

Picking Winners or Making Them? Evaluating the Social Capital Impact of Community Driven Development (CDD) in Thailand

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This paper evaluates how a community driven development project in Thailand impacts social capital by using quantitative and qualitative analytic techniques. Propensity score matching and semi-structured interviews are some of the techniques that are used to investigate whether treatment villages differ significantly in their social capital characteristics from matched comparison villages. The results show that villages with more trust and stronger norms of collective action were more likely to participate, which may suggest that the project acted as a mechanism to select these social capital characteristics. Moreover it appears like the project enhanced other social capital characteristics, such as information sharing, leadership, and empowerment. The presentation is accessible to readers with an intermediate level of statistics. A prior exposure to propensity score matching is helpful but not strictly necessary.

1. Introduction

In the literature social capital has received great attention both in terms of defining and measuring it as a vital development asset. Defined by the World Bank as “the norms and networks that enable collective action”, social capital refers to a class of assets that are inherent in social relationships.

The large amount of literature about social capital shows that, while the concept is multidimensional and its characteristics vary by context, social capital seems to a valuable development asset. This paper investigates whether and how certain World Bank operations enhance social capital.

The World Bank’s community-driven development (CDD) operations seek to support local social capital. As an example of CDD, the Thailand social investment fund (SIF) has made strengthening village social capital one of its prime objectives. The objectives of the SIF were to promote financial and administration decentralization, build local capacity and social capital for long-term development.

Assessing the impact of the SIF, this study strengthens our understanding of social capital in Thailand and presents evidence about how CDD approaches can

enhance it. The study applies an innovative and pragmatic evaluation technique to collect and analyze evidence about social capital characteristics in treatment villages that participated in the SIF and matched comparison villages that did not participate. From that evidence it concludes that the SIF acted both as a mechanism to select villages with pre-existing cooperative norms, and as an effective instrument to enhance leadership, networks, and villagers' capability to exercise voice to formal authorities.

CDD operations provide opportunities for communities to apply and compete for re-resources including a demand driven process. Dimensions of social capital, such as willingness to self-sacrifice or links to formal local authorities may increase the chance that a village will prepare a successful CDD financing proposal and thus become a participating or treatment village. This study investigates whether and how CDD operations enhance social capital. It seeks to identify whether observed social capital differences between treatment and comparison villages result from selection effects, so that villages that participate in the CDD operation already had different social capital characteristics, or result from impact effects, wherein the activities of the CDD operation directly enhance the social capital characteristics of participating villages.

These selection and impact effects are common elements of any effort to understand and assess program results. This study lacks baseline data, which is a common problem for ex-post evaluations, but attempts to circumvent this problem by presenting a creative and practical approach to evaluation. The evaluation developed social capital indicators based on inputs from several sources, including recommendations from the research Steering Committee, staff involved in the Thailand Social Investment Fund, and an extensive literature review.

To maintain the independence of the research effort, the World Bank convened a Steering Committee for the research with representatives from the National Economic and Social Development Board, National Statistics Office, Ministry of Labor, Ministry of Interior – Community Development Department, and Mahidol University. While the study identifies social capital indicators appropriate for Thailand it combines quantitative and qualitative measurement, using propensity score matching and transforming extensive ex-post qualitative community data into quantitative scores.

The paper is organized as follows. Section 2 presents the literature and recent results. Section 3 describes the SIF.

Section 4 presents the data and the methodology. Section 5 describes the results and section 6 concludes.

2. Literature review

Community driven development (CDD) represents an approach the World Bank takes toward its operations. Many operations that adopt a CDD approach have the objective of building social capital. Further, CDD approaches explicitly rely on existing community social capital. They generally involve competition for projects among village groups that likely favors villages able to put together better proposals. Given this approach there are selection and impact effects. Through a selection effect, CDD approaches may act as mechanisms that identify and reward communities better endowed with social capital. Second, through the impact effect, participation in CDD procedures can directly enhance social capital, because they help communities identify and develop ways to collaborate more effectively.

In response to the increasing prevalence of CDD projects, there has been an increasing interest in evaluating their impact (see Mansuri and Rao, 2004). The World Bank's multi-country analysis of early-generation social funds resulted in several studies that looked at the effectiveness of Social Investment Fund projects in Honduras (Walker et al. 1999), Zambia (Chase and Sherburne-Benz 2001), Bolivia (Newman et al. 2002), Armenia (Chase 2002), Peru (Paxson and Shady 2002), and Nicaragua (Pradhan and Rawlings 2002).

Social capital is a concept with broad intuitive and operational features, which seems central to the success or failure of development efforts and therefore represents an important asset for practitioners to understand and enhance. Thai scholars have long realized the distinguishing characteristics of Thai rural villages and considered them to be positive social assets. The Thai 'community culture' school of thought produced significant research, articles, books, and other literary works since the early 1980s (for example, Chatthip, 1984; Apichart, 1983; Boonthien, 1984). This literature argues that the ideologies, social relationship systems, and values of rural village communities were different from those emerging as Thailand adopted more industrialized norms. Napaporn (2003) suggests that the strength of rural communities lies in their knowledge, social, and spiritual capital. Social capital gained its strength from kinship ties and social networks within and across communities. In addition, Maniemai (2003) proposes that various mechanisms have maintained traditional networks within and across villages. Culturally, religious practices help maintain connections between people. Ceremonies, festivities and even life-course rituals rely on material and

human resources from within and across villages. Economically, the exchange system - a form of survival strategy of rural people in the informal economy - maintains linkages among villages depending on who has or lacks resources. In the past, migration for better land enlarged people's connections; today migration for work expands their networks to urban areas. Anan (1998) has suggested that social capital in Thai society was governed by the principles of reciprocity and communality. Labor exchange in farming as well as labor contributions in village public works are examples of reciprocity based on equality.

