. To offset the losses of their rice crops, San Kor households in the Tonle Sap floodplain exploited fish stocks in the lake, while the Damrei Slab households cut timber and built charcoal kilns. The sudden shift to these earning sources contributed to a decline in natural resources.

Households in both communes relied increasingly on migrant wage labor. In the five years under study, members from nearly 60 percent of the San Kor households and half the Damrei Slab households left their villages to work as migrant laborers. Younger adult women and men were usually better able to take advantage of job opportunities and in large measure, worked respectively as garment workers in Phnom Penh or agricultural laborers in Thailand. In general, migrant work was seen as a way to improve the immediate circumstances of those living at home. But while migrant labor had previously supplied temporary, short-term income, it now became a central strategy for many households.

Unable to depend on rice production and constrained by limited opportunities in off-farm work, most households had to borrow at exorbitant interest rates to ensure their daily survival. Many households had to borrow large sums to pay health costs. Some households sold or mortgaged rice farms to raise cash or repay debts, thereby

undermining their very capacity to recover from the devastation of the floods and droughts, and still pursue rice cultivation as their principal livelihood activity.

## Reliance on networks of social capital

Responses about severe floods and droughts gained from focus groups, key informants and survey interviews are usefully examined within the conceptual framework of social capital. With respect to the onset of severe floods, expressions of bonding and bridging social capital were readily apparent. Households in the San Kor villages helped each other evacuate family members, watch over animals, patrol residential areas, ferry children to school, distribute water and provide small rice loans. Once flood waters had receded, households from the San Kor villages worked together to repair community infrastructure such as canals, water gates, culverts, schools and roads. These rehabilitation efforts were often aided by external agencies.

With regard to severe droughts, networks of bonding, and to a much lesser extent bridging, social capital were likewise evident, although less conspicuously visible than those which accompanied the heightened activity of the severe floods. During severe droughts, relatives and neighbors from the study villages helped each other replenish rice seeds, supply small cash loans, guarantee loans with moneylenders, look after the sick, have access to family wells and assist vulnerable groups. In the aftermath of severe droughts, bridging social capital often took the form of households working together in community food-for-work projects supported by external organizations.

Bridging networks of social capital helped households from both communes respond to the broader demands of social change taking place in their lives. Migrant workers from the study villages took jobs in Phnom Penh and Thailand through relationships with relatives, friends, neighbors and recruitment agents. Young men and women from the San Kor villages used contacts with fish lot owners in the Tonle Sap to get work as hired laborers. Households from both communes used moneylenders in the San Kor commune market to reinvest in disaster-prone rice production, albeit at extremely high interest rates and considerable risk. Households from the Damrei Slab villages similarly relied on moneylenders for the cash they needed to finance payments to government agents to permit cutting and transport of logs from Preah Vihear province. Households in both communes acted on the agreement of local authorities in clearing forest areas to enlarge their paddy rice holdings. In the social context of the study area, bridging networks of social capital operated in an environment not immune from exploitation and corruption.

For Robert Putnam, high density of membership and participation in associations is a key indicator of a society's supply of social capital. In the San Kor and Damrei Slab villages, household involvement and density of membership in community groups

increased considerably from 2000 to 2005, largely as a result of external support to local associations. Following Putnam, this would indicate a high level of social capital and civic wellbeing in village communities. That this was obviously not the case lends support to the critique of Putnam's approach. A more promising line of inquiry shifts the focus to research on access to stocks of social capital in specific social contexts. With respect to the San Kor and Damrei Slab villages, it becomes apparent that while households had access to reserves of bonding and bridging social capital, they were virtually excluded from access to stocks of linking social capital. In general, the households interviewed lacked vertical ties connecting people with powerful individuals and institutions that could allow them to leverage resources for long-term benefits.

Villagers in both communes reported a severe lack of information from external agencies on disaster preparedness. This suggests a clear policy imperative for government and development agencies to build capacity in community-based disaster management. In line with this, the major challenge that faced the households in the San Kor and Damrei Slab villages was to extend and expand their bonding and bridging networks of social capital to connect with linking networks of social capital, including those with government. Similarly the challenge for development agencies, beyond simply building capacity in community-based disaster management, was to facilitate villager access to stocks of linking social capital so that they could tap into resources currently denied them and make their voices heard in decisions that affected their lives.

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# Chapter V

## CAMBODIA'S RURAL COMMUNITIES AND SOCIAL CAPITAL FORMATION: LESSONS LEARNED FROM VILLAGES IN TRAM KAK DISTRICT, TAKEO PROVINCE

By: Ear Chariya

*“Low levels of citizen mobilization/association are a fundamental weakness in contemporary Cambodia, and weak trust/social capital is a key influencing factor.” (CAS/World Bank 2009)*

Viewed as the missing link in development, social capital is often referred to as the norms and networks that facilitate collective action for mutual benefit (Grootaert 1998). Trust is a critical qualitative element of all forms of social capital. Uphoff (2000) defines trust as “the essential glue for society”. During the brutal Khmer Rouge regime, people learned to distrust one another. Meas Nee remembers that “as trust was broken, we reached a time when we could think only of ourselves and our great needs; the dignity and the pride of our identity, formerly an important part of our lives, entirely disappeared” (Meas and Healy 1995). Despite the huge damage to trust, families and religion, forms of social capital gradually began to re-emerge during the Heng Samrin period between 1979 and 1989 (Krishnamurthy 1999). The revival of spontaneous social and religious life was based on the urgent need for basic village infrastructure and, more importantly, on people’s strong sense of self-help and the powerful role of Buddhist traditions (ibid).

Rural development projects in Cambodia have often pursued greater participation and community mobilization by establishing community-based groups and committees, such as the Village Development Committee (VDC). However, these have had limited success because they have been perceived as top-down initiatives coming from the state (Meas and Healy 2003); (Gyallay-Pap 2004). Only a limited number of these rural development initiatives have had the required on-the-ground presence and knowledge that has defined their success. The CEDAC Farmer Associations, for example, have achieved impressive results and offer important lessons for replication and scaling-up (CAS/World Bank 2009).



This study explores the lessons learned from CEDAC's community-based development strategies through the formation of Farmer Associations (FA). It looks at how social capital has informed the FA approach, and how FAs have contributed to strengthening social capital in Cambodia's rural communities. The case study is the Improving Livelihood of Small Farmers project in Tram Kak district, Takeo province (ILFARM-TK) which was implemented by CEDAC with financial support from the Japanese International Cooperation Agency (JICA) between 2003 and 2009. The project successfully developed a network of farmers, with representatives linking different local administration levels, and organized around specific themes such as agriculture production, savings and credit, women and youth. The guiding questions of the case study are:

- (1) To what extent does social capital contribute to the establishment of FAs and how do FAs contribute to strengthen social capital?
- (2) How does the new social capital translate in the capacity of the rural villagers to organize wider community development?
- (3) To what extent can external interventions be best designed to integrate and make maximum use of pre-existing social capital, to enhance the effectiveness of development objectives?

