

The role of social capital on farmers' welfare in paddy granary areas (Peranan modal sosial terhadap kebajikan petani dalam kawasan jelapang padi)

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Key words: social capital, productivity

Abstract

Empirical results from a study on social capital were based on a survey of 60 household heads from six villages in Kuala Selangor, Malaysia. The study found that structural social capital shows clear impacts on farmers' welfare, either positive or negative, while the influence of cognitive social capital is vague. As expected, farmers' welfare was also influenced by human capital and other household's characteristics. Based on the coefficient of the social capital variables generated from the analyses, its impact on farmers' welfare and community development in Malaysia was minimal, at least under the present development policies. On the other hand, human capital variable, such as years of formal education, contributed positively to productivity as well as the health status of farmers. This study also revealed that an increase of one hectare in land size (owned and rented) will swell household monthly per capita spending by RM125. An increase in per capita household expenditure indicates better farmers' quality of life. Thus, increasing the farmland area, possibly by renting can improve their overall living standards.

Introduction

The concept of social capital (SC) has steadily gained prominence in the fields of social and economic development, and the opening up of opportunities for interdisciplinary research. Economist, sociologist, anthropologist, as well as policy makers can work in a team and enjoy unprecedented level of cooperation, dialogue and discourse. Increasing number of empirical studies has been done in developing countries, while studies featuring rural Malaysia were limited.

Community Development (especially rural development) in Malaysia has always been an important agenda for the government. It has both sociological and political objectives primarily in addressing poverty issues. Malaysia started giving priority in overcoming issues on poverty soon after independence in 1957. Improvements were made to the existing infrastructures and

special attention was paid to the agricultural sector. In enhancing economic growth, Malaysia introduced the New Economic Policy (NEP) in 1970 which concentrated on maximizing poverty eradication efforts through 'In-situ Development' Projects and the New Land Development. The key policy objective was growth with equity. Subsequent major economic policies are the National Development Policy (NDP) of 1991–2000; and the National Vision Policy (NVP) of 2001–2010. The key policy objectives of NDP and NVP were for a balanced development, and the building of a resilient and competitive nation respectively. It should also be noted that in 1991, The Vision 2020 Policy was introduced. The policy not only focused on reducing poverty among those in the low-income bracket, but also aimed in raising the status of the rural areas thereby making them developed, attractive and economically

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viable. The implementation of the economic policies mentioned above has been quite successful. Our poverty rate decreased from 49.3% in 1970 to 5.1% in 2002 (Anon. 2004). This tremendous decrease was due to implementing strategies that focused on restructuring the society, increasing ownership of assets and equity to the needy communities, and reducing the poverty gap between the rural and urban communities, and among racial groups.

Poverty line income (PLI) for Malaysia differs based on regions and is adjusted periodically. In the Malaysian context, Rahmah (2004), defined it as *'an income sufficient to purchase a minimum basket of food to maintain household members in good nutritional health and other basic needs such as clothing and footwear, rent, fuel and power, transport and communication, health care, education and recreation'*. The PLI for Peninsular Malaysia is defined as a monthly family income of RM529 with a household size of 4.6. There is also another group of household known as hardcore poverty. The household income is about half of PLI. In 1990, the hardcore poor accounted for 3.9% of the nation's households. By 2002, only 1% of such households remain in the country.

Since our independence in 1957, the government had established numerous formal and structured land development agencies or projects benefiting the vast majority of the rural population. Among the agencies/projects that played significant role in community developments are the Federal Land Development Authority (FELDA), Federal Land Consolidation and Rehabilitation Authority (FELCRA), Regional Land Development Agencies and the Integrated Agricultural Development Project (IADP). The later project is expected to benefit farmers in the granary areas of Malaysia.

Paddy cultivation is home to about 116,000 households who depend on rice as a major source of income, representing about 3% of total households in Malaysia. They are concentrated in eight rice growing areas (also known as granary areas) totaling about

212,000 hectares of rice fields. About 65% of the farmers have farm holdings of less than one hectare. Overall, there had been an increase in farm size due to the consolidation of farms into larger operating units within the main rice producing areas.

The incidence of poverty in the paddy sector is always one of the highest in the country. In 1990, the poverty level among paddy farmers stood at 40%, against its highest level at about 80% in the seventies. Recent observation of the main granary areas showed decreasing poverty level as family income improved through higher agricultural productivity as well as income from non-farm sources.