To redress the lack of evidence on how CDD affects social capital, this paper tailors social capital indicators to the Thai context, and using an innovative quantitative and qualitative methodology, considers two hypotheses about CDD operations; first, CDD operations self-select villages with specific social capital characteristics; and second, CDD operations impact or build village social capital.

3. Thai Social Investment Fund

In 1998 the Thai Government established the Social Investment Fund as a US\$130 million component of a World Bank loan designed to provide relief from the Asian financial crisis. The SIF provided resources for local and community grassroots organizations to implement their development projects. The long-term objective of the Social Investment Fund was to enhance community-learning capacity for sustainable development through community empowerment. The purposes of the Social Investment Fund include the following (see Project Appraisal Report 1998):

1. Revive grassroots society through the use of decentralized procedures so that communities and localities can participate in development activities;
2. Enhance community organization and local administration capabilities in administration and management for long-term self-reliance;
3. Promote the emergence of self-sufficient economic systems and strong community economies; and
4. Stimulate widespread participatory social development by supporting the development of civic societies and good governance in the long run.

To receive grants, communities had to follow sub-project procedures for proposals, management, and monitoring. In addition to tangible assets that resulted from community development projects, the process of participating in the SIF was intended to help communities learn by doing, initiating a process of

building institutional capacity and social capital that, it was expected, would strengthen the community in the long run.

As presented in Table 1, from September 1998 to August 2002, SIF provided funding support in 5 categories in the amount of 4,402 million baht to projects in 76 of Thailand's provinces. Identified through an outreach campaign, all villages were given information about the SIF and the menu of options. With support and guidance from SIF staff, village organizations then prepared proposals for funding through one of these menus. The SIF central administration reviewed these proposals and decided which to fund. Villages then implemented the sub-projects themselves, with different types of support from SIF. The SIF supported 7,874 subprojects and reached about 10 % of villages throughout the country, bringing benefits to 13 million individuals. The SIF met its regional targeting objectives, with the poorest region, the Northeast, receiving the largest proportion of resources at 47% (see Project Appraisal Report 1998).

Table 1. Number of SIF projects and amount of SIF funding support

Menu	Number of Projects	Amount of Funding Support (million baht)
1: Community economy and community occupation	3,184	778
2: Community welfare and safety	1,207	354
3: Natural resource management and cultural preservation	790	194
4: Community capacity building and networking	2,236	1,060
5: Community welfare for the needy	457	2,016
Total	7,874	4,402

4. Data and methodology

This study combines quantitative and qualitative methods to evaluate the social capital impact of the Thai SIF project. Quantitative techniques were applied to match treatment and comparison villages and qualitative field research identified how and why villages that participated in the Thai SIF differed from those that did not. The methodology used existing household survey data (from 1998 and 2000) to match each sample village that participated in the SIF to six potential comparison villages within the same province. Additional data helped to identify the most accurately matched comparison villages; field teams used physical, social, and economic indicators to determine the appropriate pair for each treatment. Furthermore, qualitative field researchers

consulted with the local authorities and collected additional data about these potential comparison villages. Through extensive ex-post qualitative data collection, each village was scored on a one to five scale for each social capital indicator. To establish statistically significant differences between treatment and comparison villages, the team analyzed these scores, considering differences in means and regressions on each social capital indicator. Finding several significant differences, field researchers were asked to provide context for those quantitative findings, judging whether the observed differences were due to the SIF selecting villages well endowed with social capital characteristics or whether it was due to the impact of the SIF. As a result, this research allows nuanced conclusions about how a CDD operation selected villages on the basis of some social capital characteristics and how it impacted social capital characteristics. These conclusions are likely to be useful for future operations that utilize and enhance social capital as a development asset.

4.1. Propensity score matching

The first quantitative step of this mixed method evaluation was to match treatment and comparison villages by propensity scores. The study used the Thailand socio-economic household surveys (SES) from 1998 and 2000, i.e., before the CDD operation began. The SES includes indicators such as household income, changes in assets, debts, consumption, education, occupation, expenditures, and household characteristics in municipal and non-municipal areas. For the selected years (1998 and 2000) these surveys sampled 2,112 villages, of which 201 later participated in the SIF. Though it is not technically difficult (it entails finding the overlap between a list of survey enumeration areas and a list of villages that participated in a CDD operation), this step of identifying SIF villages in existing household surveys is crucial. To get a large sample of CDD communities for which there is household data, both the CDD operation and the survey sample need to have covered many villages. If either the household survey sample or CDD village coverage is small, the number of communities for which household data is available gets unfeasibly limited. The unit of analysis was the village and therefore these household level data were aggregated into village level data.

The propensity function summarizes the relative importance of chosen indicators in determining whether or not a village participated in the SIF (see Appendix Table 1 which reports the results of a probit regression of SIF participation). To identify comparison villages, the team matched each of the 201 SIF villages with the six

non-SIF villages in the same province that had the closest propensity scores. If provinces are not taken into account, the propensity scores become much more similar. However, because provincial characteristics are likely to be important for social capital controls and field logistics, the team chose to restrict comparison villages to be in the same province as their treatment village. Figure 1 and 2 shows the kernel densities of the propensity scores for SIF and matched non-SIF villages. The quality of the matching is acceptable as the densities for the propensity scores for SIF villages and their six nearest propensity score comparators within provinces are estimated with replacement and common support is taken into account. We note that matching can reduce the level of bias generated by unobserved heterogeneity but surely not eliminate it. The selected technique is based on the quality of the data and in this case the SES data provide a plausible conditional independence assumption to make propensity score matching the preferable estimator (recall that matching methods build on the assumption that differences between treated and non-treated observations are captured by observed characteristics, which is the conditional independence assumption).

