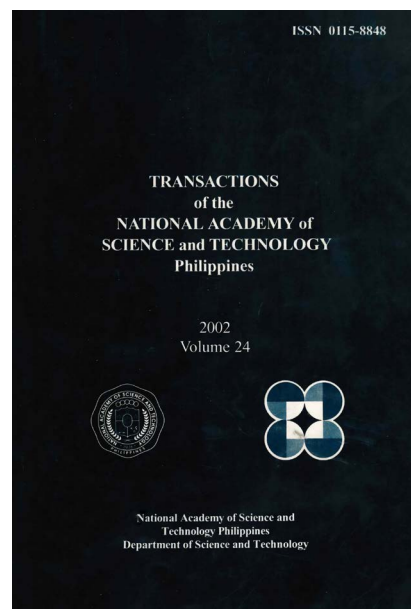


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Agnes C. Rola and Merlyne M. Paunlagui

Professor and University Researcher,  
Institute of Strategic Planning and Policy Studies  
College of Public Affairs, University of the Philippines Los Baños,  
College, Laguna, 4031

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## **MEASURING SOCIAL CAPITAL: A CASE STUDY IN AGRARIAN REFORM COMMUNITIES IN THE PHILIPPINES**

AGNES C. ROLA AND MERLYNE M. PAUNLAGUI

*Professor and University Researcher,  
Institute of Strategic Planning and Policy Studies  
College of Public Affairs, University of the Philippines Los Banos,  
College, Laguna, 4031  
email: arola@laguna.net; merlynep@yahoo.com.*

### **ABSTRACT**

Social capital means different things to different people. At the conceptual level, the current debate stems from two issues: 1. Is social capital capital? 2. Is social capital social? Admittedly, economists and sociologists would have different perspectives of this concept rooted from the theoretical frame of their individual disciplines. Measuring social capital for development policy is thus dependent on how one perceives the concept to be.

This paper attempts to “demystify” measurement of social capital by illustrating estimation of an index that captures both the economic (capital) and social aspects of social capital. Through a literature review, origins and evolution of the concept will be explored in reference to its impact or potential impact on poverty alleviation. The empirical exercise will be based on the study of agrarian reform communities (ARC) and a set of control non ARCs in the Philippines. The paper will try to point out future needs for research and methodology development in further understanding and quantifying social capital as a policy variable.

**Keywords:** social capital, agrarian reform

### **I. What Is Social Capital?**

Social capital, while not all things to all people, is many things to many people (Narayan and Pritchett, 1997). Social scientists and other “applied problem

solvers" around the world and across disciplines, attempted to define, discuss measures, and suggest applications of social capital (Robison et al. 1999). No consensus was arrived at on the twelve definitions of social capital presented.

The concept of social capital was first developed by sociologists (Bourdieu 1972 cited in <http://www.analytichtech.com/network>), drawing on a Marxist theoretical framework. The conception developed by Coleman (1988) has emerged as the most fit to mainstream economic theory (Requier- Desjardins, 1999). But however, Putnam (1993) can be considered as the importer of the concept in economics.

Social capital in its vastness needs to be restricted in its meaning before one might proceed on any attempt to estimate it or its impact. An interesting point of discussion is to dwell on the issue of whether social capital is social and whether it is capital. By constructing the concept, one acquires the means of analyzing the logic whereby this particular kind of capital is accumulated, transmitted, reproduced (Bourdieu 1979 cited in <http://www.analytichtech.com/network>). In our investigation, we first establish what we mean by the term; then define an indicator that is subsequently used to measure social capital in rural development programs such as the formation of agrarian reform communities.

### ***Is Social Capital Social?***

Social capital is social in aspects of organizations and ordinarily informed relationships, established for non economic purposes, yet with economic consequences. Bourdieu (1979 cited in <http://www.analytichtech.com/network>) defines social capital in ordinary language as connections. But social capital is more than just a network of ties. Sirianni and Friedland (1998 cited in <http://www.analytichtech.com/network>) say that the fundamental proposition of the social capital theory is that network ties provide access to resources.

Coleman (1990) defines social capital by its function. It is not a single entity, but a variety of different entities having two characteristics in common: 1. they all consist of some aspects of social structure, and 2. they facilitate certain actions of individuals who are within that structure. To Burt (1992) social structure is a capital in its own right. Social capital is the resources that contact hold; and the structure of contacts in a network. It is whom you reach and how you reach.

Social capital is also seen as the quantity and quality of associational life and related social norms (Narayan and Pritchett, 1997). Burt (1992) treats the social capital of people aggregates into a social capital of organizations. Collective efficacy is also deemed as a component of social capital; this is the willingness to step in to stop acts like truancy, criminality, etc.

According to Friedman and Krackhardt (1997 cited in <http://www.analytichtech.com/network>), the structural hole theory gives concrete meaning to social capital. The theory describes how social capital is a function of brokerage opportunities in a network. The structural hole argument defines social capital in

terms of the information and control advantages of being the broker in relations between people otherwise disconnected in social structure. In the same manner, Pennings et al (1998 cited in <http://www.analytichitech.com/network>) see social capital as the processes and conditions among people and organizations that lead to accomplishing a goal of mutual social benefit. Those processes and conditions are manifested by four, interrelated constructs: trust, social engagement, civic participation and reciprocity.