Malaysia has been focusing on providing 'visible' capital such as physical, human and financial capitals, to improve the livelihood of the rural communities. There was no formal consideration or recognition on the possible role of social capital in enhancing rural development. Empirical evidence elsewhere, (Grootaert and Bartelaer 2001) shows that social capital contributes significantly to sustainable development. Towards this end, it is timely that the 'incidental' contribution of social capital to farmers' welfare as well as community development be recognised, quantified and nurtured. This paper will attempt to quantify and examine the influence of SC on welfare at household levels in a rice granary area in Southwest Peninsular Malaysia. Additionally, this article suggests some policy options with regard to rural community development that incorporates SC consideration.

Methodology

Source of data

A preliminary visit to the potential study area (the district of Kuala Selangor) was conducted in the early part of 2004, to determine the manageable sample size, area coverage and method of data collection. Six villages were selected for this study. A brief profile of the selected villages is presented in *Appendix 1*.

Survey respondents consisted of 10 household heads from each of the six villages.

Selection of household was based on modified stratified random sampling, where the Village Security and Development Community Chairperson (*Pengerusi Jawatankuasa Pembangunan dan Keselamatan Kampung* or JKKK) was automatically selected. The selection of the chairperson is crucial because of the dominant role he plays in all aspects of community affairs. Household survey was conducted using structured questionnaire designed to capture the welfare indicators (income, rice yield, health status, and expenditure pattern) and explanatory variables representing SC, human capital and selected characteristics believed to influence farmers' welfare.

Theoretical Framework

The broad concept of SC relates to “institutions, relationships, attitudes, and values that govern interactions among people which contribute to economic and social development”. It shares several attributes with other forms of capital. For example, SC is not costless to produce, as it requires an investment, not always in terms of money but at least in terms of time and effort (Sakurai 2003). To develop trusting relationships among members of an organisation often requires years of meetings and interactions.

Fukuyama (1999), defined social capital as *an instantiated informal norm that promotes cooperation between two or more individuals*. The norms can range from a norm of reciprocity between two friends and up to complex doctrines such as religion or cultural beliefs. According to the World Bank, ‘*Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society’s social interactions among people and contribute to economic and social development*’ (Grootaert and Bartelaer 2001). Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable. Social capital is not just the sum of the institutions which underpin a society; it is the glue that holds them together.

Measuring social capital may be difficult, but it is not impossible, and several excellent studies have identified useful proxies for social capital, using different types and combinations of qualitative, comparative and quantitative research methodologies (Woolcock and Narayan 2000). Depending on the definition of social capital and its context, some indicators may be more appropriate than others.

The conceptual basis for this study primarily follows the measurement of social capital framework developed by Narayan and Cassidy (2001). They suggested that social capital indicators should only focus on three types of proxy indicators: membership in local association and networks, indicators of trust and adherence to norms, and an indicator of collective action. Ishida (2003) also proposed network and memberships, social trust and collective action as proxies for social capital indicators.

As for typology, Uphoff (1999) delineated SC into two forms, namely structural and cognitive. The structural SC refers to observable social structures such as networks, organisations and rules they embody, while cognitive SC comprises of norms, values and attitudes. Based on its function, Rydin and Homan (2004) categorized SC into bonding (intra-community tie); bridging (intercommunity horizontal tie); linking (vertical connection); and bracing (vertical and horizontal connection within a limited actors).

Model specification

In establishing the model specification, household level analysis approach proposed by Sakurai (2003) was adopted and tested. The general form of the model is:

$$W = \alpha + \beta S + \theta H + \rho O + v$$

Where,

- W = Welfare indicator for household;
- α = Constant term;
- S = Variables representing social capital;

- β = Coefficient of variable S;
H = Variables representing human capital;
 θ = Coefficient of variable H;
O = Variables representing other characteristics;
 ρ = Coefficient of variable O;
u = Error term.

Clarification of selected variables used in the model

The welfare indicators are:

Health status: Perception of household heads on their health based on a scale of 1 to 10

Yield: Actual yield in tonnes per hectare in a year (double cropping)

Household expenditure per capita: monthly per capita in RM, excluding agriculture inputs.

The summary statistics are shown in *Appendix 2*.

The explanatory variables (SC, human capital and other capital) are:

Community activity attendance (SC1): Frequency of attending formal organisation activity .

Participation in organisation (SC2): Number of organisations where respondent is a member.