## Social capital theory as the analytical framework for the case study

The concept of social capital has made considerable headway in development policy debates and research, particularly over the last two decades, with the social capital theory being taken up by development agencies and national governments. The World Bank has played a major role in promoting the concept, regarding it as an important development tool, or the missing link which is essential for alleviating poverty and achieving societal development (Grootaert 1998); (Eade 2003). Nevertheless, social capital as a social reality is not new. It has existed ever since small communities were formed and humans interacted with the expectation of reciprocation and trust (Platteau 1994); (Woolcock 1998).

One of the major authors of social capital is Robert Putnam. He is primarily concerned with the horizontal associations between people. These horizontal associations consist of social networks (network of civic engagement) and associated norms that affect the productivity of the community (Putnam 1993). Two empirical presumptions underlie this concept: first, that networks and norms are empirically associated and second, that they have important economic consequences. While this concept of social capital was originally limited to associations having positive effects on development, it has been relaxed to include groups that may have undesirable outcomes as well, such as associations with rent-seeking behavior (World Bank 1998). In such situations, social

capital benefits members of the associations, but not necessarily non-members or the community at large (Grootaert and Van Bastelaer 2001).

A broader concept of social capital was suggested by Coleman (1988) who defined social capital as “a variety of different entities, with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors – whether personal or corporate actors – within the structure”. This definition expands the concept to include vertical as well as horizontal associations and behavior within and amongst different entities, such as firms (World Bank 1998). Vertical associations are characterized by hierarchical relationships and an unequal power distribution among members. This wider range of associations covers a wider range of objectives – positive as well as negative.

North Douglass (1990) and Olson Mancur (1982) broaden the concept to include the entire socio-political environment and the institutional framework of a society such as government, the political regime, the rule of law and civil entities. This view not only accounts for the importance of forging ties within and across communities, but recognizes that the capacity of various social groups to act in their interest depends crucially on the support (or lack thereof) that they receive from the state and the private sector (Pellini and Ayres 2005).

Uphoff (2000) discounts differences between the three definitions, stating that they contain the same elements and refer repeatedly to aspects of social structure and to normative (cognitive) influences, but without placing these factors into a theoretically explicit or rigorous framework. He proposes a more concrete and analytical framework of social capital that can be understood most usefully by distinguishing two interrelated categories: structural and cognitive elements of social capital. Structural social capital refers to the structures and arrangements that facilitate information sharing, collective action and decision-making through established roles, social networks and other social structures. Cognitive social capital refers to shared norms, values, trust, attitudes and beliefs that define individual behaviors and attitudes. The structural characteristics of social capital are the point of departure of the analysis conducted in the case study.

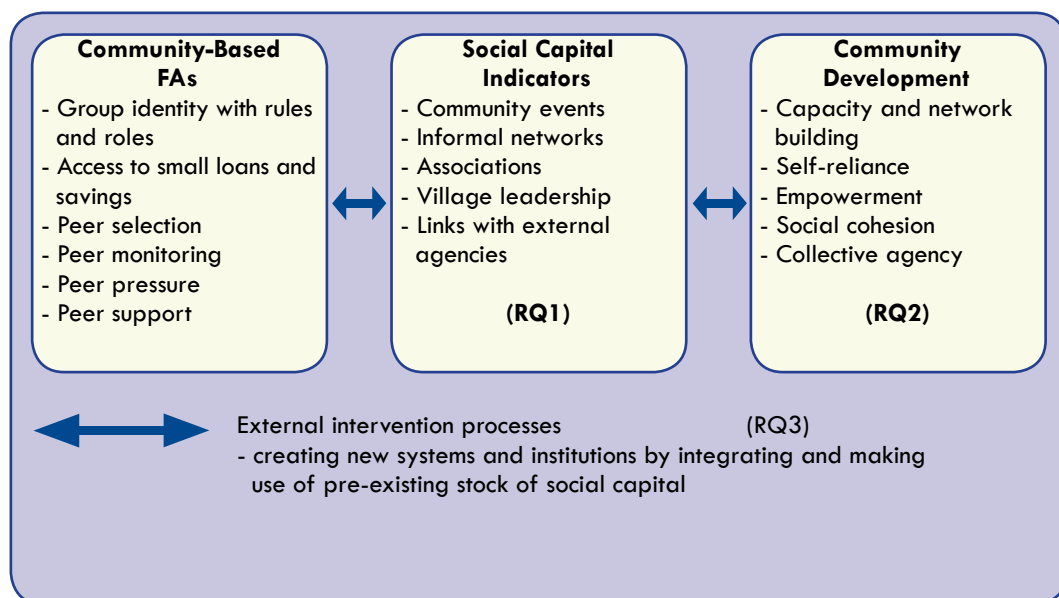
## The analytical framework

In this case study, social capital is defined as “the norms and networks that enable collective action” (Grootaert 1998); (Woolcock and Narayan 2000). The study refers to and examines social capital under the following structural characteristics [see (Krishnamurthy 1999)] to understand how community-based FAs build on and contribute to the creation of social capital. The discussion of cognitive aspects of social capital underlying these structural characteristics is integrated into the analysis of the structural forms.

- (1) Community events, such as weddings, funerals and various traditional festivals, defined as activities that increase levels of solidarity and collective action and build collective consciousness through shared actions.
- (2) Informal networks, such as sharecropping, sharing household equipment, exchanging information, defined as loose structures united around a common shared purpose.
- (3) Associations, defined as formal networks with distinct form, structure and rules whose identity and goals are commonly known, for example, farmer associations, savings and credit groups, water-user groups and traditional music groups.
- (4) Village leadership, defined as official (local administration), traditional (religious leaders or elders) or informal (people who command respect on account of their wealth, special skills, knowledge or charisma).
- (5) Links with external agencies, defined as village or commune ties with the outside world such as the national government, NGOs or the business community.

Figure 1, illustrates the areas of analysis of the empirical data from the case study. The model builds around the concepts of structural and cognitive social capital and the associated dimensions of “community events, informal networks, associations, village leadership and links with external agencies” used by Krishnamurthy (1999). Through studying CEDAC’s FAs the case study will seek evidence of social capital creation/strengthening since the formation of the FA groups. Based on this evidence, the research then explores what implications this social capital build-up and the

**Figure 1: Analytical model for the case study**



associated external intervention processes realistically have on the capacity of the rural villagers to organize themselves for wider community-driven development. Last, the study will examine the external intervention processes and identify the causal relationship between these processes and pre-existing stock of social capital formation.

The study adopted a mixed-methods approach for data collection, which is summarized in Table 1. Field observations were conducted alongside household surveys, individual semi-structured interviews, group discussions and document reviews. Prior to field interviews, field observations were conducted to get a better knowledge about community life and activities. During the field observation, the questionnaires were tested with seven households in the study area. Field interviews including the household survey, individual semi-structured interviews and group discussion were conducted in August-September 2009 and in May 2011 in four villages in Cheang Tong commune, Tram Kak district, Takeo province.