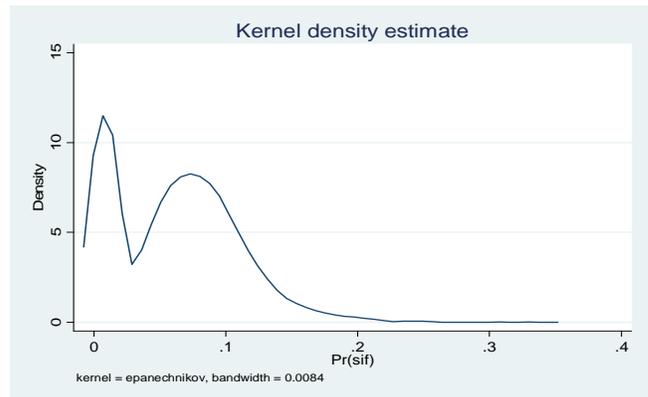


Figure 1. Matched non-SIF villages (6 nearest neighbors within provinces)

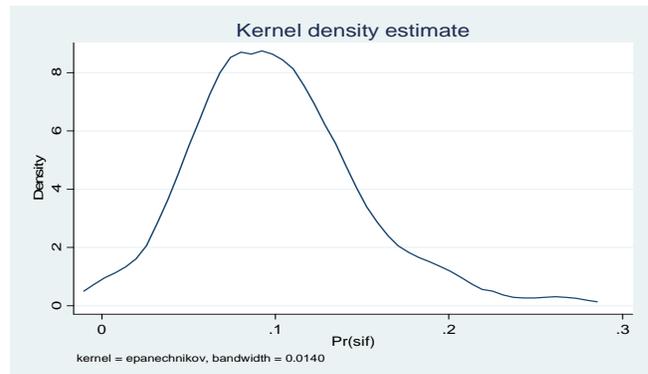


Figure 2. SIF villages

4.2. Sample selection and field matching

A qualitative interview team investigated the social capital characteristics of matched treatment and comparison villages. Thailand has a strong academic tradition of conducting qualitative field research using multidisciplinary teams. The principal investigators responsible for the field work are leading Thai researchers on village social characteristics. Much of the field work was conducted using a team from the University of Khon Kaen, which Professor Robert Chambers noted “did most to establish [participatory rural appraisal’s] credibility, emphasizing the management of multidisciplinary teams and the techniques and value of semi-structured interviewing (PRA Note 24, IDS, Sussex). When assembling the field researchers, the principal investigators were themselves part of this tradition and were able to involve well-trained and credible field researchers. In the Thai SIF case, the field research teams identified a sample of 72 SIF treatment villages (The field team sampled 72 treatment villages from the 201 identified because of budget and logistics constraints; due to security concerns, they excluded villages in three Southern provinces affected by conflict).

As the propensity score matching analysis generated six possible comparison villages for each treatment village, additional data were used to determine the appropriate pair for each treatment village. The data used for this second stage matching included indicators on: urbanization, distance to the nearest town, access to infrastructure, type of terrain, ethnicity, religion, longevity of settlement, population, out-migration level, and land ownership structure. This additional information came from the National Statistical Office and the National Committee on Rural Development. Further, to verify the appropriateness of the matched comparison village, field teams met with officials of the community development, agricultural extension, irrigation, land reform, credit, and local development offices, as well as with local Non Governmental Organizations (NGOs).

To summarize, researchers identified 72 comparison villages matched to the 72 treatment villages; see Table 2 for a summary of the sample selection by region and sub-region. Despite overall comparability, there were a few significantly different indicators between treatment and comparison villages, namely the prevalence of a human-made irrigation system, pre-school nursery, people completing secondary education, and the number of village experts in development. Some of these differences in for example the prevalence of irrigation systems and pre-school nurseries may suggest variation in the level of

pre-existing social capital characteristics between treatment and comparison communities. Accordingly, we will discuss this issue below when we consider attributing social capital differences to the CDD operation’s selection, as opposed to impact, effect.

Table 2. Sample selection for SIF Villages by Sub-regions

Region	Sub-region	SIF Villages in SES data	Sample of SIF villages
Northeast	North	39	18
	Central	20	9
	South	29	12
	Sub-Total	88	39
Central	Central	28	12
	East	7	3
	West	4	2
	Sub-Total	39	17
North	Upper North	17	7
	Lower North	8	4
	Sub-Total	25	11
South	South	12	5
Total		164	72

4.3. Qualitative field data collection

Qualitative data are normally associated with case studies or rapid appraisals that involve small sample sizes. This research project faced a major challenge, namely to develop a data collection methodology and analytical framework that would enable the analysis of a large volume of qualitative data to produce credible and representative findings, without losing its richness and con-textual nature.

The field data team developed data collection instruments that captured many of the social capital dimensions appropriate to Thailand. These specific indicators fall into categories with more universal applicability: solidarity and trust, groups and organizations, networks and linkages, cooperation and collective action, information sharing and communication, social cohesion, and empowerment. The instrument included a Semi-Structured Interview Guide, which poses discussion questions organized according to the social capital dimensions described above, adapted to the Thai context, and inspired by the Integrated Questionnaire for the Measurement of Social Capital established by the World Bank. An interviewer’s Rating Form, scoring each village on a one to five scale on each social capital indicator, was also used.

Efforts at minimizing errors that could enter due to a researcher’s subjective scoring were made by combining field researchers with differing perspectives, extensive piloting, and training, by using anchoring vignettes (these short examples included in the semi-structured interviews

would frame discussion, facilitating comparisons across villages and research teams), and by asking villagers to validate social capital scores. Where there were differences, the team would discuss them and reach consensus on a rating. Analysis by Pritchett et al. (1995) suggests this is an effective way to reduce subjective errors. If necessary, additional interviews were conducted to verify results. Finally, these results were recorded on a ratings form, where field teams could record discrepancies and explain the rationale for final consolidated ratings.

