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Social capital between farmers of Iran

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Social capital can potentially be used for wrong reasons such as criminal activities, self interests and the creation of unequal communities. In this regard, the issue of developing communities raises concern because social capital has not sufficiently been researched and documented in rural areas of the developing world. The purpose of this study was the assessment of social capital between rural farmers in Behbahan County in Iran and identified effective factors on it. For access to this purpose, 20 variables that measured social capital by questionnaire were used. 205 farmers were selected by systematic sampling between 7314 Behbahan farmers. This sample was selected from 38 villages by random sampling method from 150 villages of the county. Results of this study showed that majority of the farmers have a low level of social capital. According to the result, there are positive correlation between farmers' literacy, family cost, off-farm income, extension participatory, human capital, financial capital, physical capital and social capital between farmers. Also there are negative significant relationships between social capital indicators with variables such as; farmer's age, family size, experience in agricultural activities and agrarian land. Regression results showed that the six variables as human capital, participatory extension, agrarian land, off- farm income, family cost, and physical capital entered into the equation model and these variables explained 56.7% of the variance of the social capital indicator among the farmers.

Key words: Social capital, farmers, indicator, normality test, Behbahan County, Iran.

INTRODUCTION

Social capital embedded in participatory groups within rural communities has been central to equitable and sustainable solutions to local development problems (Pretty and Ward, 2001). The sinister character of social capital can be understood because it can potentially be used for wrong reasons such as criminal activities, self interests and the creation of unequal communities. In this regard, the issue of developing communities raises concern because social capital has not sufficiently been researched and documented in rural areas of the developing world. There has been a rapid growth in interest in the term "social capital" in recent years (Carney, 1998; Flora, 1998; Grootaert, 1998; Ostrom,

1998; Pretty, 1998; Scoones, 1998; Uphoff, 1998). The term captures the idea that social bonds and social norms are an important part of the basis for sustainable livelihoods. Although, authors generally agree that it does exist in societies, the construct has been criticized as being difficult to define (Fukuyama, 2002), being difficult to measure (Bridger and Luloff, 2001), and as having a 'dark side' (Fine, 1999). Despite this popularity, there is a lack of consensual and established definition of social capital (Grootaert and van Bastelaer, 2002). The notion of social capital is complex and multi-dimensional and defies a simple definition. It has been described as an attempt to reflect the intangibles, or non-economic aspects of society that promotes economic growth or positive development (Bryden and Hart, 2004).

According to Fukuyama (1999), social capital has been defined in many ways by many different scholars, but these definitions are often manifestations of social capital

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rather than actual social capital; social capital it is largely based on trust within groups. It can be understood as a set of shared informal values or norms which enables co-operation. Social capital is "the shared knowledge, understandings, norms, rules, and expectations about patterns of interactions that groups of individuals bring to a recurrent activity" (Ostrom, 2000). Trust, is perhaps the most important component of social capital. If one's confidence in an enforcement agency falters, one does not trust people to fulfill their agreements and agreements are not entered into (Dasgupta, 2000). Social capital refers to the trust and shared norms of behavior that arise within informal social networks and generate externalities for the members of a group (Durlauf and Fafchamps, 2004). It influences the resources that an individual can mobilize through his or her social network (Woolcock and Narayan, 2000) and the propensity of community members to engage in collective action (Ostrom and Ahn, 2002). It is considered as an umbrella term that covers a variety of aspects of social organization, analogous to human and financial capital (Coleman, 1990).

While some authors conceived social capital as an indivisible public good which the members of a group can enjoy (Coleman, 1988; Fukuyama, 1995; Putnam, 1993), others have considered it to be more of an individual asset which parties embedded in stable networks of relationships can use to gain access to other resources or capitals (Bourdieu, 1986; Coleman, 1990; Lin, 2001). Social capital has traditionally been operationalised through social network analysis (Lin et al., 2001; Paldam, 2001). This methodology highlights the relational nature of the social structure and implies that the explanation of social phenomena lies in the relationships among the units of analysis (people, groups and institutions, etc), rather than in the characteristics of those entities taken separately.

Social capital involves a social structure exemplified by social interaction between the promotion of social cohesion amongst members of a group or community (Grootaert et al., 2004; Lloyd-Odger, 2005). Such connectedness arises from social relationships between two or more people that are characterized by mutual trust, reciprocity and collective resolution of problems that people may have in common (Putnam and Feldstein, 2003; Stone, 2003).