### ***Is Social Capital Capital?***

Economic thinkers view social capital as a capital (stock) in contrast to a flow variable. Robison et al. (1999) defined social capital consistent with the general definition by economists, i.e. that capital is a commodity used in the production of other goods and services. The definition of social capital would substitute for “commodity” the word sympathy, to wit: *“social capital is a person’s or group’s sympathy or sense of obligation toward another person or group (the commodity), that may produce a potential benefit, advantage, and preferential treatment for another person or group of persons beyond that which might be expected in an exchange relationship”*.

But is social capital really capital? To illustrate this, Robison et al. (1999) enumerates the many capital-like properties of social capital. These include service potential, durability, flexibility, substitutability, opportunities for decay (maintenance) reliability, ability to create other capital forms, and investments (disinvestments) opportunities.

In Putnam’s (1995) terms, social capital is capital because it implies a resource or factor input that facilitates production, but is not consumed or otherwise used up in production. But long before Putnam’s (and Coleman’s for that matter) often quoted definition, it is said that the economist Yoram Ben-Porath, in 1980, published the F-connection (i.e. families, friends and firms) (Wilson, 1999). According to Wilson (1999) this potentially seminal contribution to economics analyzes the importance of relationships and human identity in commercial transactions. It was said that the article had a “cool reception” by an editor of a mainstream economic journal, even after a favorable referee report, because the research “provided useful insights but no clear replicable model”. This story thus, illustrates the general skepticism within the economics profession towards proposals directed to the inclusion of social capital in mainstream economics. However, recent advances in economic theory have generated useful theoretical insights on organizational and management behavior. And limited empirical applications showed that economic agents do care for each other and don’t leave to the market “the organization of their selfishness” (Schmid and Robison, 1995).

Critics of the conventional neoclassical theory of the firm argue that the social capital and its attributes (norm of mutual interest and reciprocity) should be embedded into our economic models (Coleman 1990, Putnam, 1995). But on how

to specify an economic model incorporating social capital remains a challenge. In their traditional roles, economists should be able to tell policy makers “ what will happen if...” but economists working in the social capital arena have failed to provide a contribution associated with this professional responsibility (Wilson, 1999). What is exciting about economists studying social capital is the recognition that their science has a human face. Social capital will bring humanness into economics and will change the perception of some that:

*“ Economists.... See the market from beyond the market, not as the marketer sees it, who participates in it, but as an external spectator sees it, who views it from without. Therefore, they see only the bare outward show which alone can disclose itself to an unimplicated observer. They see the bare outward behavior and are blind to the norm which animates it and regulates it and confers upon it, for the persons who enact it, its social meaning.”*

J.F.A. Taylor, p.103, in Paul Wilson (1999)

### ***Social Capital and Trust***

The literature also views trust as an integral part of social capital. Burchell and Wilkinson (no date cited in Wilson, 1999) defined trust as “Doing what you say you will do.” Business relationship built on trust reduces risk and improves economic performance. In one major survey, it was found that an increase in trust raises participation in professional associations, in civic activities, in the efficiency of government, and in the economic performance of large corporations (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1997). Trust was also shown to be necessary for the development of a vibrant private sector based on microenterprises, in conditions where actors cannot rely on formal legal institutions present (Lyon, 2000). Knack and Keefer (1997) found that trust and democratic institution had significant impacts on aggregate economic activity. Trading agents in higher-trust countries have less need to invest in protection from opportunism.

Mutual trust created through personal interaction in a community comprises a social capital useful for community members alone (Hayami, 1997). In this sense, trust is a kind of “local public good” whose benefit is limited to a particular group. Hayami (1997) argued that community is a third economic subsystem because it provides this local public good. He goes on to say that the comparative advantage of community over the market and the state (the other two subsystems) lies in this supply of local public goods; (as compared with the market’s supply of private goods and the state’s supply of “global public good”) because the community relationship is effective in preventing free riders. How close to a social optimum level the supply of local public goods would increase depends on how strong the trust has been forged among the people in the community. As such, this supply of trust together with other constructs composing social capital concept must be measured if economists want to remain credible in their endeavor.

## II. Measurements of Social Capital

Much of the efforts in measuring social capital stemmed from the empirical validity of Putnam's (1995) basic finding that American social capital has been declining over the past two generations. This conclusion was derived from the observation of a decline in group bowling in the US. In a subsequent study, Paxton (1999) tried to investigate the robustness of this conclusion by estimating social capital with multiple indicators. Her empirical model conforms with her definition of social capital as consisting of trust and associations. In the first component, an individual's subjective trust toward others in the community is measured as an individual's trust in others, and an individual's trust in institutions. The second component measures the objective extent of an individual's associations, or ties to the community. Her results actually showed that while trust index has declined in the past 20 years in the US, the associational life has remained unchanged. This then negates the results of Putnam (1995) that social capital in the US is on the decline, if associational life were to be just the measure. But however, an index combining the two components showed a general decline.

There are three measurement problems with respect to social capital, according to Fukuyama (1991): (1) Social capital has an important qualitative dimension. A full account of social capital needs to take account of the degree of cohesive action of which a group is capable. (2) Positive externalities of group membership. While all groups require some degree of social capital to operate, some build bonds of trust and hence, social capital of their own memberships. (3) Negative externalities- Some groups actively promote intolerance, hatred and even violence toward non-members.