**Table 1: Overview of the application of research methods**

Research questions	Focus	Sources	Methods	Theory
1. To what extent does social capital contribute to the establishment of FAs and how do FAs contribute to strengthen social capital?	Changes to social relations: before, during and after the project	Project staff Group leadership and members Non-members Village leadership	Observation Household survey Individual interview and group discussion Document review	<b>Definition:</b> Social capital refers to “norms and networks that enable collective action.”  <b>Indicators of social capital:</b> - Community events - Informal networks - Associations - Village leadership - Links with external agencies
2. How does the new social capital translate in the capacity of the rural villagers to organize for wider community development?	Changes to organizational capacity: before, during and after the project	Project staff Group leadership and members Non-members Village leadership	Observation Household survey Individual interview and group discussion Document review	
3. To what extent can external interventions be best designed to integrate and make maximum use of pre-existing stock of social capital to enhance the effectiveness of development objectives?	FA paradigms: the sort of norms, networks and trust pursued	Project staff Group leadership and members Non-members Village leadership	Observation Household survey Individual interview and group discussion Document review	

The four FAs at the centre of this case study were established more or less at the same time in 2004-2005. For the purpose of the case study, they are divided into two groups: Group A, composed of two FAs (FA1 and FA2) regarded by the project as *successfully performing*. Group B, composed of the other two FAs (FA3 and FA4) regarded by the project as *poorly performing*.

**Table 2: FAs and their functional groups**

	Group A				Group B			
	FA <sub>1</sub>		FA <sub>2</sub>		FA <sub>3</sub>		FA <sub>4</sub>	
	2004	2009	2004	2009	2005	2009	2005	2009
Women group	nil	nil	n/a	10	nil	nil	nil	nil
Youth group	n/a	17	nil	nil	nil	nil	nil	nil
Organic rice producer group	7	5	n/a	18	n/a	n/a	n/a	n/a
FA	24	72	17	67	61	41	24	8
Women members in FA	n/a	40	n/a	58	n/a	30	n/a	6

A total of 64 households (members and non-members of FAs) were randomly selected for interviews from the four villages. The household survey targeted aspects of social capital, examined in three separated phases: the period before the project intervention (1980s-2002), during the project intervention (2003-June 2009) and after the project intervention (July 2009-May 2011). The individual interviews and group discussions with project staff, local authorities, FA leaders and members and non-FA members, were conducted to supplement and clarify information from other sources.

During the field interviews, relevant documents were collected from project staff and the management team, FA leaders and commune/village heads. CEDAC's community-based FAs and external assistance strategies were reviewed as documented in their project reports and compared to actual implementation approaches on the ground. The review documents focused particularly on the establishment, characteristics and challenges of the FAs.

## Findings and Discussion

Since 1998, CEDAC has supported the organization of village-based FAs, which are growing very rapidly in number. As of August 2009, 1,134 FAs have been formed with a total of 41,168 members<sup>1</sup> (23,890 or 58 percent of them are women). These associations are managed through a management committee of five to nine members.

<sup>(1)</sup> CEDAC's Accomplishments. <http://www.cedac.org.kh/home.asp> (consulted December 2009)

The number of families that belong to one association can range from 12 to 47, depending on the size of the village.

Village-based FAs are clustered into commune FAs and farmer's federations at the district level. Since 2003, associations have also been linked at the national level with the Farmer and Nature Net<sup>2</sup> (FNN). On March 10, 2006, the FNN was officially registered as the National Farmer Association. From March 2009, the network has been joined by 1,149 village-based FAs and has a total of 35,685 farmer-members, including 20,821 women. Typical activities of these associations are agriculture extension, community-led savings and credit, group marketing, training for young farmers, capacity building for women groups, support to poorest families and awareness raising on issues related to conservation of natural resources.

The “*Improving Livelihood of Small Farmers in Tram Kak*” (ILFARM-TK), implemented between 2003 and 2009, aimed to improve the livelihoods of small farmers by enhancing their capacity to sustainably intensify and diversify agricultural production. There were two phases to the project. Under phase I, from 2003 to 2005, there were major improvements in farmer livelihood. Rice production increased by applying the System of Rice Intensification (SRI), and community FAs were successfully establishment. During phase II (2006-2009), the project provided further support, focusing on developing the capacity of FAs to become self-managed and self-financed. It also focused on networking, by marketing agricultural products inside and outside the community. Through this project, CEDAC developed networks of farmers around rice production, savings and credit, women and youth, and created links at different public administrative levels: village, commune, district, province and national. The multi-functional FA approach has not been successful with all FAs. Some decided to re-arrange the organizational structure with more specific purpose by limiting themselves to one or two units, the most visible ones being savings units, which exist in all FAs.

Qualitative research by the Center for Advanced Study and the World Bank (CAS/World Bank 2007) on three well-established CEDAC FAs, revealed an impressive level of autonomous management, as well as high levels of trust in leaders and collective self-confidence in the ability of the association to promote members' interests. Increased agriculture production, as a result of techniques and information sharing through the FAs, has improved the economic situation of associated farmers and further contributed to building trust and confidence among members (Informant 1).

This study complements the research results of CAS/WB and examines the influence that existing social capital elements have had in contributing to the success of the FAs, as well as the FAs contributions to strengthen social capital. The discussion is

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(2) Besides CEDAC, there are many partners who support the national FNN. In 2009, Agri-Terra provided core funding to the FNN. The FNN has become a regular member of AFA (Asian Farmers' Association for Sustainable Rural Development) and LVC (La Via Campesina).

organized under the following main headings of the social capital indicators: (i) community events; (ii) informal networks; (iii) associations; (iv) village leadership and (v) links with external agencies.

## Community events

In every village, there are occasions when households come together. These events include social and religious ceremonies, activities for the common good and village meetings to discuss important issues. In the study villages, most of the community events such as Kathen, Da Lean, Bon Pkar and Pchum Ben ceremonies are important occasions for raising contributions from the people for community activities. While most contributions made during ceremonies are used for maintaining and repairing pagodas, some of the contributions are used for village-welfare activities. In addition to cash, people make in-kind contributions such as materials and labor. Village leaders initiate and coordinate these activities and are responsible for managing cash, materials and labor. However, these amounts tend to be small and are often not enough to cover major works (informant 13).

After the 2002 Commune Council elections, villagers, civil society and the private sector have been encouraged to participate in discussions and decision making when implementing community development activities. Before the establishment of the FAs in the target villages of the case study, ordinary villagers were reluctant to attend village or commune meetings and did not have sufficient confidence to make any requests to the village or commune chiefs (Informant 1). When the Commune Council started to organize these meetings in 2003-2004, only a few women participated. Today more than half the participants are women (Informant 13). A village chief said, "Women now engage in more productive activities than before the existence of FAs" (Informant 10). By joining the monthly group meeting organized by each FA in its own village, members, especially women, participate in discussion and information exchange on various issues, among their peers. Some FAs have already proposed their community development activities to the Commune Council as part of the annual commune planning exercise (Informant 2 and 3). One fund-raising program supports poor villagers at a referral hospital located near the commune. Every month, the Pagoda Committee, in collaboration with village chiefs and FA committee members, collects cash and rice from villagers to send to the hospital. This kind of welfare activity, organized by village leaders to support the poor, was rarely seen in local communities before the project intervention. Efforts are usually aimed at constructing roads, schools and pagodas.