Involvement in formal organisation (SC3): Years of respondents' membership.

Membership status (SC4): Whether respondent is an office bearer or just a member.

PPK involvement (SC5): Whether respondent is involved in *Pertubuhan Peladang Kawasan* (PPK) activities or otherwise.

Importance of PPK (SC6): Perception on the role of PPK.

Community trust (SC7): Perception on trustworthiness of people within the community.

Farmland area (PC): Hectares of owned and rented land for 2003 operation.

Household head education (HC): Years of formal education.

Income of household: Annual income from paddy activities .

The summary statistics are shown in *Appendix 3*.

Using Rydin and Homan (2004) approach, the SC variables above are further categorised as presented in *Table 1*.

Results and discussion

The summary of estimation results on all the welfare determinants measured in this study, namely health status, yield and household expenditures is shown in *Table 2*.

Health status

The model yields relatively high R^2 of 0.536, which is high for a social science research. More than 50% variation in health level of respondents is explained by the model. Old respondents as expected were not as healthy as the young respondents. Household heads attending more community activities (SC1) appear less healthy, seeming that old farmers normally have more time to spend on community activities and they are more loyal to their organisations. The other two structural SC variables used in the model were not significant. Regarding cognitive SC, those who think PPK was important (SC6) were relatively healthier. Education level showed positive effect on respondent's health level. A more educated respondent was healthier than those who were less educated.

Paddy yield obtained

In terms of yield achievement in the study area, the best-fit model with R^2 of 0.221 included six social capital predictors with at least 10% level of significance. Community activity attendance (SC1) and duration of involvement in organisation (SC3) contributed to higher paddy yield. For example, an additional attendance of one community activity, the farmers' paddy yield increased by about 0.06 tonne per hectare annually (other variables remain constant). The dummy variables built in the model indicated that a farmer's membership in PPK and holding an official position in any formal organisation had some bearing on the level of paddy yield

Table 1. Classification of social capital by form and function

Form	Function			
	Bonding	Bridging	Linking	Bracing
Structural	SC1, SC2	SC3	SC5	SC4
Cognitive	SC7		SC6	

Table 2. Estimation results of welfare determinants, Kuala Selangor, 2004

Dependent variable	Health status	Paddy yield	Household expenditure
Constant (α)	12.336(6.324)***	12.079(3.788)***	3376.502 (2.826)*
Structural SC			
SC1: Community activity attendance	-0.177(-1.827)**	0.0587(1.228)**	14.047 ns
SC2: Participation in organisation	0.0046 ns	-0.284 ns	
SC3: Involvement in formal org.	-0.182 ns	0.0851(1.627)**	-0.1643 ns
SC4: Membership status		-2.267(-1.387)**	1526.902 (1.676)*
SC5: PPK involvement		-1.425***(-1.389)***	-866.622 (1.802)*
Cognitive SC			
SC6: Importance of PPK	1.164 (2.434)**	-0.190 ns	996.764 (2.085)**
SC7: Community trust	0.875 ns		
Human capital			
HC: Household head education	0.193 (1.891)**	0.204 (1.202)**	
Physical capital			
PC: Farmland area			125.073(2.335)**
Age of household head	-0.119 (-3.128)***	-0.284 ns	-34.212 ns
Income of household	0.0000169 ns		
R ²	0.536	0.221	0.278
Number of observations	60	60	60

OLS was used for the estimation

t-statistics are in brackets

*** ** *Indicate; 1%, 5%, and 10% level of significance respectively

ns = Not significant

achieved. Involvement in PPK (SC5) and official status in formal organisation (SC4) caused a decline in paddy productivity. These seemingly contradictory findings merit further investigation, as one of the primary roles of PPK was to facilitate productivity improvement efforts by the government. The only human capital used in the model, proxies with years of education of household head showed a positive relationship with yield level obtained by farmers. Many government agencies responsible to develop *Projek Barat Laut Selangor* (PBLs) rendered intensive extension and advisory services. Thus, rice

farming in that area is quite well established technologically. This is due to the relatively educated farmers in the area as to transfer any new technology successfully requires a certain level of education on the part of the recipients.

Monthly household expenditure per capita

Higher spending on household expenditure should indicate a better standard of living. Household spending were shaped by involvement in PPK and level of participation (holding official post or just a member in organisation). Farmers who were involved

in PPK activities spent less on household expenditure relative to those who did not participate. Those holding official post in PPK spent relatively more on per capita household expenditure compared to ordinary members. The office bearers were believed to enjoy more economic benefits from their positions, thus had more spending power.