Economists would usually design a variable to be included in economic models in order to measure impacts of such. If one is concerned with the interpretation of social capital in an income distribution or in a production function at the individual or collective level, then economic models would provide for such estimation (Requier-Desjardins, 1999). So for instance, Narayan and Pritchett (1997) estimated the impact of social capital on incomes by specifying determinants of per person household expenditure function that included both individual variables ( $Z_{ij}$ ) and village level ( $X_j$ ) variables, and to include a social capital index:

$$H_{ij} = \beta * \text{Social Capital } j + \alpha * Z_{ij} + \gamma * X_j + e_{ij}.$$

Social Capital is proxied by an index of the village associational life created using the data on frequency of membership and the characteristics of groups. Narayan and Pritchett (1997) showed that a village's social capital in rural Tanzania has an effect on incomes on the household in that village, "an effect that is empirically large, definitely social, and plausibly causal."

In the same vein with the model above, one may also specify a household income function, a production function and a function that measures the household

probability of adopting improved agricultural practices to include social capital proxy variable.

Some authors try to build up a monetary assessment of social capital, i.e. to view the expenses incurred during a wedding as a proxy of the investment in social capital realized by the economic agents (Requier-Desjardins, 1999). But this measurement raises the issue of identifying the flows of benefits this kind of investment produces. Others (Charmes, 1998 cited in Requier-Desjardins, 1999 ) point at a “physical” non-monetary measure of social capital, i.e. the time devoted to social activities by individuals. But this raises the question of the aggregation of this measure at the social level. It is not sure that the aggregate effect of this social time would be an aggregate of individual efforts.

Fafchamps and Mintan (1998) measured the amount of social capital of Malagasy traders by the number of relations they maintain with other actors. They also set up a distinction between relations with traders, which seems correlated with a reduction of transactions costs, the relationship with individuals who can help in time of financial difficulties and the relations with family members seen to have a negative impact on results.

The issue is that the measurement is not independent of one’s definition of social capital. Again, in economics, considering an individual utility function would induce to retain a monetary evaluation of social capital, seen as an investment in the purchase of social relations. Considering social capital in a production function would induce to consider physical measure of this kind of “equipment” used in transactions (Fafchamps and Mintan, 1998). Our aim in this paper is to come up with an index of social capital that can potentially be used in economic models to measure its impacts or change in outcomes.

### III. Applications of Social Capital

Narayan and Pritchett (1997) describe five processes in which social capital changes outcomes for the better by facilitating greater cooperation. One, increased social capital with its greater degrees of horizontal connection improves governments. Two, increased social capital leads to increased community cooperative action and solves “common property” problems. Three, increased social capital strengthens linkages among individuals that speeds the diffusions of innovation. Four, increased social capital improves the quantity and quality of information flows and reduces transactions costs. And five, increased social capital pool risks and allows households to pursue more risky and higher return activities.

There are limited evidences to the outcomes as cited above. Or, authors may not categorically call their work as related to social capital. One such is an investigation of the sustainability of the Ifugao (Philippines) rice terraces. It is viewed that the current sorry state of the rice terraces known as the eighth wonder of the world, is aggravated by the decline in the practice of traditional community workgroups (*ubbu* and *baddang*) which is crucial to terrace (a common property)

maintenance (Gonzales, 2000). Instead, there is an increasing dependence on government and project dole-outs, as community relation may have become ineffective.

Parthasarathy and Chopde (no date) citing the Indian experience observed that building of social capital over time reflected in institutional structures such as cooperatives are crucial in bringing about effective transformation leading to greater sustainability. They maintain that social capital raises productivity and falls with labor mobility. In the dissemination of pigeon pea, the authors report it is the channeling of information through existing and highly successful social capital network in the form of cooperatives, that successful adoption and uptake became possible. In areas where such network did not exist, extension programs by themselves did not have much impact.

#### **IV. Measuring Social Capital in Agrarian Reform Communities (ARC) in the Philippines**

##### *A. The Agrarian Reform Community in the Philippines*

The agrarian reform program in the Philippines is aimed among others, at increasing horizontal connections of community members; with the vertical connection to the landlord having been impeded. The formation of the “Agrarian Reform Communities” (ARC) was to operationalize the equally important equity objective which is the provision of support services such as infrastructure, social services including health, basic education and production inputs. The Department of Agrarian Reform (DAR) has adopted the strategy of integrated, area-focused implementation approach through the ARCs in delivering these services.

An ARC constitutes contiguous pieces of rural area where a critical mass of farmers and farm workers awaiting the full implementation of agrarian reform can be found. An ARC may be within a barangay or a cluster of barangays within the administrative jurisdiction of a municipality. Quoting Peñalba, et al (1996), “It is in ARCs where DAR proposes to showcase that agrarian reform works, that as a holistic development endeavor, it is hoped that this can lead not only to improved quality of life, but also to people empowerment and sustainable agro-industrial development.” As of March 2000, there were 1,060 ARCs established nationwide (BARBD, 2000). Forming the core of these communities are 2,596 Agrarian Reform Beneficiary Organizations with a total of 434,244 beneficiaries.