The central thesis of the social capital literature is that features of social organization, such as networks of interaction, norms, and trust have resource potential to individuals and groups. Social capital has been linked to a variety of outcomes, such as success in job seeking behavior (Green et al., 1995), entrepreneurship (Portes and Sensenbrenner, 1993) and successful community action or development (Woolcock, 1998; Flora et al., 1997). It is defined as those features of social structures, such as levels of interpersonal trust and norms of reciprocity and mutual aid, which act as resources for

individuals and facilitate collective action (Coleman, 1990; Putnam, 1993a) and is characterized by levels of trust, civic engagement and norms of reciprocity (Putnam, 1993a; Lochner et al., 1999). Putnam presented that two of the key theoretical ingredients of social capital are general community trust and generalized reciprocity (Putnam, 1993b). Social capital serves to capture how people interact with each other, and how these social interactions in turn yield benefits for the individuals and collectively (Claridge, 2007; SCIG, 2000).

Putnam (1993a, b, 2000) and other researchers looking at social capital at the community level, basically argued that people who know and trust one another are more likely to be able to work together to find solutions to problems that are mutually acceptable to everyone. Putnam (1996) himself seems to regard social capital as the same thing as civic engagement and at other times, he sees social capital as the cause of civic engagement, thus, confusing dependent and independent variables (Milner, 2002). Lowndes and Wilson (2001) argued that dense networks of civic engagement produce a capacity for trust, reciprocity and co-operation which in turn leads to a healthy economy and a healthy democracy. Anderson and Bell (2003) argued that social capital encourages the view that everything in social life of significance can be reduced to the rational and economic. It is possible that governmental action might not only lead to a decline in social capital, but also to its increase (Lowndes and Wilson, 2001; Akkerman et al., 2004; Levi, 1996). Social capital relies on social inclusion; it cannot develop if people are unwilling or unable to participate. Indeed, Anderson and Bell (2003) noted that social exclusion may as well be a product of high social capital.

At local territorial level, planning and design factors affect levels of social capital with the presence of economic (shops, work), social and leisure facilities in the neighborhood setting providing opportunities for the informal contact and sociability associated with a developed social capital (Henning and Lieberg, 1996; Temkin and Rohe, 1998). Decentralized government structures offering opportunities for community and citizen input to decision-making (Maloney et al., 2000; Docherty et al., 2001), local leadership and capable state agency in communities (Krishna, 2001) are institutional factors conducive to mobilizing social capital in territorial communities and their capacity for policy influence linking social capital. Some argued that government can do relatively little to 'grow' social capital in a community because it is the result of deep-rooted cultural and historic factors (Putnam et al., 1993), while others considered that governments can intervene to shape the social capital (Aldridge and Halpern, 2002; NESF, 2003).

Krishna and Uphoff (1999) in their study showed that demographic characteristics and household attributes, such as education, wealth, and social status are not systematically associated with the level of social capital within households. In contrast, several community

attributes reflecting participation and experience in dealing with community problems positively affected the social capital index. Recent scholarship has explored relationships between individuals' socio-economic characteristics, social capital and group membership (Godoy et al., 2007; Thorpe et al. 2005). The key socio-economic predictors include; level of educational attainment, age, social class position, economic (employment) status, marital status, home tenure and residential mobility (Hall, 1999; Putnam, 2000; Balanda and Wilde, 2003; Healy, 2004). Social capital is affected by income inequality; and several research results suggest that social capital and income inequality are negatively associated (Kawachi et al., 1996). Offe and Fuchs (2002) found that income, education, age, family size and gender had a direct relationship with social capital. According to Ghasemi et al. (2006), research on age, gender, education, activity, income and family size are the most influencing factors in social capital.

Godoy et al. (2007) found only limited associations between individual characteristics and proxies for social capital (gift giving and participation in communal labor groups) amongst isolated rural communities. Instead, culture, kinship links and community norms emerged as key determinants of individual levels of social capital. Although, poverty, lack of labor and social status are highlighted as individual characteristics liable to preclude group membership, culture and history are integral to understanding local group formation, persistence and outcomes (Mosse 2006; Porter and Lyon 2006; Thorpe et al., 2005).

The case study by Fafchamps and Minten (1999) suggests that cognitive social capital can increase incomes of agricultural traders and their families. The authors argued that social capital embodied in networks of trust has characteristics similar to other factors of production, such as physical capital and labor. Like these inputs, social capital is accumulated over time and improves economic performance. A range of new research showed that communities endowed with a rich stock of social networks and civic associations are in a stronger position to resolve disputes, share useful information, set up informal insurance mechanisms, implement successful development projects, and confront poverty and vulnerability (Isham et al., 2002).

Putnam (1995) argued that a certain amount of wealth is needed to create social capital. Social capital is affected by many socio-economic factors, such as income inequality; and several research results suggested that social capital and income inequality are negatively associated (Kawachi et al., 1996). Studies in China showed that the social capital is declining in current rapid economic transitional period in China (Tao, 2003). Studies in China showed that the social capital is declining in current rapid economic transitional period in China (Kawachi and Berkman, 2000). Rowley (1999) in his study of social capital in sub-Saharan Africa, found a loose relationship between connectedness and wealth,

but causality was unclear: "did well connected people become rich or rich people able to afford to be well-connected." There may be cases, however, where a group might benefit from isolation, because it can avoid costly external demands. Clearly, not all forms of social capital are good for everyone. A society may be well organized, have strong institutions, have embedded reciprocal mechanisms, but be based not on trust but on fear and power, such as feudal, hierarchical, racist and unjust societies (Knight, 1992).