Using all these validation techniques, teams visited 144 sampled villages, spending on average three days in each village. They conducted interviews with key informants, including village leaders and regular citizens. They interviewed 3 to 5 leaders per village, including both formal and informal leaders (in the SIF villages this could include people who had a central role in the SIF project), and 9 to 12 regular citizens, seeking to choose key informants representing major groups, and representative of the full spectrum of economic status, gender, age, socio-cultural group, housing location, and beneficiary status with respect to development projects.

As a final point the research teams were brought together to consider the quantitative analysis showing which variables differed between SIF and comparison villages. They discussed which of these differences were likely due to characteristics that existed before SIF started and which resulted from direct SIF impact. This step in the analysis was crucial because it helped to attribute differences to selection or impact and gave a better sense of the practical implications of SIF operations. Moreover, this step also illustrated how to benefit from combining qualitative and quantitative measurement, which is encouraged in many recent references on impact evaluation.

4.4. Ex-Post quantitative analysis

The rankings scores themselves provide a detailed summary of social capital indicators for each village, and lend themselves to quantitative analysis to understand patterns in those indicators. Combining the SES data with the Social Capital data, this study analyses the links between socio-economic characteristics, participation in SIF, and social capital variables.

There are three parts to the quantitative analysis of village-level data. First, the team identified significant differences between treatment and comparison villages on each social capital variable. Second, it used regressions to find determinants of different social capital variables, using both SES variables from before SIF started, and participation in SIF, as potential explanations for social

capital outcomes. Finally, field teams identified whether a SIF selection or impact effect explained observed social capital differences.

In the next section we present our results on differences between SIF and non-SIF villages, from several angles.

5. Results

5.1. Differences between SIF and non-SIF comparison villages

To assess whether and how a CDD operation might have impacted social capital, mean scores for treatment villages are compared with those of comparison villages. Table 3 present differences in mean social capital scores in treatment vs. comparison villages.

Villages that participated in SIF projects scored higher than matched comparison villages on several social capital dimensions. A number of social capital stock variables were higher where the SIF was active. Under the rubric of solidarity and trust, treatment villages showed a greater sense of self-sacrifice for the common benefit and trust among close neighbors. Their groups and organizations demonstrated greater diversity of leadership and were better able to learn and adapt to new opportunities. The largest distinction was in networks and linkages: a summary indicator of several network and linkage variables was significantly higher in SIF villages than in comparison villages. Likewise, aggregated indicators of both horizontal and vertical linkages were higher where there was a CDD operation. Horizontal networks of organizations served multiple purposes and generated multiple benefits to network members and surrounding communities. Similarly, SIF villages had a broader, more diverse set of vertical linkages that were more easily accessible to village members, served multiple purposes, and generated more diverse benefits.

The SIF treatment villages also scored significantly higher on channels through which social capital was transmitted. Specifically, SIF villages showed a greater diversity of types of cooperation than comparison villages. In treatment villages, government officials were ranked as more accountable, responding to villagers' voices to a greater degree.

The SIF treatment villages differed concerning social cohesion outcomes. Treatment villages were ranked significantly lower than matched comparison villages on tolerance for differences. Where SIF had operated, village members showed less tolerance for community members different than the majority in the village.