DAR’s ultimate goal is to transform ARCs into self-sustaining economic and social entities which are in a better position to request and obtain higher levels of support services from the different administrative and political bodies. Inherent in the realization of this goal is the assumption that social capital will have evolved in the ARC. This case study investigates whether agrarian reform communities (ARCs) have acquired the characteristics of a community with higher levels of social capital compared with non-ARCs.



Why is social capital important in assessing the effective transformation of an agrarian reform community? This is to determine that the goal of the ARC has been achieved where networks and associational life and other components of social capital would have led to a better community welfare.

### *B. Social Capital and the Agrarian Reform Communities*

Our empirical interpretation of the theory of social capital in the process of transformation of the agrarian reform community is centered on establishing network relationships. In this way, we adopt the definition of “social capital” as referring to the *norms and networks, and relationships* that both encourage *trust and reciprocity* and shape the quality and quantity of society’s interaction (Putnam, 1993; Coleman 1988). In our investigation, we define social capital as “the ability of actors to secure benefits by virtue of membership in social networks.” This study also suggests that social capital can put an ARC in a better position to access support services from the administrative and political bodies. Thus, social capital inheres in the structure of network relationships among actors.<sup>1</sup> We also focus the measurement at the village (meso) level.<sup>2</sup>

The conceptual framework of this study expresses social capital as the following:

Social Capital= f(networks/alliances, norms, relationships,)

where: Network/alliances is measured by a relational matrix that indicates the level of trust and the quality of associational life;

Norm is measured through the collective action that exists even before the ARCs, i.e. in rural agrarian societies; and

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<sup>1</sup>The literature also mentions that social capital may have a downside. For instance, according to Portes and Landolt (1996), social relations that allow others to mobilize resources across a network can also imply obligations towards other network members, which can create two types of problems. One, the individual is subject to claims inspired by those obligations, thus exposing him/her to free-riding by other network members upon the individual’s resources. Two, community norms can place constraints on individual entrepreneurship or innovation. An individual’s action is limited in a tight-knit network, one that restricts social regulations and sanctions. As an empirical exercise in this study, it did not attempt to capture the downside of social capital due to the difficulty in measurement.

<sup>2</sup>In the literature, levels of analysis for social capital are termed as micro, meso and macro. The micro level of social capital analysis considers an individual’s potential to mobilize resources through the social network that s/he is a part of. On the other hand, the meso level of social capital analysis considers the structure of a specific network of social capital, the patterning (i.e. associations) of ties between individuals in that network, and the ways that resources flow through the network as a consequence of its particular structure. The macro level of social capital analysis considers the ways that a particular network of social capital is embedded in a system of political economy, and embedded in greater cultural or normative systems. Here, the focus is, among others, on “external” cultural, political, and macroeconomic influences on the nature of social ties in the network (Brown, nd).

Relationship is measured by reciprocity, such as in the exchange of goods and labor.

Sirianni and Friedland (1995) stated that the denser these networks, the more likely that members of a community will cooperate for mutual benefit even in the face of persistent problem of collective action. Also, norms and networks encourage trust. Thus, trust here could also be treated as a proxy for networks and norms. Reciprocity in social capital can promote productivity (Sirianni and Friedland 1995). For example, two farmers exchanging tools can get more work done with less physical capital. Rotating credit associations, popularly known as paluwagan can generate pools of financial capital for increased entrepreneurial activity.

### ***C. The Empirical Model***

Social capital is an index composed of the measures of the level of trust, quality of associational life, reciprocity and collective action existing in the community. The assignment of the values of the dimensions is found in Table 1.

- a. Level of trust means the alliances and relations between pairs of organizations, and between leaders and members of organizations.
- b. Quality of associational life means the characteristics of the members and leaders. For the characteristics of the members, questions include kin heterogeneity and occupation of members (Narayan and Pitchett, 1997).
- c. Reciprocity refers to the exchange of goods, labor and other forms of assistance in agricultural, social, religious and economic activities. This was measured by asking the study respondents on the frequency of exchanges being practiced in the community.
- d. Collective action refers to the activities where community action is commonly practiced. This was measured by asking for the nature and frequency of community activities.

The participants of the focus group discussions FGD representing the people organizations and the mediating institutions (non-governmental organizations (NGOs), national government agencies (NGAs), and local government units (LGUs)) were asked to rate the level of trust they have for all the groups/associations present in the community. The most popular NGOs assisting the community were those belonging to different religious orders while the NGAs usually came from the Department of Agrarian Reform and the Department of Agriculture including its line agencies. From the LGUs are the Agricultural Officers and Cooperative Officers.

Organizations present in the communities studied were broadly grouped into cooperative and related organization, women, religious, other social/civic, and cultural. Examples of other organizations included under the cooperative and related organizations were parent-teacher-child association, irrigator's association, upland

farmers organization, farmer-field school group, associations of drivers/tricycles and transplanter groups or commonly referred to as *kabesilla*. Other social/civic organizations included organizations for the youth, elderly, husband and wife association and associations grouped for the purpose of giving contributions during weddings, birthdays and when a family member dies. The only cultural group in the study was the Tribal Council at the Pineapple non-ARC. Falling under the religious groups were those helping in the church maintenance and taking charge of preparations for the feast of the patron saint, families involved in bible reading, and charismatic groups.