Most villagers say the formation of FAs makes it easier for them to share knowledge and information. FAs play a key role by bringing local government closer to the people, and empowering people to influence local development plans, as well as challenging local authorities to be more effective in community development. According to



CEDAC, 60 percent of FAs have good cooperation with the local authorities, 30 percent of FAs have better cooperation with the local authorities and 10 percent of FAs have moderate cooperation with the authorities (CEDAC 2009).

## Informal networks

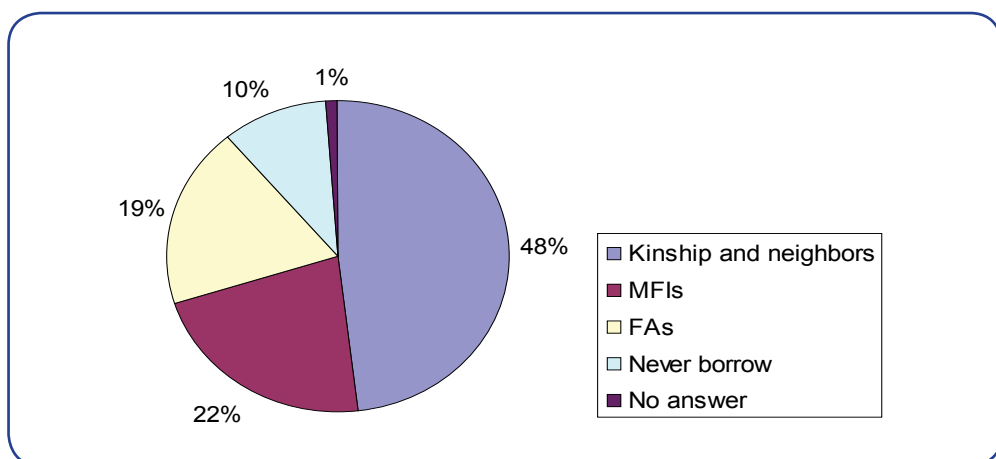
There are many ways in which information and resources are exchanged and shared within communities. These exchanges happen within social networks that remain largely spontaneous, informal and unregulated, and are the outcome of individual initiatives. They are shaped by individual initiatives and personal contact.

*Provas* is one example of informal exchange in the study villages. *Provas* refers to a fairly complex set of arrangements made between households, to exchange labor, become partners, combine efforts and/or resources or share results. It is a way of combining household resources in mutually beneficial ways. In essence, the *provas* mechanism is based on the principles of mutual help and reciprocity. Among 64 households interviewed, 52 had been involved in *provas*. *Provas* arrangements are popular, particularly among the middle and poor households, and are seen to *chuey khnie* (help each other). While *provas* declined in the decade before the project intervention [see (Kim 2001)], as the need for cash incomes increased and the need to exchange labor diminished, the arrangement continues to be used among relatives and neighbors of middle and poor households. Interestingly, most villagers felt that the establishment of FAs had enhanced relationships, especially among members, through the exchange of labor and resources.

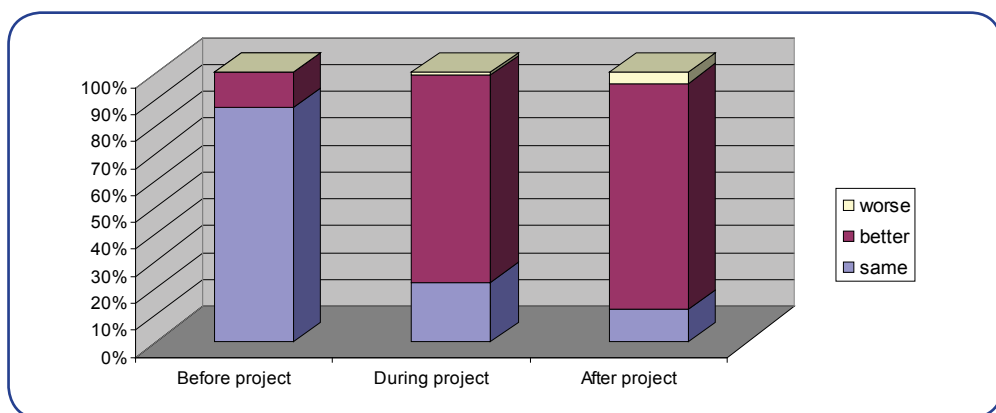
Another example of informal networks in the study villages is informal credit. In general, rich households tend to act as lenders. Middle income and poor households, on the other hand, are dependent on various forms of credit. In the study villages, most of the people interviewed said they borrowed from or lent to relatives, neighbors and friends – people they knew well, trusted and felt they could depend on. Much of the borrowing and lending among relatives is interest-free. However, villagers who need loans regularly (those doing small business for instance) and those who need money urgently and cannot get it from relatives, borrow from rich households or moneylenders. Villagers must pledge their land to the lenders until they are able to repay their loans, usually for up to two or three years, with interest rates of between 10 percent and 20 percent per month. This is due to the high risk of non-repayment. At least 30 households in a village in Group B have pledged their land or house as collateral to moneylenders to obtain loans, and 10 households had already left the village because they could not repay the loans (Informant 4). A farmer leader in this village said he also lost a lot of money because he lent money to his villagers to get a return from the interest. Last year his borrowers could not pay back the loans and left the village. Reasons villagers could not pay back the loans include miss-management of money, unproductive agricultural products due to long drought and wild pigs destroying the crop. (Informant A and B – see Appendix).

FAs offer an alternative to money lending by establishing collective savings and credit groups with peer support and monitoring. Villagers can approach the FA in their own village for loans with low interest (3 percent per month) and without having to offer collateral. FAs in 'Group A' also provide loans to non-members (3-4 percent per month) when there is money left after giving members their loans. Villagers said it is easier to borrow from the association, as generally, everyone is poor, and asking for loans from relatives or neighbors can be difficult. Borrowing from moneylenders is risky for villagers, as they could lose their land or house if they cannot pay back the loans on time (Informant 3). The FA is more flexible and people know and understand each other very well. The interest on the loans goes to their relatives, friends and neighbors who are members of the group. Figure 2 shows loan sources and Figure 3 shows a comparison with past credit services in the study villages.<sup>3</sup>

**Figure 2: Percentage of loan sources**



**Figure 3: Comparison with the Past Credit Services**



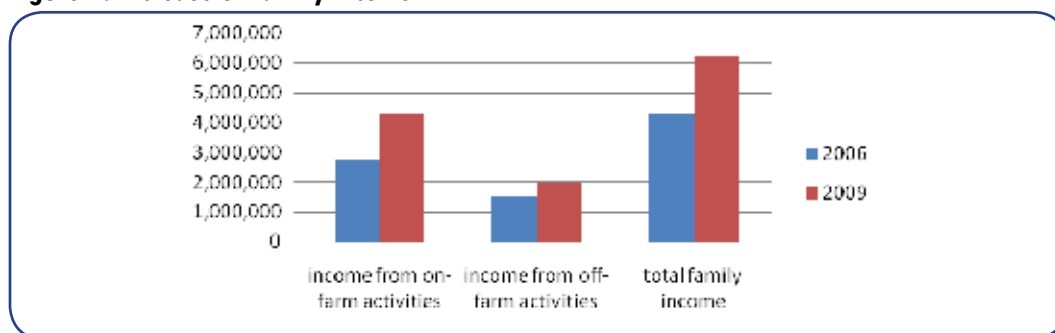
<sup>(3)</sup> It is important to acknowledge that the increase in credit services in the study villages is not due to the formation of FA savings groups, but also the emergence of Microfinance Institutions (MFIs) during the project intervention. These are discussed in the next section, on Associations.