Table 3. Sample selection for SIF Villages by Sub-regions

Social capital indicators	Mean			t
	SIF Villages	Non-SIF Villages	Paired differences	
1. Solidarity and Trust	3.786	3.759	0.027	0.4
1.1 Solidarity	3.813	3.771	0.042	0.5
1.1.1 Collective Actions when Community Members have Problems	3.764	3.806	-0.042	-0.4
1.1.2 Voluntary Cooperation for Common Benefits	3.972	3.931	0.042	0.4
1.1.3 Self Sacrifice for Common Benefits	3.764*	3.556	0.208	2.0
1.1.4 Overall Community Solidarity	3.750	3.792	-0.042	-0.4
1.2 Trust	3.759	3.747	0.013	0.2
1.2.1 Trust within Kin Group	4.167	4.083	0.083	1.1
1.2.2 Trust among Close Neighbor	3.847*	3.708	0.139	1.7
1.2.3 Trust in Community Leaders	3.639	3.806	-0.167	-1.3
1.2.4 Trust in Community Groups and Organizations	3.380	3.389	-0.009	-0.1
2. Group and Organization	3.530	3.450	0.080	0.9
2.1 Strength of Membership	3.507	3.340	0.167	1.6
2.1.1 Inclusion of Diversified Groups	3.500	3.347	0.153	1.4
2.1.2 Voluntary Contribution of Members	3.514	3.333	0.181	1.6
2.2 Strength of Leadership	3.635	3.604	0.031	0.3
2.2.1 Availability	3.583	3.444	0.139	1.3
2.2.2 Diversified Capability	3.542**	3.296	0.246	2.1
2.2.3 Honesty	3.625	3.778	-0.153	-1.6
2.2.4 Voluntarism and Sacrifice	3.792	3.889	-0.097	-0.8
2.3 Level of Participation	3.306	3.338	-0.032	-0.3
2.3.1 Decision Making Process	3.292	3.333	-0.042	-0.3
2.3.2 Consultation and Debate	3.333	3.375	-0.042	-0.3
2.3.3 Inclusiveness of Diversified Groups	3.292	3.306	-0.014	-0.1
2.4 Organizational Capacity	3.558	3.419	0.139	1.4
2.4.1 Effectiveness	3.653	3.472	0.181	1.5
2.4.2 Adaptability	3.472	3.375	0.097	0.9
2.4.3 Learning Ability	3.667**	3.347	0.319	2.7
2.4.4 Sustainability	3.514	3.347	0.167	1.4
2.4.5 Transparency	3.486	3.556	-0.069	-0.6
2.5 Level of Benefits	3.646	3.549	0.097	1.0
2.5.1 Responsive to Needs	3.577	3.514	0.064	0.8
2.5.2 Benefit Sharing	3.708	3.583	0.125	1.1
3. Network and Linkages	3.505**	3.362	0.142	2.2
3.1 Strength of Horizontal Linkages of Individuals and Households	3.785	3.757	0.028	0.4
3.1.1 Breadth	3.708	3.736	-0.028	-0.3
3.1.2 Multi-dimensionality	3.861	3.764	0.097	1.2
3.1.3 Benefits	3.847	3.792	0.056	0.7
3.1.4 Accessibility	3.722	3.736	-0.014	-0.2
3.2 Strength of Horizontal Linkages of Groups and Community	3.510**	3.340	0.170	2.2
3.2.1 Breadth ^a	3.542	3.403	0.139	1.6
3.2.2 Multi-dimensionality ^b	3.500**	3.250	0.250	2.7
3.2.3 Benefits ^c	3.528*	3.375	0.153	1.7
3.2.4 Accessibility ^d	3.472	3.333	0.139	1.4
3.3 Strength of Vertical Linkages	3.219**	2.990	0.229	2.2
3.3.1 Breadth ^a	3.306**	3.028	0.278	2.3
3.3.2 Multi-dimensionality ^b	3.194*	2.972	0.222	2.0
3.3.3 Benefits ^c	3.250*	3.014	0.236	1.8
3.3.4 Accessibility ^d	3.141**	2.931	0.210	2.0
4. Cooperation and Collective Action	3.864	3.793	0.071	1.1
4.1 Size of People Involved	4.083	4.014	0.069	0.8
4.2 Degree of Cooperation	3.733	3.619	0.115	1.5
4.2.1 Scale of Cooperation	3.903	3.792	0.111	1.1
4.2.2 Diversity of Types of Cooperation	3.694**	3.444	0.250	2.8
4.2.3 Common-benefit Motivation	3.917	3.873	0.043	0.4
4.2.4 Level of Contribution	3.736	3.690	0.046	0.4
4.2.5 Outside Resource Tapped	3.417	3.319	0.097	0.9
4.3 Inclusiveness and Diversified Groups	3.817	3.681	0.136	1.2
4.4 Effectiveness	3.931	3.875	0.056	0.7
4.5 Equal Benefit Sharing	3.750	3.778	-0.028	-0.3
5. Information Sharing and Communication	3.546	3.500	0.046	0.7
5.1 Within Community	3.632	3.638	-0.006	-0.1
5.1.1 Between Leaders and Villagers	3.778	3.750	0.028	0.2
5.1.2 Among Villagers	3.903	3.958	-0.056	-0.7
5.1.3 Between Groups and Organizations	3.306	3.222	0.083	0.8
5.1.4 Equal Access Information	3.542	3.620	-0.078	0.6

5.2	With Outside Community	3.460	3.362	0.099	1.3
5.2.1	Villagers' Access to Production and Marketing Information	3.389	3.444	-0.056	-0.5
5.2.2	Villagers' Access to Development Information	3.403	3.264	0.139	1.3
5.2.3	Leaders' Access to Production and Marketing Information	3.639	3.592	0.047	0.6
5.2.4	Leaders' Access to Development Information	3.792	3.639	0.153	1.5
5.2.5	Voicing of Problems and Needs to Government Agencies	3.347	3.208	0.139	1.2
5.2.6	Villagers' Voices Responded by Government Agencies	3.111*	2.903	0.208	1.9
5.2.7	Adequacy and Timeliness of Information Received	3.542	3.486	0.056	0.6
6.	Social Cohesion	3.924	3.957	-0.033	-0.7
6.1	Tolerance of Differences	3.875**	4.028	-0.153	-1.8
6.2	Social Inclusion and Marginalized Groups	3.903	3.903	0.000	0.0
6.3	Conflict Management Ability	3.576	3.688	-0.111	-1.1
6.3.1	Personal Conflicts	3.639	3.764	-0.125	-1.2
6.3.2	Communal or Public Conflicts	3.557	3.611	-0.054	-0.4
6.4	Sociability	4.319	4.306	0.014	0.2
6.5	Sense of Safety and stability	3.944	3.861	0.083	1.0
6.6	Hope for Better Future of the Community	3.931	3.917	0.014	0.2
7.	Empowerment	3.426**	3.280	0.146	2.1
7.1	Capacity Building	3.306	3.167	0.139	1.4
7.1.1	Planning	3.236	3.141	0.095	1.3
7.1.2	Monitoring and Evaluation	3.167	2.986	0.181	0.8
7.1.3	Strength of Multi-party Mechanism	3.243*	3.072	0.170	1.8
7.2	Ability to Influence and Control Government	3.264	3.097	0.167	1.7
7.2.1	To be More Responsive to People's Need	3.222	3.042	0.180	1.5
7.2.2	To be More Accountable to People	3.563	3.361	0.202	1.6
7.3	Ability to Sustain Development	3.569**	3.361	0.208	2.1
7.4	Political Participation and Action	3.565	3.495	0.069	1.2
7.4.1	Participation in Local and Nation Election	3.183	3.239	-0.056	1.0
7.4.2	Join or Support Political Parties	3.282	3.127	0.155	-0.8
7.4.3	Voice Problems to Government, Mass Media or Public for Changes	3.394*	3.214	0.180	1.7

Finally, several empowerment indicators were stronger in SIF villages. For example, SIF villages were found better able to sustain development activities, by demonstrating a higher capacity to make productive use of development opportunities outside of SIF funding.

Further, SIF villages were more empowered to voice problems to government, mass media and the public. These villages also showed a greater appreciation of a multi-party mechanism, with greater tolerance for political diversity.