The activities where the act of reciprocity is practiced are agricultural activities (transplanting, weeding, land preparation), rotating credit or paluwagan, and iwi system of raising livestock. For collective community participation, the activities usually covered were maintenance of irrigation, pest management (rats and snails), religious activities (flower festival, Lenten season preparation) and fund raising for community projects (like sponsoring beauty contests). Occurrences of quarrel among community members due to management/use of common property resources also fall under collective participation.

#### ***D. Construction of Composite Indices***

The following formulae are used to derive the social capital index:

Social Capital (SC) Index = Linear sum of the average of scores of the attributes (level of trust ( $X_1$ ), associational quality ( $X_2$ ), collective action ( $X_3$ ), and reciprocity ( $X_4$ )).

An example of the relational matrix for the level of trust used in computation is shown in Annex 1.

$$X_1 = \frac{\sum X_{1i}}{(n-1)/n}$$

where  $X_{1i}$  = level of trust of organization (See Annex 1 for relational matrix),  
 $n$  = number of organizations., where  $n = [2, 15]$ , for the 6 communities

$$X_2 = ((X_{21}/n) + (X_{22}/n))/2$$

where  $X_{21}$  = measure of kinship, refer to Table 1  
 $X_{22}$  = measure of livelihood, refer to Table 1  
 $n$  = number of organizations, where  $n = [2, 15]$

$$X_3 = ((X_{31}/m)$$

where  $X_{31}$  = participation in collective action, refer to Table 1  
 $m$  = total collective activities occurring in the community

$$X_4 = (X_{41}/k)$$

where  $X_{41}$  = participation in reciprocal activities, refer to Table 1  
 $k$  = total reciprocal activities occurring in the community

$$\text{Social Capital Index (SC)} = (X_1 + X_2 + X_3 + X_4)/4,$$

where  $X_1$  = level of trust  
 $X_2$  = quality of associational life  
 $X_3$  = Collective action  
 $X_4$  = Reciprocity

### ***E. Sources of data***

Pre-tested questionnaires were used to generate information from the key informants and focus group discussions (FGD) (Table 2). FGDs were conducted in each of our study villages with participants representing the different stakeholders present in the communities. The research team sought the help of the local DAR officials in identifying the participants to the FGD.

### ***F. The Study Sites***

The communities being reported here represent three types of crops planted: rice, coconuts, and pineapple, and are classified as follows: three communities have been covered by CARP and declared as ARCs by DAR; two communities which have been covered by the agrarian reform program but were not declared as ARCs (AR non-ARCs); and one community which has not been covered by agrarian reform (non-AR) (Table 3). The non-AR was the control barangay in the coconut case study.

The *Bagong Sirang* (rice) ARC in Camarines Sur was the first to be established followed by the ARCs in Bulihan, Quezon (coconut) and Kablon, South Cotabato (pineapple). Of these ARCs, Kablon ARC has the largest CARP scope of 1,356 hectares and has the highest number of beneficiaries numbering 338 (Table 3). All lands for distribution in the Bulihan ARC were already distributed as of 2000, followed by Kablon with 84% while it was less than half for Bagong Sirang at 47%.

CARP modality was mixed for pineapple while it was only land transfer for coconut and rice. The socioeconomic characterization of the study communities is detailed in Paunlagui and Rola (2001).

Table 1. Measurement of variables, CARP-Social Capital Study, 2000

|                               | Question/<br>Source of information   | Measurement/Response                                   |                   |
|-------------------------------|--|--|-------------------|
| <b><i>Social Capital</i></b>  |  |  |                   |
| Level of trust                | Relational matrix showing the alliances which exist between a pair of organizations  | Low<br>Moderate<br>High                                | = 1<br>= 2<br>= 3 |
| Quality of associational life | Association/Organization Membership  | Close relatives<br>Different clans<br>Anybody          | = 1<br>= 2<br>= 3 |
|                               | Livelihood of Members  | All have same livelihood<br>Most are the same<br>Mixed | = 1<br>= 2<br>= 3 |
| Collective action             | Participation in Community activities (Clean-up drive, beauty contest, assistance during natural calamities (typhoon/flood, fire, earthquake), conflict management | No<br>Sometimes<br>Always                              | = 1<br>= 2<br>= 3 |
| Reciprocity                   | Participation in Exchange of goods and labor and assistance (e.g., agricultural activities, bayanihan, etc.)   | No<br>Sometimes<br>Always                              | = 1<br>= 2<br>= 3 |

Table 2. List of participants for the Focus Group Discussion and Key Informants

| Commodity | Participants |        |         |        | Key Informant* |         |
|-----------|--------------|--------|---------|--------|----------------|---------|
|           | ARC          |        | Non-ARC |        | ARC            | non-ARC |
|           | Male         | Female | Male    | Female |                |         |
| Rice      | 8            | 6      | 7       | 3      | 8              | 6       |
| Coconut   | 24           | 8      | 4       | 6      | 5              | 5       |
| Pineapple | 9            | 3      | 11      | 6      | 7              | 10      |

Table 3. Basic information on agrarian reform communities (ARCs) and non-Agrarian reform Communities (non-ARC), 2000.