The most significant variable however, was the size of rice area (both owned and rented), not a SC, but a physical capital (PC). Those who rented more rice land were more enterprising and they generated more income. Consequently, they commanded better spending power. This study indicated that an increase of one hectare in land size will swell per capita household spending by about RM125 per month.

Types of SC and farmers' welfare

Structural SC shows clear positive or negative impacts on farmers' welfare, while the influence of cognitive SC is vaguer (Table 3). However, interpretation of SC is highly contextual in socio-economic, political, cultural and historical settings. The apparent contradictive effects of linking and bracing structural SC present a good example. Malaysian rice sector has experienced a shift in policy agenda from solving food problem to agricultural adjustment due to rapid economic growth. The role of farmers' organisations was also transformed. After mechanised labour saving production technology became well diffused, PPK functioned mainly as a distributional channel of government subsidies to rice farmers.

Conclusion and policy implications

Efforts to develop and enhance the livelihood of rural community in Malaysia has always focused on providing infrastructure facilities to the community coupled with allocating a high proportion of the national budget to nurture human capital through education. This is reflected by Malaysia who consistently spends high proportion of her development budget on agriculture and rural development, transportation and education services. For example, out of almost RM40 billion spent on development in 2004, 8.6%, 22.5% and 14.4% were for agriculture/rural development, transportation and education respectively (Anon. 2005). Strategies on harnessing social capital were never institutionalised explicitly in our national development policy.

The concept of absolute poverty and hardcore poverty is used in the implementation of the national poverty eradication programmes. In Malaysia, the poverty group identified comprises of fishermen, paddy farmers, coconut growers, estate workers, rubber smallholders, agriculture labourers and villagers in Chinese New Villages. This study only focused on paddy farmers in the most productive area where we found hardly any evidence of poor households. Poor paddy farmers were mostly tenant or landless farmers, while our samples were mostly owner operators who also improved their incomes by renting more rice land.

The outcome and lessons learned from this study, although not highly conclusive, is that social capital has more positive than negative

Table 3. Social capital and farmers' welfare

	Health	Productivity	Expenditure
Structural SC			
Bonding	Negative	Positive	
Bridging		Positive	
Linking		Negative	Negative
Bracing		Negative	Positive
Cognitive SC			
Bonding			
Linking	Positive		Positive

effects on rural community development. The area studied has well developed agriculture infrastructures such as irrigation and drainage systems as well as formal organisations for farmers' welfare. Thus, it is timely that more focus and resources be given to social capital development. Investments in harnessing social capital, both at community and household levels, may further enhance farmers' quality of life. This is possible as SC can increase availability of information and lower its cost as well as facilitate collective decisions (Grootaert and Bartelaer 2001). However, according to the village heads during the interview, there were serious social problems such as juvenile delinquency in the area. Experiences suggest that improving income level alone cannot solve this problem. Therefore, social capital might play an important role in the overall development of rural areas. Specific policies aiming to enhance our social capitals and supported with programmes and budget allocations are thus, deemed crucial in hastening our general community development.

As mentioned earlier, this study did not cover the whole spectrum of the focus groups. Furthermore, all the respondents were Malays of the Javanese stock. Their beliefs and cultural behaviours may not provide sufficient variations for more meaningful results. Besides fishermen and the other poverty groups identified earlier, there are also regional poverty issues such as those in East Malaysia, the East Coast and the indigenous population of Malaysia. A bigger and more comprehensive study covering larger samples is required to understand the effects and roles played by all the SC factors on the welfare of the people. It should not be limited to rural community only, but should also include urban ones. In fact, the population of urban dwellers outstripped rural households in Malaysia today.

Some kind of collective actions among the farmers could facilitate efforts to improve their welfare better. The MOA INC. concept, which aims to improve the livelihood of the farming community by modernizing

the agriculture sector should also consider incorporating programmes that can improve SC among farmers. A few value-adding activities were identified as suitable for the rural communities (Abu Kasim and Hamdzah 2003). These activities include the making of snacks, sauces, and condiments where much of the raw materials are readily available or can be produced easily by farmers. The critical success factors in this programme require both social and other capital inputs. For example, all their products will have to carry one brand, that is, 'Malaysia Best' and promoted by a specialised agency. Quality assurance and control can be monitored by another agency. The participants in this programme should be encouraged to form a consortium in order to benefit from the economy of scale. Therefore, to be able to work and be involved in this kind of activities would require a high degree of social trust, collective action and organisation networking.