5.2. Regressions on social capital determinants

The regressions on social capital determinants were of the following form:

$$Y_N = \alpha + \beta \text{SES} + \gamma \text{SIF} + \epsilon,$$

where Y_N is a social capital variable, SES is a set of socio-economic variables, and SIF is the dummy variable for treatment or non treatment villages. The selected SES control variables are aggregated village means to correspond to the social capital data, which are collected at the village level. These control variables include the mean of log household per capita consumption, the standard deviation of log household per capita consumption, village average of household head's number

of years of schooling, the share of head of households working in agriculture, and the share of households that

owned their own farms. The reason for the selection of these controls was based on correlations results between SES data and the social capital data.

The regression results presented in Table 4 confirm that SIF villages differed from matched comparison villages on several social capital indicators, even when controlling for these socio-economic characteristics. Nearly all the social capital variables, except one, tolerance of differences, were associated positively with participating in SIF projects. Of the 20 village social capital variables whose means differed to a statistically significant degree in SIF versus comparison villages, 17 remained significantly different after introducing these controls, as measured by whether a dummy variable on SIF treatment was statistically significant. The social capital indicators where there ceased to be a significant impact of SIF treatment included trust among close neighbors, the tolerance of differences, and the capacity to voice problems to authorities. However, SIF had a significant impact on several social capital indicators that did not emerge from the differences in means analysis. These included organizational capacity and effectiveness of organizations, information sharing and communication

outside the village, village planning capacity, and ability to influence and control government.

Table 4 also provides information about how other village socio-economic characteristics affect social capital. A higher proportion of villagers working in agriculture was associated with higher social capital indicators, as evidenced by the many positive significant coefficients on the variable measuring the share of agricultural workers. The opposite was found when a higher proportion of households own their land for farming; this was negatively associated with social capital. Together, these two findings suggest that villages with numerous agricultural workers tend to have higher social capital. Log mean per capita expenditure had positive significant effects on trust of close neighbors and a negative effect on the diversity of types of cooperation. More inequality in the village was associated with higher social capital in many dimensions. When coupled with the agriculture findings, this evidence suggests that social capital norms

operate as a means of providing insurance, so that particularly in places with tenant farming and unequal consumption, cooperative norms are more prevalent (see Runciman (1966) for a discussion of cohesion through conflict).

Finally, the evidence suggests that more education was associated with less social capital, so cooperative norms and networks are maintained and valued by the less well-educated.

Separate regressions provide information on the impact of particular types of SIF involvement. These regressions include the social capital indicators as dependent variables and indicators for SIF treatment and either training or network support as independent variables. Because training and network support are interaction terms, the statistically significant coefficients (see Appendix Figure 1) reflect the marginal effect, above and beyond whatever differences are attributable to SIF treatment overall.

Table 4. Regression results for determinants of social capital variables

Social Capital indicators that are significant, based on difference in means analysis	SIF	Log mean per capita expenditure	Log SD per capita expenditure	Share of worker in agriculture sector	Years of education household head	Own farming land
1.1.3 Self sacrifice for common benefits	0.236**	-0.130	0.712**	1.360***	-0.062	-0.737***
1.2.2 Trust among Close Neighbors	0.151	0.253*	0.023	1.143***	-0.048	-0.786***
2.2.2 Diversified Capability	0.298**	-0.108	0.374	0.829*	-0.184**	-0.789***
2.4 Organizational capacity	0.233**	-0.281*	0.757**	0.702	-0.083	-0.603**
2.4.1 Effectiveness	0.220*	-0.219	0.905**	0.315	-0.048	-0.353
2.4.3 Learning Ability	0.351***	-0.148	0.332	0.526	-0.036	-0.757***
3. Network and Linkages	0.167**	-0.080	0.495**	0.997**	-0.068	-0.570***
3.2 Strength of Horizontal Linkages of Groups and Communities	0.200**	-0.201	0.615**	0.952**	-0.068	-0.588***
3.2.2 Multi-dimensionality	0.272**	-0.167	0.462	1.172**	-0.073	-0.581**
3.2.3 Benefits	0.186*	-0.078	0.558*	0.931**	-0.089	-0.605**
3.3 Strength of Vertical Linkages	0.263**	0.045	0.403	1.073**	-0.147*	-0.558**
3.3.1 Breadth	0.304**	-0.011	0.608	1.402***	-0.098	-0.623*
3.3.2 Multi-dimensionality	0.250**	0.175	0.193	1.652***	-0.207**	-0.600**
3.3.3 Benefits	0.276*	0.034	0.434	0.591	-0.125	-0.620*
3.3.4 Accessibility	0.240*	-0.008	0.338	0.557	-0.148*	-0.344
4.2.2 Diversity of Types of Cooperation	0.231**	-0.412***	0.053	2.2***	-0.000	-0.734***
5.2 Information sharing outside community	0.225**	0.100	0.523***	0.162	-0.171**	-0.298
5.2.6 Villager's Voices Responded by Government Agencies	0.27**	0.10	0.76**	0.52	-0.20**	-0.39
6.1 Tolerance of Differences	-0.139	0.093	0.474*	0.493	-0.043	-0.089
7. Empowerment	0.181*	-0.026	0.447*	1.127***	-0.145**	-0.580**
7.1 Capacity building	0.222*	-0.090	0.560*	0.923*	-0.135*	-0.656**
7.1.3 Strength of Multi-party Mechanism	0.232*	0.043	0.612	2.011***	-0.194**	-1.143***
7.2 Ability to influence and control government	0.213*	0.137	0.402	1.295**	-0.208**	-0.723**
7.3 Ability to Sustain Development	0.225*	-0.178	0.348	0.871*	-0.075	-0.347
7.4.3 Voice Problems to Government, Mass Media or Public for Changes	0.196	-0.119	0.338	1.347***	-0.215**	-0.549*

Note: ***signifies that difference between SIF and Non-SIF villages is significant at the 1%, ** at 5% , and * at 10% level..

Source: Thailand Social Capital Evaluation (2006).