| Municipality/<br>Barangay  | Pili, Camarines Sur<br>Bagong<br>Sirang<br>(ARC) | Del<br>Rosario<br>(non-ARC) | Builhan<br>(ARC) | San Antonio, Quezon<br>Niang<br>(non-AR) | Kablon<br>(ARC)             | Tupi, South Cotabato<br>Acmonan<br>(non-ARC) |
|--|--|-----------------------------|------------------|--|-----------------------------|--|
| Date when ARC<br>was established                                       | 1993   |                             | 1994             |  | NA                          | 1994   |
| CARP Scope   |  |                             |                  |  |                             |  |
| Area (has)   | 416  | 201                         | 410              | NA                                       | 1356                        | 1,215  |
| % Distributed  | 47.00  | 39.00                       | 100.00           |  | 84                          | 32.7   |
| No. of beneficiaries<br>% of bene-ficiaries<br>who are coop<br>members | 167  | 68                          | 265              | NA                                       | 338                         | 146  |
| CARP Modality  | Land<br>transfer                                 |                             | 49               | NA                                       | -                           | -  |
| Major Crop   | Rice   | Rice                        | Land<br>transfer | Coconut                                  | Leaseback,<br>land transfer | Leaseback,<br>land transfer                  |
|  |  |                             | Coconut          | Coconut                                  | Pineapple                   | Pineapple                                    |

NA = not applicable

- = data are not available

Source: Gordoncillo, et al (2001).

## **G. Results of the case study**

### *Rice communities*

Rice, among all the crops, has been given the most support from the government. It was also in rice which had the earliest activity in terms of ARC support. In the rice case, ARC enhanced social capital via financial and technical assistance. There were more organizations supporting the rice ARC, most of the leaders and members of the cooperatives have undergone value formation trainings needed for a social conscience in the management of the cooperative's affairs. Self-esteem for ARC members was high, as they are now more bankable, given the land asset that they have. Because they have all these support for so long, they have been able to invest in machines for agriculture. These are rented out to fellow community members. To a certain extent the capacity building and value formation training may be the critical factors in the current level of social capital present in the rice ARC communities.

#### 1. Level of trust

The index of trust was lower in the rice ARC than its counterpart non-ARC. This occurred because some members of organizations/associations expressed their frustration for other organizations, which were unable to conduct elections. Rice ARC members were aware that other formed organizations were not able to elect its own set of officers, thus delaying the implementation of their activities (Table 4).

#### 2. Associational Life

The quality of associational life was higher in the rice ARC than in the rice non-ARC. All associations in both communities have open membership regardless of kinship. However, in terms of occupation, there were more organizations in the non-ARC whose members were limited to certain type of occupation. For example, the tricycle association was confined to tricycle drivers and operators. The only organization, which limited its membership to farmers in the rice ARC was Barangay Sirang Farmers Cooperative.

#### 3. Reciprocity

Participation in reciprocal activities was lower in the rice ARC than in the rice non-ARC. The difference was due to higher participation in transplanting and land preparation activities in the rice non-ARC. But these activities are not usually done in the rice ARC as technology changes more in their setting. The issue of the temporal nature of the indicators of social capital is still to be resolved. However, both communities have noted the overall decline in exchange labor, particularly in harvesting. There was preference for cash payment by the workers while landowners wanted to finish harvesting as early as possible to avoid delay. In both areas, farmers have shifted from transplanting to seed broadcasting. Landowners also

prefer to hire workers to avoid delay in carrying out the agricultural activities, particularly land preparation and harvesting, as in the case of corn (Paunlagui and Rola, 2001).

Table 4. Measuring social capital in rice ARC and non-ARC, Philippines, 2000.

|  | ARC  | Non-ARC |
|--|------|---------|
| I. <i>Level of trust</i>                 | 2.15 | 2.20    |
| II. <i>Quality of associational life</i> | 2.87 | 2.69    |
| Kinship pattern                          | 3.00 | 3.00    |
| Occupational pattern                     | 2.73 | 2.38    |
| III. <i>Reciprocity</i>                  | 1.83 | 2.00    |
| Transplanting                            | 1.50 | 2.00    |
| Weeding                                  | 1.00 | 3.00    |
| Land preparation                         | 2.00 | 1.00    |
| Harvesting                               | 1.00 | 3.00    |
| Rotating credit                          | 1.00 | 1.00    |
| Iwi system                               | 3.00 | 3.00    |
| IV. <i>Collective action</i>             | 2.40 | 1.79    |
| Agricultural activities                  | 3.00 | 1.00    |
| Social activities                        | 2.75 | 1.75    |
| Religious activities                     | 2.67 | 2.33    |
| School and related activities            | 3.00 | 1.67    |
| Occurrence of natural calamities         | 1.00 | 1.00    |
| Other community events                   | 1.00 | 1.00    |
| <b><i>Social Capital Index</i></b>       | 2.31 | 2.17    |

In several cases of our study, we saw that with higher incomes, reciprocity index also declines. This was observed to be a result of an increasing commoditization of labor, as well as the shift to cash crops so the labor operations need to be timely. Mechanization was also cited as a reason for lower reciprocity now than before. These findings are contrary to those of Parthasarathy and Chopde (No date), who in their study of the nature of technology adoption in India concluded that depletion of sociality following the adoption of a technology could be due to traits of the technology, its mode of transfer and diffusion, and the strength of social ties and social relations in the community.