Another example of the function of informal networks is the opportunity for information exchange. Households were asked who provided them with various types of information useful to their livelihoods in three separate phases: before, during and after the project intervention. Almost all of them responded that before the project intervention their information came from relatives, neighbors and people they met while conducting business in the market. Their responses highlighted the fact that information exchange was at a personal and informal level. Those who watched television did so mostly for entertainment, and educational programs were rarely broadcast on local stations. Interestingly, about 70 percent of households, both members and non-members of FAs, responded that they received useful information from CEDAC, particularly on agricultural techniques. Most villagers acknowledged that CEDAC brought useful information about agricultural skills to the villages and built leadership capacity for FA formation. Now villagers can visit and ask key farmers, farmer promoters and FA leaders about cultivating ecological rice (SRI techniques), raising livestock and making compost (Informant A and B). Some non-members responded that they learned new skills from FA members to improve agriculture output, grow vegetables and even address domestic violence (Informant A and B).

According to CEDAC, the capacity for generating income from on-farm activities in project areas increased about 55 percent, looking at the situation between 2006 and 2009<sup>4</sup>. The baseline study of ILFARM-TK in 2006 shows the annual income of on-farm activities was 2,750,000 riel/family/year, and in 2009 farmers could earn 4,258,000 riel/family/year (ibid). Figure 4 shows the increase of family income between 2006 and 2009.

Thus, strengthening informal networks, exchanging and sharing skills and knowledge (which strengthens social capital) has resulted increased rice production.

**Figure 4: Increase of family income**



<sup>(4)</sup> Farmers who apply at least four different techniques of SRI are considered SRI farmers. According to CEDAC, the average rice yield is 3.33 tonnes/hectare for farmers who applied SRI techniques, which is higher than the yield of 2.47 tonnes/hectare calculated in 2006, before the introduction of the new techniques. This means that the SRI farmers are now producing 860 kg more paddy per hectare. Farmers who have not applied SRI techniques have an average rice yield of 2.54 tonnes/hectare (CEDAC 2009).

## Associations

People create and join groups when they feel a sense of purpose and identity with them. The FAs and associations created alongside them as an expression of social capital represent efforts towards self-help, mutual help, solidarity and cooperation. Some types of these associations are described in this section.

A *rice bank* is an example of a village association. The bank allows villagers to save rice after harvest and borrow this later when their household stocks run out. The main purpose of establishing rice banks is to ensure food security for villagers and enable them to avoid exploitation at the hands of rice lenders, who charge very high rates of interest. Among the four study villages, rice banks exist in two villages and are managed by the village chiefs. Only a small number of villagers - 15 to 20 members in each village - are members of the banks. Villagers said rice banks suffered from repayment problems. Without proper management, it is extremely difficult for poor villagers, who do not grow enough rice to feed themselves, to repay rice loans even if the interest rate is lower than the market one.

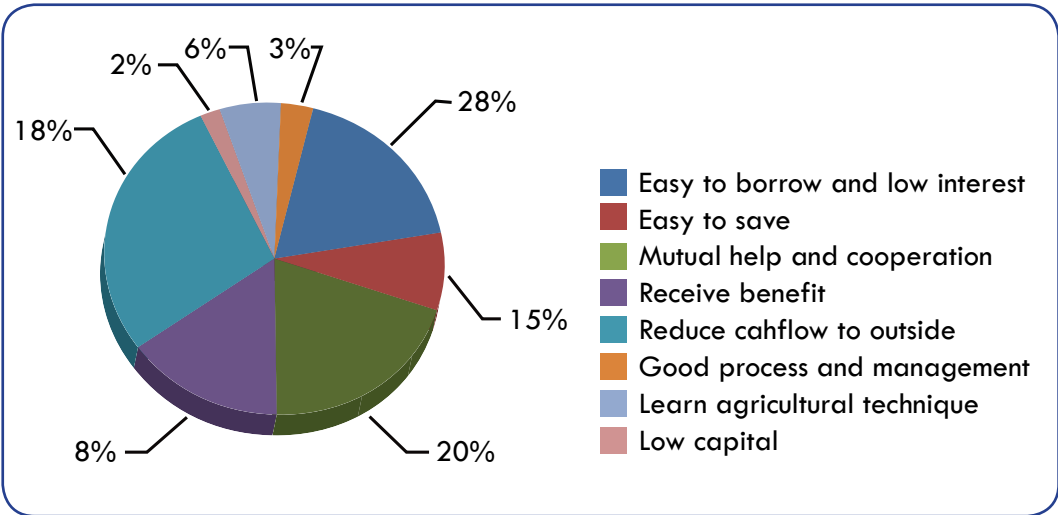
Beside rice banks, there are five microfinance institutions (MFIs) in the study villages that provide loans to villagers for various purposes. These include ACLEDA bank, GRET, AMRET, Prasac and AMK. People have borrowed money from these institutions for repairing/building houses, buying motorcycles or remorques (motorbike-trailer), opening small business and investing in agriculture. However, these organizations have unintentionally excluded the very poor, who said they did not have the courage to borrow because they may be unable to repay. Part of the difficulty arises from the fact that these loans are of a particular size and follow specific cycles of disbursement and repayment, unlike informal credit sources, which are flexible and cater to the wide-ranging specific needs of poor people. These programs appear to have benefited those with clear enterprises and the means to repay.

A village in 'Group B' reported defaults. At least 10 borrowers left the village without repaying their loans, and more than 30 households in the village have pledged their land or house to MFIs and other moneylenders (Informant 4). Most of them are worried that they will not find the money to repay the loans (ibid). Some villagers blame a fall in agriculture production in 2008, while others put the blame on village leaders for not educating people about the consequences of borrowing when MFIs started to operate in the villages (Informant A and B).