In some treatment villages, SIF provided training to build the capacity of local organizations, directed towards making them more effective. SIF also facilitated connections between local implementing organizations to improve networks amongst local organizations. With data on whether or not training or network support occurred in treatment villages, it is possible to ascertain whether there is marginal impact of these specific modes of support on social capital outcomes.

Supporting networks had a significant impact on 7 social capital variables: social inclusion of marginalized groups, organizational capacity, information sharing outside the community, strength of horizontal linkages, strength of vertical linkages, level of benefits of groups and organizations, and equal sharing of benefits from cooperation and collective action. When SIF brought village groups together to share experiences, the resulting comparisons had an important impact on village social capital.

The participation in training of SIF villages had a significant impact on several social capital indicators. These indicators were: effectiveness of cooperation and collective action, information sharing outside the community, strength of horizontal and vertical linkages, political participation in elections, strength of group memberships, ability to influence and control government, and the level of sharing benefits.

5.3. Attribution and operational implications

To identify whether SIF selection or impact explains observed social capital differences, field researchers discussed the social capital variables that differed between treatment and comparison villages in a debriefing workshop. In general, SIF treatment villages were more likely to show self-sacrifice for the common benefit. Field researchers agreed that treatment villages probably started out with more of this type of solidarity. But differences in solidarity were attributed to both selection and impact effects, which may explain why self-sacrifice was more prevalent in SIF treatment villages.

Trust among close neighbors is a longstanding village characteristic that takes a long time to develop. For example, there is a long and strong tradition of “kum” or focus on village solidarity that researchers found in greater evidence in SIF villages, particularly in the Northeast of Thailand. While SIF villages generally exhibited higher trust than comparison villages, researchers attributed these differences to traits SIF could not have impacted in its short period of operation. SIF villages where neighbors already trusted one another

might allow those villages to put together stronger proposals.

SIF treatment villages had a greater diversity of leadership capability, which was attributed greatly to SIF impact. To prepare and implement a SIF sub-project, villages need effective leaders who can convince and inspire fellow community members. Moreover, these leaders must be informal or outside the formal administrative structure. The SIF supports the emergence of leaders. While there were likely potential leaders in many villages, SIF helped them emerge and encouraged them to explore channels outside of formal administrative procedures.

Organizations in SIF villages learned new approaches more easily than elsewhere. Again, research teams attributed these differences to the impact of SIF operations. The SIF presented villages with several menus. Villages decided which opportunities would be most appropriate to their interests and ability to manage. SIF focused on transferring knowledge and experience among villages and grass-roots organizations. The findings showed that sharing information on knowledge and experience opened up organizations’ interest in learning about what approaches work best. Thus, observed differences in village learning ability seemed to be a result of SIF involvement. The fact that CDD approaches increase information sharing and access to information is discussed throughout the literature (see for example Gillespie (2004)).

As a central operational tenet, SIF sought to build information networks among villages and organizations. As discussed above, nine network and linkage indicators were significantly different between treatment and comparison villages. These observed differences were attributed to SIF impact, rather than to selection effects. SIF encouraged learning connections between organizations and villages to understand what worked best. For example, the SIF organized and financed study tours among villages, so they could share approaches as to what worked and what did not. Further, when organizations identified, planned, and implemented sub-projects, they gained opportunities to work with other similar organizations and to interact with village authorities. How sustainable and whether this experience and knowledge comprises long lasting outcome is beyond this study to determine.

The SIF villages showed more evidence of cooperating on a diverse set of activities than comparison villages. Field researchers attributed these differences to pre-existing village characteristics that enabled villages to be more

successful in organizing SIF sub-project proposals. As further evidence of this selection effect, cooperative activities prevalent in SIF villages tended to be more traditional and culturally based, so that a pattern of village members working together on such activities probably existed before the SIF project.

As additional verification that the SIF selects villages with a proclivity for collective action, note the significant differences between treatment and comparison villages concerning the prevalence of human-made irrigation systems, and of pre-school nurseries. Organizing community members to maintain irrigation systems is a quintessential form of collective action that requires community capacity to work together over a long time horizon. The percentage of land under irrigation is a strong proxy for social capital. Likewise, if the community has organized itself to provide pre-school nurseries, it suggests strong cooperation. Both qualitative and quantitative evidence suggests that SIF villages began with a greater capacity to cooperate to undertake joint activities.

Differences in sharing information and having more responsive government officials were attributed to the impact of the SIF. This is because in order to implement a SIF project, village organizations needed to share information and work together. The resulting partnerships improved communication with other communities and with local government officials. Appendix Figure 1 illustrates that network support had a significant impact on information sharing: when organizations compared notes on their operations, they learned from the examples of their peers.

As noted above, SIF treatment villages were less tolerant of differences than comparison villages (the finding that treatment villages had lower social cohesion scores than comparison villages is statistically significant in the difference in means; however, it is not significant in the regression findings, suggesting that socio-economic characteristics explain part of this difference, rather than SIF participation). This was attributed to SIF activities, because preparation and implementation of SIF sub-projects creates an atmosphere focused on achieving and adhering to project goals, which may exclude those of lower capabilities, whether those people be poorer or of a different language or ethnic group. These findings correspond to other research on community driven development approaches in the region, for example research on the Kecamatan Development Project (KDP) in Indonesia (see the Implementation Completion Report 2008), which investigated the effect of CDD operations on local level conflict and found that CDD operations

can be disruptive to the process of making extra resources available through new channels. However, because that operation stressed clear and transparent operating procedures, it also provided a means to manage those conflicts without them becoming too heated. In support of the Indonesia CDD research, there is evidence of reduced social cohesion in Thai SIF villages as opposed to comparators. However, field researchers' explanation for the effects on cohesion in SIF villages suggests a different source of potential tension, one which may operate through social exclusion.

SIF villages appeared more empowered than comparison villages by showing greater ability to sustain development, and being more effective in voicing their problems to authorities.