#### 4. Collective Action

On the other hand, participation in community collective action was much higher in the rice ARC than rice non-ARC. In the rice ARC, collective activities were commonly practiced in the cleaning of irrigation canal and in pest management which were not mentioned in the non-ARC counterpart. The community also provided labor when the barangay hall and the basketball court were constructed. Social activities like the holding of beauty contests to raise funds for the construction/repair of the church and school were also common. Participation in tree planting was high because couples wanting to get married were required to plant a tree, according to the rice ARC FGDs. Attendance to the Parent Teacher Association meetings was also high because of the fine imposed for non-attendance. When asked why more people contributed to fund raising activities for a social goal, rice ARC FGD participants mentioned the better income they have now than before. But this is not true with reciprocal activities especially for an economic goal. Maybe this is cultural. In the course of the study, we have observed that village people would tend to devote more of their time and resources in activities in support of religiosity and civic needs rather than in support of an economic project.

#### *Coconut communities*

Because of the site selection bias, the results of this coconut case study may have to be taken with caution. The social capital of the coconut ARC represents the unified action of the ARBs to improve their lot and fight a common enemy, the former administrators and owners of the land. They have a high level of trust for their own neighbors, all former tenants. There was also an increasing commoditization of labor, hence a demise of exchange labor, a traditional reciprocal activity.

There were many agricultural *viajeros* (male traders) and *viajeras* (female traders) in the area. Farmers entrust their agricultural produce to the traders without any agreed price. Upon the return of the traders, farmers were paid, after deducting the amount spent for household goods that the farmers requested the traders to buy on their behalf. It should be noted that this arrangement was also practiced in the coconut non-AR, although the extent of practice is surmised to be less than in the ARC. Thus in essence, their capital in business was not actually monetary in nature but more of social capital.

##### 1. Level of trust

The level of trust was found to be higher among members of organizations/associations in the coconut ARC than the coconut non-AR (Table 5). People trust members of associations present in the community and national government agencies helping the coconut ARC. The members of organizations rated the national agencies to be highly trusted, particularly DAR for the land distribution

Table 5. Measuring social capital in coconut ARC and non-ARC, Philippines, 2000.

|  | ARC  | Non-ARC |
|--|------|---------|
| <i>I. Level of trust</i>                 | 2.47 | 2.27    |
| <i>II. Quality of associational life</i> | 2.50 | 2.60    |
| Kinship pattern                          | 3.00 | 3.00    |
| Occupational pattern                     | 2.00 | 2.60    |
| <i>III. Reciprocity</i>                  | 1.67 | 1.67    |
| Transplanting                            | 1.00 | 1.00    |
| Weeding                                  | 1.00 | 1.00    |
| Land preparation                         | 1.00 | 1.00    |
| Harvesting                               | 1.00 | 1.00    |
| Rotating credit                          | 1.00 | 3.00    |
| Iwi system                               | 3.00 | 1.00    |
| <i>IV. Collective action</i>             | 2.63 | 2.20    |
| Agricultural activities                  | 1.00 | 1.00    |
| Social activities                        | 3.00 | 2.50    |
| Religious activities                     | 1.67 | 3.00    |
| School and related activities            | 3.00 | 3.00    |
| Occurrence of natural calamities         | 3.00 | 1.00    |
| Other community events                   | 2.50 | 1.50    |
| <b><i>Social Capital Index</i></b>       | 2.25 | 2.23    |

and the accompanying support services. The financial support from DAR was probably lower than other ARCs in the sample and maybe in the population of ARCs, but becoming landowners was more than enough to compensate for the absence of other support services at the time being. But absence of such support services defeats the purpose of being an ARC.

## 2. Associational Life

The association life quality index was lower in the coconut ARC than the coconut non-AR because membership in the cooperative was exclusive to agrarian reform beneficiaries. This was the policy of the DAR. In the case of the coconut non-AR there was no cooperative, thus membership was open to all organizations/associations regardless of economic activities they were engaged in. This point brings the issue of whether membership to cooperatives should be opened to all members of the community in the future. It is true that the cooperatives were formed to serve as conduit of the support services to the agrarian reform beneficiaries, however, restricting its membership to ARBs only, has somehow

deprived other members of the community, particularly the farm workers from the benefits offered by the cooperative.

### 3. Reciprocity

The participants in the FGD in the coconut communities attributed the declining participation in reciprocal activities to the increasing commoditization of labor in the area. Participation in rotating credit – one of the activities included in the reciprocal practices, declined in the coconut ARC due to the presence of the women’s club auto saving project. This auto saving project, organized through the help of DAR, provided loans to its members and hence was hindering the reciprocal activities by other participants.

### 4. Collective Action

Residents in the coconut ARC participated more in the clean up drives and in road construction and repair than their coconut AR counterpart. For instance, before agrarian reform, there were only pathways connecting Roxas with the other sitios of Barangay Bulihan and neighboring barangays, thus the ARBs put in labor as equity in the construction of the earth-filled portion of the barangay road. Every rainy season, the people work together to level the potholed earth-filled road for the jeepneys and tricycles to reach Hacienda Roxas. The residents of the coconut ARC also provided labor in the construction of barangay hall. In both communities, “bayanihan” in transferring houses declined because of the shift from the use of temporary materials, e.g. wood and bamboo, to concrete housing materials. The shift was due to increasing price of wood and scarcity of bamboo and that owning the land meant that people could permanently build their house.