Recognizing these problems, villagers see the importance of FAs as a viable tool to help access low-interest loans with capital owned by the members themselves, and to prevent too much cash flowing away from the villagers to outsiders. Members can take care and share their concerns and information with one another, including trying to ensure that borrowers use the money in a worthwhile way. This activity has reinforced mutual help, understanding and a good relationship among members,

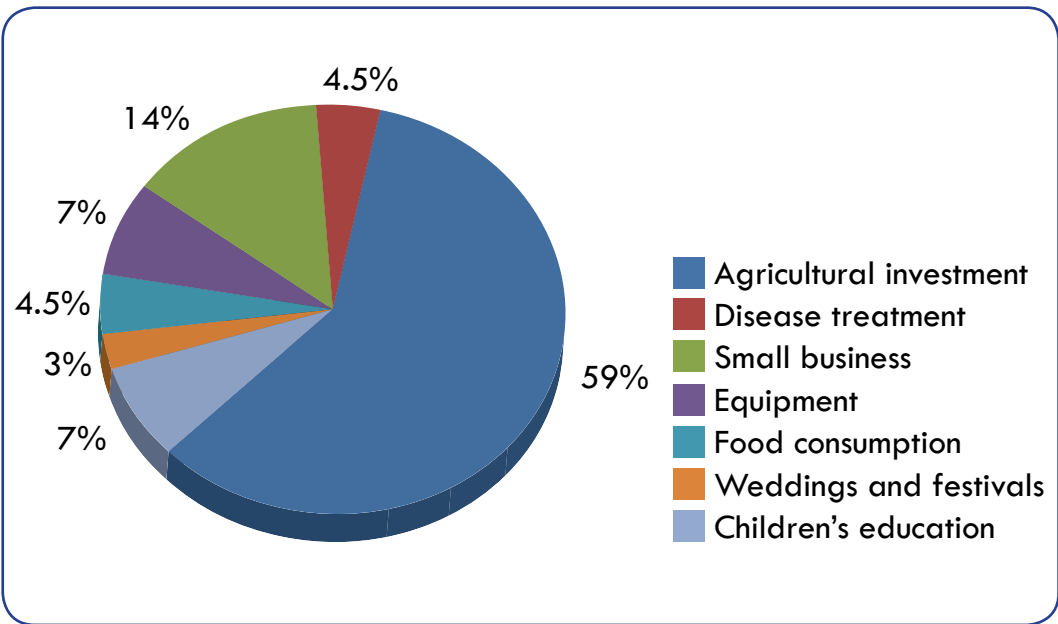
as well as non-members, and provides an opportunity to learn new skills from one another through activities done by the association. Figure 5 shows the impression of farmers on FAs' collective savings groups.

**Figure 5: Impression of farmers on collective savings groups**



Members of collective savings groups prefer to borrow money from their own group rather than MFIs, as they receive the loan sooner and do not incur transport costs (Informant 3). However, some farmers borrow money from the MFIs if they need a large amount for investment (Informant 3). Figure 6 shows the reasons for borrowing from collective savings groups.

**Figure 6: Purposes for borrowing from collective savings groups**



Agricultural investment expenses were the first priority among reasons for borrowing from the savings groups, while disease treatment, food consumption, weddings and festivals each accounted for less than 5 percent of the loans. Money from savings groups is mainly provided at 3 percent interest per month, the same interest rate charged by MFIs in the study villages. The capital of the collective savings groups, supported by the members in Group A, is enough to meet the demand of members and some non-members in the villages. However, the majority of villagers in Group B (poor performing FAs) prefer to borrow money from MFIs, as the capital in collective savings groups does not meet the demands of the members. It is not strong enough to reduce the amount of capital flow out of the villages through credit services provided by MFIs.

**Table 3: Savings and credit services in the study villages**

Group	FA	Capital in 2005	Capital in 2009	Members in 2005	Members in 2009	Interest rate per month
Group A	FA <sub>1</sub>	240,000	60,000,000	37	72	3% member 3.10% non-member
	FA <sub>2</sub>	950,000	40,000,000	57	67	3% member 4% non-member
Group B	FA <sub>3</sub>	3,000,000	500,000	61	25	3% member only
	FA <sub>4</sub>	420,000	800,000	24	8	3% member only

The key elements which contribute to the increase of members and capital savings of the stronger-performing FAs (FA1 and FA2) are associational leadership<sup>5</sup> and support from local authorities, particularly the village chief, who is the signatory of all lending and borrowing. Thus, strengthening the relationship between FA leaders and the local authorities/village chief, and/or identifying a clear role for the village chief to support the FA, could improve the performance of the FA.

## Village leadership

The nature and quality of leadership in the community determines the level and quality of development in the village. Village officials, traditional and informal leaders, are keys to the flow of information between the village and external institutions and organizations. Official leaders in the village include the village chief, deputy chief and other key government officials. Traditional leaders are usually people who are revered for their religious or spiritual position, such as achars, or for their age, experience and knowledge, such as village elders. Informal leaders, such as FA leaders, are individuals who are able to wield influence in village affairs as a result of their special skills, wealth or charisma. All leaders - official, traditional and informal -

are instrumental in determining how resources in the village are allocated and used. In the current Cambodian development context, village leaders appear to be the window through which the outside world views the community. Table 4 summarizes the key responsibilities of the village leaders in the four villages of the case study.

**Table 4: Roles and responsibilities of village leaders**

Village Leaders	Roles and Responsibilities
Official leaders (village chief, deputy chief and other key government officials in the village)	<ul style="list-style-type: none"> <li>- Coordinate development activities in the village</li> <li>- Bring in and disseminate information from commune/district office to villagers and present villagers' problems or concerns to commune/district office</li> <li>- Provide consultation and try to solve villagers' problems including conflict resolution, water shortages etc.</li> <li>- Organize community events (e.g: Khmer New Year, da lean, sangkahak, funerals)</li> </ul>
Informal leaders (FA management committee)	<ul style="list-style-type: none"> <li>- Promote agricultural techniques (e.g: SRI, livestock raising, home garden, fruit tree cultivation)</li> <li>- Mobilize village activities and link the village activities with outsiders (e.g: commune/district cluster FA and FNN)</li> <li>- Share and exchange information about village issues</li> <li>- Present in the field, knowledge of local needs and problems</li> </ul>
Traditional leaders (achars and elder people)	<ul style="list-style-type: none"> <li>- Organize traditional ceremonies (e.g: Khmer New Year, funerals, pchum ben, sangkahak, katheren)</li> <li>- Collect donations and contributions from villagers to build or repair village infrastructure, and to support poor villagers in hospital</li> </ul>

In the study villages, the roles of all village leaders are highly visible in social services and welfare. In general, activities related to the pagoda are controlled by the pagoda committee members, achars and other elder people. Activities linked to the government and NGOs are controlled largely by official and informal leaders. All leaders display an ability and willingness to work together, even though there may be rivalries and tensions that may not be visible to outsiders.

Village leaders often initiate and organize small projects in the village, with or without external assistance. In the study villages, they have organized and implemented activities like road repairs, building drains and a small culvert, starting a rice bank and establishing and managing farmer associations. Before the FAs were established, official leaders appeared to see themselves as the providers of these services, the managers and implementers, and ordinary villagers were viewed as their beneficiaries.