This was attributed largely to SIF impact, rather than to conditions that existed beforehand. SIF promoted networks within and among villages and allowed villagers to articulate their political voice. In addition, SIF operations generated opportunities for informal leaders to emerge and build confidence in their capacity.

6. Conclusions

This paper investigates the impact of the Thai Social Investment Fund on social capital. It evaluates the differences in social capital between villages that participated in SIF projects and non-participating villages, and whether SIF participation impacted the social capital characteristics. Our empirical approach applies an ex-post assessment of how the Thai Social Investment Fund worked with and changed village social capital, by breaking social capital into interrelated but distinct dimensions, and combining quantitative and qualitative measuring techniques. The study identifies several aspects of social capital that differed between SIF treatment and matched comparison villages and explains the sources of those differences.

Our results from this study shows that CDD operations probably act as selection mechanisms among communities, allowing those well endowed with particular social capital characteristics to receive program funding. But the study also produced interesting and relevant findings about the how the Thai SIF built on, worked with, and appears to have enhanced existing village social capital. Participating villages already had more trust among neighbors and stronger traditions of cooperation and collective action. Furthermore, these SIF villages demonstrated that working together effectively attracts resources and benefits villagers. The SIF identifies effective villages and creates appropriate

incentives for villages that are not so well endowed with cooperative norms.

The study also provides evidence of village characteristics associated with social capital. For example, regardless of their participation in SIF, villages where more people work in agriculture and do not own their farms were better endowed with several dimensions of social capital. In addition more education was associated with less social capital. These findings do not suggest that people should work in agriculture or get less education to obtain social capital. It is not a trade-off between social capital and economic development. But the findings show that social capital might emerge from working together on farm necessities and that norms and networks are maintained and valued by the less well educated.

Finally, the paper provides evidence that the SIF project had an impact on several social capital variables. While the SIF selected villages that already had a greater norm of self-sacrifice, it also enhanced that characteristic by demonstrating the benefits of sacrificing to improve village welfare. SIF activities helped build local leadership, through its support for networks and training. Moreover it built leadership by encouraging leaders to get things done outside of the formal government system. The intervention itself had impacts on many dimensions of network and linkages within and among villages and on how information flows between villagers and government officials. These impacts probably result from concerted efforts to create horizontal links between organizations and vertical links to formal authorities. However, the evaluation also found that SIF activities might have reduced social cohesion, particularly through its focus on reaching clear objectives, which seemed to exclude those viewed as least effective. In addition, SIF villages seemed to be less tolerant of differences than comparison villages. This may be attributed to some of the SIF processes that give control of decisions and resources to community groups, which might not always include those of lower capabilities, whether those people be poorer or of a different language or ethnic group. This demonstrates the classic challenge of elite capture in CDD operations, which may be difficult to avoid.

This paper evaluates two hypotheses about the relationship between CDD and social capital: that CDD operations act as a mechanism to select villages with social capital characteristics; and that participating in a CDD operation had a direct impact on village-social capital characteristics. To address these questions with rigor, it considers different social capital dimensions, finding that CDD operations select villages with some village social capital characteristics, but also appear to enhance other characteristics. A prime contribution of

this research is that it allows for a careful differentiation of how CDD can have selection and impact effects on different village/community characteristics. Faced with the most common case of inadequate social capital baseline information, it uses a mixed method of quantitative and qualitative research to move past the simple hypothesis that “CDD builds social capital” and helps develop an understanding of the relationship between selection and impact effects in CDD. The Thai CDD approach can usefully be adopted in other countries seeking to build social capital as long as the project and the measurement techniques are carefully adapted to the specific county context. Because CDD is a project approach, it is a guiding framework, with room for variation. This study is an interesting illustration of how to combine quantitative and qualitative data to measure ex-post effects on whether CDD builds on or enhance social capital.

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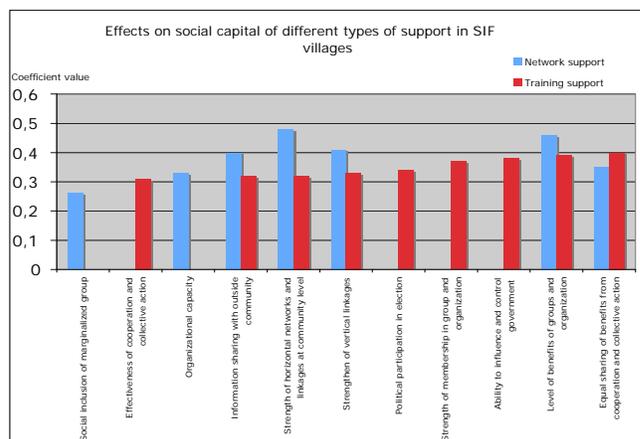
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APPENDIX

Appendix Table 1. Probit estimates of SIF participation

Village average variable	Coefficient	Z
Age of household head	-0.005	-0.110
Age of household head squared	0.0001	0.390
Years of education	0.416**	2.050
Years of education squared	-0.024*	-1.750
Number of household earners	0.058	0.620
Head and spouse present in the household	-0.104	-0.270
Owns house and land	-0.774***	-2.940
Professional, technical and managerial profession	0.123	0.280
Female headed households	-0.131	-0.340
Number of children	0.173*	1.960
Employed in the private sector	-0.355	-0.650
Economically Inactive	-0.380	-0.970
Mean log per capita expenditure	0.573***	3.330
Standard deviation log per capita expenditure	-0.864***	-3.300



Appendix Figure 1. Effects of training and network support in SIF villages

Source: Thailand Social Capital Evaluation (2006) Note: Results from OLS regression, which include the social capital indicators (ranked on a scale 1-5) as dependent variables and a dummy indicators for SIF treatment and either training or network support as independent variables. Because training and network support are interaction terms, the statistically significant coefficients reflect the marginal effect.