### *Pineapple communities*

Pineapple is an interesting case. The source of bias in the key estimates may not be due to the infrastructure- or DAR support- differences, but to the composition of the residents of the two study communities. In the pineapple non-ARC, 90% of the residents are Seventh Day Adventists, while the pineapple ARC was mostly Christians. The social capital index is slightly higher in the pineapple ARC. The result of the social capital index is seemingly biased. The source of low index value for social capital was the low value of the collective action index. In the questionnaire, most of the queries pertain to Christian activities, and hence, the non-ARC did not have answers. This is a learning point: the indices being measured could be culture or religious bound. Researchers must watch out for these cultural or religious differences. With these observations now, it seems that the religious beliefs and practices of the pineapple non-ARC residents are factors positively influencing social capital. The other factor found to inhibit social capital in the pineapple ARC is the shift in the land use from corn to cash crop. This has led to declines in reciprocity.

### 1. Level of trust

This index of trust was higher for the pineapple ARC than its non-ARC counterpart because nine of the 12 organizations in the pineapple ARC were rated as highly trustworthy (Table 6). This is perceived to be due to good leadership and prompt delivery of services. In the case of the pineapple non-ARC, only the women's organization and the provincial government got a high trust rating.

### 2. Associational Life

The quality of associational life was slightly lower in the pineapple non-ARC than its ARC counterpart. The lower associational life for the pineapple non-ARC was due to the presence of two cooperatives and tree planters association which limited its membership to a particular group of farmers.

### 3. Reciprocity

The index of reciprocity was estimated to be equal in both pineapple communities. Participation in reciprocal activities in both communities is perceived to be declining because of the shift from corn to pineapple and other crops. The shift to these cash crops reduced reciprocal activities such as exchange labor. But it was in this particular study site where rotating credit involves not only cash but also items including Tupperware and jewelry.

### 4. Collective Action

Participation in collective action was more in the pineapple ARC than the non-ARC. Both communities participated in social activities like giving donations to beauty contests, funerals, and occasions like weddings and birthdays. The difference lies in their participation in religious activities. When many respondents were converted as Seventh Day Adventist, their participation in Christian practices, particularly the Mayflower festival has declined. More than 90% of the residents in the pineapple non-ARC became Seventh Day Adventist. The result of the collective action index would have to be carefully interpreted. This is one of the weaknesses of the methodology; the researchers have assumed only Christian activities, which then imply that estimates of the key variables are culture specific.

## V. Conclusion and Recommendations

This case study is a pioneering attempt to empirically estimate the concept of social capital in developing countries like the Philippines. The methodology is path breaking and future work on this will have to consider the appropriate definition of the concept to come up with components of the index and the functional form of the model. Much needs to be desired in the generation of data to describe the constructs of the social capital index.

Table 6. Measuring social capital in pineapple ARC and non-ARC, Philippines, 2000.

|  | ARC  | Non-ARC |
|--|------|---------|
| <i>I. Level of trust</i>                 | 2.95 | 2.60    |
| <i>II. Quality of associational life</i> | 2.44 | 2.43    |
| Kinship pattern                          | 2.88 | 2.71    |
| Occupational pattern                     | 2.00 | 2.14    |
| <i>III. Reciprocity</i>                  | 1.67 | 1.67    |
| Transplanting                            | 1.00 | 1.00    |
| Weeding                                  | 1.00 | 1.00    |
| Land preparation                         | 1.00 | 1.00    |
| Harvesting                               | 1.00 | 1.00    |
| Rotating credit                          | 3.00 | 1.00    |
| Iwi system                               | 1.00 | 3.00    |
| <i>IV. Collective action</i>             | 2.04 | 1.92    |
| Agricultural activities                  | 1.00 | 2.00    |
| Social activities                        | 2.75 | 2.00    |
| Religious activities                     | 3.00 | 2.00    |
| School and related activities            | 2.00 | 2.00    |
| Occurrence of natural calamities         | 1.00 | 1.00    |
| Other community events                   | 2.50 | 2.50    |
| <b><i>Social Capital Index</i></b>       | 2.27 | 2.15    |

In terms of construct, it is a bit difficult to describe the quality of associational life. In this paper, we derived the number of associations as the main variable. However, whether these associations are at all functional was not part of the model. Questions on norms such as collective action also have temporal and cultural dimensions. Thus, comparing across groups with for instance, different religions can bias some results. In terms of the temporal dimension, some activities previously done may not be true now for some groups. This is because new technologies have been introduced. This dynamic nature of norms may need to be captured more strongly in future work.

Our initial work used the linear model to estimate the index, for simplicity. But is social capital a linear relationship? Will the constructs involve some uneven weights, in contrast to our work that assumed even weights? The other caveat to the present study is the possible selection bias in the choice of study sites. Due to several criteria, and multiple objectives, the sites were sometimes not comparable, for the study of social capital. A point to highlight is to be careful with choice of sites.

Given these caveats, the conclusions of this study conform to the theory that social capital inheres in the structure of network relationships among actors. There is also a strong indication that social capital as empirically defined is also consistent with the concept that it is “the ability of actors to secure benefits by virtue of membership in social networks.”

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