<sup>(5)</sup> Farmer leaders of both strong performing FAs are also the village chiefs. However, this study does not intend to advocate that the village chief should be selected as FA leader to ensure the success of savings and credit services of the FA. To draw this conclusion, additional study with a larger sample size of FAs would be necessary.



Official leaders took decisions on behalf of villagers without seeking ideas, advice and opinions first. Some of these decisions did reflect the general opinions of villagers but in other instances, they went against villagers' wishes. Village meetings that foster collective discussion and decision-making were quite rare before the project intervention (Informant 8). After the FAs were established, villagers felt more courageous and have been inspired to get involved in decision-making, planning and implementing development activities by participating in village and commune meetings. In Community Events sessions, the establishment of FAs has empowered women to play a more important role in the community development activities. In fact, the majority of FA members and some FA leaders in Tram Kak district are women.

FA leaders, who are usually drawn from among village leaders, both official and informal, are the driving force behind the success of the association. Weak leadership on the other hand, can cause the failure and decline of membership and activities of the FA. According to villagers, the decline of membership and savings capital in 'Group B' is mainly due to the weakness of their leadership in organizing and managing the activities of the FAs (Informant B). Proper selection of each FA management committee willing to take responsibility for the association is critical for the success, prosperity and sustainability of the association. Having people in the village who are willing to lead and support the FA mechanism influences the success of an FA.

## Links with external agencies

Villagers depend on the outside world for information and resources. This outside world could be the government, NGOs or the business community. How much development takes place in the village is closely related to how well it is linked to the outside world. The quality of development depends on the nature of these links. Links can be forged by external agencies or through the initiative of the villagers themselves. These links with the outside world represent for the community, a vertical form of social capital. As well as being a form of social capital by allowing resources to flow in, links with external agencies can play a vital role in building social capital within villages.

In the study villages there appears to have been strong, consistent links for a very long time between the villages and governmental institutions including the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Department of Agricultural Extension (DAE), the Provincial Department of Agriculture (PDA-Takeo), the Office of Agriculture Extension (OAE) in Tram Kak district and other local authorities. These institutions, usually with financial support from donors or local NGOs, have provided agriculture training and extension support sporadically since the early 1990s. They have also helped repair and construct small roads and irrigation canals in the villages.

Beside the links with government institutions, the study villages have direct and indirect relationships with NGOs and businesses. These relationships have brought various development intervention activities to villages. The following is a list of entities with whom villages have links and a brief account of what these links bring to the villages.

CEDAC, with financial support from JICA, implemented the ILFARM-TK project, 2004-2009. The project aimed to promote ecological agricultural techniques through farmer-to-farmer extension and building farmer associations. The long-term goal of the project was to secure the sustainable livelihoods of small landholders. The project implemented the following approaches: (1) provide technological support to farmers (technical innovation in ecological agriculture); (2) provide institutional support to FAs; (3) provide marketing support to FAs by linking them with consumer networks in Phnom Penh and other urban areas; (4) improve access to cheap credit, especially through group-owned savings; and (5) initiate local networks for development, by improving strong cooperation between local authorities, particularly the Commune Council, pagoda committee, FA committee and other stakeholders.

Establishing FAs under the ILFARM-TK project was a long process. The project initially helped farmers develop their agricultural skills through district introduction workshops and village general meetings, without informing them about the establishment of the associations. The introduction of the new agricultural methods, especially the System of Rice Intensification (SRI) has been very successful (Informant 1, 2 and 3). Many farmers expressed their interest in cooperating with the project to improve their skills (Informant 3). Interested farmers were put in groups for further training and regular group consultation. After the training sessions<sup>6</sup>, which took about six months, association by-laws, rules and regulations were set up, volunteer committee members were selected and approval was sought from local authorities (the Commune Council). The FAs at the village level were formed to cluster FAs at the commune level, which eventually became the district farmer federation.

By June 2009 the project had helped establish 161 FAs, 42 of which are regarded as performing strongly, 52 as having average performance and 67 as having poor performance (Nou and So 2009). Not all FAs have registered with MAFF and the PDA-Takeo, as CEDAC's approach to FA formation differs from the requirements of the Royal Decree of Agriculture Cooperative. In addition, the number of FAs CEDAC requested be formally registered was cited to be over capacity in terms of the financial and human resources of MAFF and PDA-Takeo. All established FA/clusters are officially registered only at the commune level, but have not been officially recognized by the MAFF, PDA-Takeo or OAE-Tram Kak district.

CEDAC's activities in establishing FAs are viewed by the local technical department to be heterogeneous and rapid. There is concern about gaps in the quality of training and the ability of FA committees/leaders to learn. FA leaders have had many opportunities to attend trainings and workshops organized specifically for strengthening FA leadership and management skills. However, only about 26 percent of the established FAs are well-functioning, while 32 percent are in the process of learning and 42 percent are performing poorly.

This may be due to a large number of FAs' and Community Facilitators' (on average 40 FAs per CEDAC Community Facilitator) capacity to provide follow-up coaching and properly monitor the knowledge and skills that have been introduced to FA leaders in their target area. The issue for FA capacity building is often over-reporting the achievements of CEDAC and FAs, and not properly monitoring and identifying, for better support and coordination, the capacity gaps of both the project staff and FAs (Nou and So 2009). Key challenges that have not been addressed are the lack of cooperation and recognition by the technical departments (DAE-MAFF, PDA-Takeo and OAE-Tram Kak district), whose roles are to provide daily services to farmers and FAs. This lack of support is a concern for all stakeholders, regarding the prosperity and sustainability of FAs.

As well as the development intervention by the ILFARM-TK project, CEDAC, in partnership with Pact Cambodia, implemented a project called "Local Administration and Reform Program" (LAAR) from 2005 to 2010. It aimed to increase Commune Council and citizen engagement in the decentralization and deconcentration (D&D) reform process in Cambodia. LAAR also worked to promote collective action to address local development issues, by strengthening cooperation and interactions between commune councils and FAs established by the ILFARM-TK project. From 2007 to 2009, PDA implemented the Agriculture Sector Development Program (ASDP) in the study villages, with financial support from the Asian Development Bank (ADB). The program aimed to provide farmers with support services to increase agricultural productivity and promote diversification, including extension services for farmer groups and support services for private agro-based enterprises. It also promoted institutional strengthening to facilitate agricultural commercialization. The project benefited from the FAs established by the ILFARM-TK project, with FA mechanisms being used to implement it in the villages. It must be acknowledged then, that the success of the ILFARM-TK project, as well as the strong performance of FAs, has contributed in one way or another to the above projects/programs. It can also be concluded that the more links the village has with external agencies, the better it will perform.

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<sup>(6)</sup> Training sessions cover not only agricultural technology, but group building and management.

## Conclusions and recommendation

The evidence derived from the case study suggests that CEDAC's FAs have brought positive changes to social relations and organizational capacity in Cambodia's rural communities. FA members and local authorities interviewed for the case study confirmed that the formation of FAs is an essential, viable and powerful tool to empower rural villagers and communities. It allows for better support between farmers and gives them the opportunity to organize and implement development activities by themselves.