Theory on social capital as we know it is at the early stage of development, what more in this country. Continuous capacity building is crucial to improve understanding and analytical skills in conducting a good SC research. The understanding on the community dynamics, household behaviours, organisational behaviours and various other sociological dimensions is crucial in social capital research.

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Abstrak

Keputusan empirikal daripada kajian terhadap modal sosial ini berasaskan survei 60 ketua keluarga dari 6 kampung di Kuala Selangor, Malaysia. Kajian ini mendapati modal sosial berstruktur menunjukkan impak yang jelas tentang kebajikan petani sama ada positif atau negatif. Walau bagaimanapun pengaruh modal sosial kognitif didapati kabur. Seperti dijangkakan, kebajikan petani juga dipengaruhi oleh modal insan dan ciri-ciri keluarga yang lain. Berasaskan koefisien variabel modal sosial yang diperolehi daripada analisis, impak modal sosial terhadap kebajikan petani dan pembangunan komuniti di Malaysia adalah minimum, sekurang-kurangnya di bawah polisi pembangunan pada masa ini. Sebaliknya, variabel modal insan seperti tempoh mendapat pendidikan formal, menunjukkan sumbangan positif kepada produktiviti dan juga status kesihatan mereka. Kajian ini juga menunjukkan penambahan satu hektar tanah (sendiri dan sewa) akan menambahkan perbelanjaan per kapita bulanan keluarga sebanyak RM125. Penambahan perbelanjaan per kapita keluarga menunjukkan kualiti hidup petani bertambah baik. Oleh sebab itu, penambahan kawasan ladang petani walaupun disewa, boleh memperbaiki taraf kehidupan keseluruhannya.

Appendix 1. Profile of the two sub-districts and six villages studied

		1			2		
		Villages			Villages		
		KA	BC	ST	P2	P1	P3
Area (km ²)		8	3.8	17	7.5	4.5	7.5
Population size (no.)		597	950	2,730	1,400	1,287	1,300
No. of households		125	185	657	462	528	262
No. of family size		4.8	5.1	4.2	3.0	2.4	5.0
Distance from nearest town (km)		2.5	7	10	16	10	8
Employment for population above 18 years old (%)	Farmers	70	71	50	60	60	80
	Civil servants	10	5	20	15	10	5
	Private sector	10	9	20	15	20	10
	Old age & underemployed	10	15	10	10	10	5
Type of crops grown (%)	Paddy	80	100	35	70	80	70
	Oil palm	20		60	25	10	20
	Others	0		5	10	10	10
No. of kindergartens		1	2	1	1	3	1
No. of surau (mini mosque)		1	2	1	4	7	4
No. of mosques		1	1	1	2	1	0
No. of public phones		1	3	1	1	9	3
No. of community halls		1	1	1	2	6	4
Distance to elementary school (km)		0.5	0.5	0.5	4.8	2	0.5
Distance to high school (km)		2.5	5	0.5	6	6.4	6.4
No. of convenience shops		2	8	1	4	9	6
No. of coffee shops		1	5	1	4	15	6
Television availability (%)		100	95	100	100	100	95
Telephone availability (%)		80	65	70	75	50	50

Appendix 2. Summary statistics of welfare indicators

Indicator	Minimum	Maximum	Mean	Standard deviation	N
Health status (scale 1–10)	5	10	7.8	2.2	60
Yield (tonnes)	8	27	12.6	2.8	60
Household expenditure per capita (RM/month)	50.00	800.00	280.7	185.5	60

N = No. of observations

Appendix 3. Summary statistics of selected explanatory variables (SC, PC, HC etc)

Indicator	Minimum	Maximum	Mean	Standard deviation	N
Community activity attendance	0	36	8.8	9.3	60
Involvement in formal organisation	0	43	17.3	11.4	60
Participation in organisation	0	6	3.1	1.6	60
Income of household(RM)	20,087	87,958	30,579	18,265	60
Farmland area (hectare)	0.6	10.3	3.6	1.2	60
Age of household head	29	67	47.5	10.5	60
House head education (years)	0	18	7.6	2.8	60

N = No. of observations