It is important to acknowledge that existing functions, additional/other support by external agencies, familiarity with each other in the villages and the homogenous socio-economic status of villagers was a large part of the FAs' success.

There are still challenges ahead, particularly related to strengthening the administrative and business leadership skills of the FAs. This could be addressed by formalizing internal and external constructive interactions for broader networking that could lead to sustainable FA development. Based on the case study, these are the recommendations:

- The roles of FAs and FA clusters shall be reviewed by the MAFF to align with the "Royal Decree of Agriculture Cooperative" for possible collaboration in forming FAs and capacity building. Otherwise, the royal decree needs to be updated to provide more space for innovative FAs, such as those created by CEDAC, to be formally registered.
- Provision of adequate incentives, such as a percentage from savings and credit, to committee members who work on a volunteer basis, shall be considered. This is important as the volunteer basis usually worked well only at the beginning. After one or two years, without enough incentives, many FAs have been dissolved due to inactive association committee members.
- The interactions among successful and poorly performing FAs, including through exchange visits and FA cluster meetings at commune or district levels, shall be enhanced to promote mutual adoption and best practices.

It would be interesting to examine local dynamics between FAs and other CBOs within the context of 'local culture' and 'social capital'. Improving the dynamics among these grass-roots entities would scale up the impact of FAs internally and externally. As FAs are performing an increasing role in local development, it would be worth looking at their organizational capacity through a broader, more representative study. The value of efforts and functions made by existing stocks of social capital need to be further explored; how they can be integrated into external intervention design and reinforce the development of social capital.

## APPENDIX: LIST OF INTERVIEWEES

	Title	Organization	Date
Informant 1	Project Coordinator	ILFARM-TK, CEDAC	17.9.2009 12.6.2011
Informant 2	Project Officer	ILFARM-TK, CEDAC	7.9.2009 12.6.2011
Informant 3	Project Staff	ILFARM-TK, CEDAC	7.9.2009
<b>Village-group B</b>	<b>Identity</b>	<b>Location</b>	<b>Date</b>
Informant 4	FA Leader	Moeang Char village	8.9.2009 13.6.2011
Informant 5	Deputy Village Chief	Moeang Char village	8.9.2009 13.6.2011
Informant 6	FA Leader	Srae Kruo village	9.9.2009 13.6.2011
Informant 7	Village Chief	Srae Kruo village	9.9.2009
<b>Village-group A</b>	<b>Identity</b>	<b>Location</b>	<b>Date</b>
Informant 8	FA Leader	Angk Baksei village	8.9.2009 14.6.2011
Informant 9	Deputy Village Chief	Angk Baksei village	8.9.2009
Informant 10	FA Leader and Village Chief	Tuol Tbaeng village	9.9.2009 14.6.2011
Informant 11	Deputy FA Leader and Deputy Village Chief	Tuol Tbaeng village	9.9.2009 14.6.2011
<b>Cluster FA</b>	<b>Identity</b>	<b>Location</b>	<b>Date</b>
Informant 12	Commune Cluster FA Leader	Cheng Tong commune	10.9.2009
<b>Group meeting</b>	<b>Group members</b>	<b>Location</b>	<b>Date</b>
Informant 13	Commune Chief	Cheng Tong commune office	10.9.2009 15.6.2011
	First Deputy Commune Chief		
	Second Deputy Commune Chief		
Informant 14	Director of Provincial Department of Agriculture	Takeo province	12.5.2011
Informant 15	Chief of District Agriculture Office	Tram Kak district	12.5.2011
Informant 16	Department of Agriculture Extension	MAFF	12.5.2011
<b>Household survey</b>	<b>Identity</b>	<b>Location</b>	<b>Date</b>
Informant A	Group A: 35 FA members; 14 non-FA members (Total: 49 households)	Angk Baksei village and Tuol Tbaeng village	8-10.9.2009
Informant B	Group B: 24 FA members; 21 non-FA members (Total: 45 households)	Moeang Char village and Srae Kruo village	7-9.9.2009

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# GLOSSARY OF TERMS

**Social capital** refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together (The World Bank 1999).

**Social capital** refers to the information, trust, and norms of reciprocity inhering in one's social networks (Woolcock 1998).

**Bonding social capital** includes networks and ties among social groups within a specific local organization based on interest. It binds individuals together and directs them toward the pursuit of collective group needs and aspirations (Granovetter 1973).

**Bridging social capital** refers to connections between heterogeneous groups. These links are usually more fragile than the ones within a specific community, but they have greater potential to foster social inclusion (Granovetter 1973).

**Linking social capital** refers to the external relationships between people and institutions in positions of authority, such as government agencies, donor organizations, NGOs, the private sector, media groups and academia (Ben and Onyx 2005; Woolcock 2002; Warren, Thompson et al. 2001; Woolcock and Narayan 2000; Onyx and Bullen 2000).

**Trust** is the extent to which people can believe in each other and, in turn, in the possibilities of the social networks they belong to (Fukuyama 1995; Herrero 2004).

**Connectedness** is about engagement in collective actions. The sense of connectedness serves to bring different groups together and link them around specific activities or objectives. Connectedness within, between and beyond community is likely quality required to build and sustain bridging and linking types of social capital (Ben and Onyx 2005; Dale and Onyx 2005; Grootaert et al. 2004; Pretty and Ward 2001)

**Social inclusion** is a specific form of connectedness and is defined as connections to government agencies and institutions, in being part of, or at least aware of, their activities (Murphy and Murphy 2004; Pretty and Ward 2001; Grootaert 1998).

**Reciprocity** refers to the notion of diffusing and exchanging available resources, such as goods, ideas, manpower and knowledge. There are two types of reciprocity that can be defined: 1) specific reciprocity refers to simultaneous exchanges of items of roughly equal value; 2) diffusing reciprocity refers to a continuing relationship of exchange that is repaid and balanced over time (Pretty and Ward 2001).

**Legitimacy and voice** refers to participation of men and women in decision making and express their opinions and mediate differences. It is about the interaction between various actors including villagers, committees and government officials.

**Direction** is about leaders and the public who have a broad and long-term view on good governance and human development.

**Accountability** is when decision makers in government, private sector and civil society organizations recognize their responsibility towards the general public and social good. An element of accountability is the transparency which refers to the free flow of information, ability to monitor rate of change in resources use and clearly define boundary of resources.

**Fairness** is that all men and women have opportunities to improve or maintain their well-being. In addition, legal framework should be fair and enforced impartially against violators.





The Learning Institute works to alleviate poverty and to enhance the well-being of people living in rural areas. Its mission is to be a centre of learning, working creatively with others to generate and share knowledge and practices that contribute to sustainable and fair use of natural resources through action research, facilitating collaborative arrangements, information sharing and capacity development at local, sub-national and national levels. Moreover, the Learning Institute focuses on three inter-related thematic areas: 1) Livelihoods, equity and food security; 2) Community based adaptive management and climate change; and 3) Local planning processes, decentralization and governance.

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