MATERIALS AND METHODS

The instruments for data collection were questionnaire that consisted of two sections. Section one had 20 statements for assessment of social capital. Sixth point Likert scale ranged from 1= never to 6 = strongly agree. In order to test the amount of social capital of farmers in this research, according to (Kaasa 2009) research, 6 dimensions were used: (1) general trust that measured by 4 variables (2) institutional trust that measured by 5 variables (3) norms of helping that measured by 3 variables (4) norms of active social participation that measured by 3 variables (5) rural participation that measured by 3 variables and (6) tendency to rural livelihood that measured by 2 variables. Social capital measuring variables were ranked and presented in Table 2. The highest possible value for the social capital in this scale was 120 and the lowest 20. Section two of questionnaire contained demographic information, asking farmers' age, years of experience, level of education, literacy, and agrarian land etc. Questionnaire reliability was estimated by calculating Cronbach's alpha, which was 0.84.

Area of study

Behbahan County with extent of 3516 km² was located in between longitude of 50° and 13 min and 50° and 16 min at East and in latitude of between 34° and 30 min and 30° and 37 min in the North. This county is placed in semi-arid region in East Southern of Khuzestan province of Iran and height of it from sea surface was 300 m (Figure 1). Annual rainfall average of county was 354 ml; the minimum temperature was -2.8°C while the maximum temperature is 50.2°C (Anon, 2009). Number of exploitable units of county is 7314 units that 82% of them have a space under 10 ha (Anon, 2006). Behbahan consists of five district and 150 villages. 205 farmers were selected by systematic sampling method and were selected from 38 villages by random sampling method between 150 villages.

RESULTS

The mean of the respondents' ages was about 44 years. Majority (56.7%, n =118) of respondent were 30 to 54 years old. All of the respondents in the study were males. The years of experience of respondents ranged from 3 to 50 and the mean of their experience was 22 years. The educational level of majorities (30%) of farmers was primary while the average number of family size of farmers was five people. The average size of farm to each farmer was equal to 5.5 ha, average of irrigated land was 4.1, and 1.5 ha of their lands were dry lands. Majority of farmers have low and very low knowledge about sustainable agriculture (52.4%) and 53.8 of farmers

Table 1. Classification of farmers according to amount social capital indicator.

Variable	Frequency	Percent	Cumulative percent
Very low	30	14.6	14.9
Low	79	38.5	53.1
Moderate	57	27.8	80.9
High	39	19.1	100.0
Total	205	100	

have low and very low level use of methods of sustainable agriculture. According to the result of assessment of farmers' job satisfaction, 50.5% of farmers have low and very low level of this factor. Result showed that 7.2% of farmers in this study were members of the rural Islamic Council and 68.4% of them were members of the rural production cooperatives.

Social capital indicator was made with combined of 20 variables that presented in Table 2. Result showed that mean of this indicator was 87.35. Minimum and maximum of this indicator were 33 and 132. According to this indicator, farmers were classified in groups as indicated in Table 1. In order to classify farmers according to social capital indicator, the Interval of Standard Deviation from Mean (ISDM) index was used. The result showed that majority of farmers had a low level of this indicator (Table 1).

Ranking of social capital variables

According to table Farmers argued that the most important variable of social capital was Information exchange with other farmers about agricultural new methods that this result showed that one of the best ways for formed social capital is information exchange with neighborhoods and other farmers in them region. The second major variable in social capital indicator was Amount of security feeling in rural environment. The third effective variable in formed social capital according to result of study was Norm of activity in voluntary rural organizations. Other variable ranked according to amount of importance and presented in Table 2.

Normality test

In many statistical analyses, normality is often conveniently assumed without any empirical evidence or test. But normality is critical in many statistical methods. When this assumption is violated, interpretation and inference may not be reliable or valid (park, 2008). Both P-P and Q-Q plots show no significant deviation from the fitted line. According to normal Q-Q plot and detrended Q-Q plot that showed in Figure 2, has observed quintiles on the X axis and normal quintiles on the Y axis.

According to Result of Shapiro-Wilk statistic that showed in Table 3, do not reject the null hypothesis of normality ($p < .059$). Kolmogorov-Smirnov statistic of .058, but it provides an adjusted p-value of .094.

Correlation between research variables and social capital

Result of Pearson correlation showed that there are positive correlation between farmers' literacy, family cost, off-farm income, extension participatory, human capital, financial capital, physical capital and social capital indicator between farmers in Behbahan County. Also, there are negative significant relationships between social capital indicators with variables such as: farmer's age, family size, experience in agriculture activities and agrarian land. The result of correlation presented in Table 4.

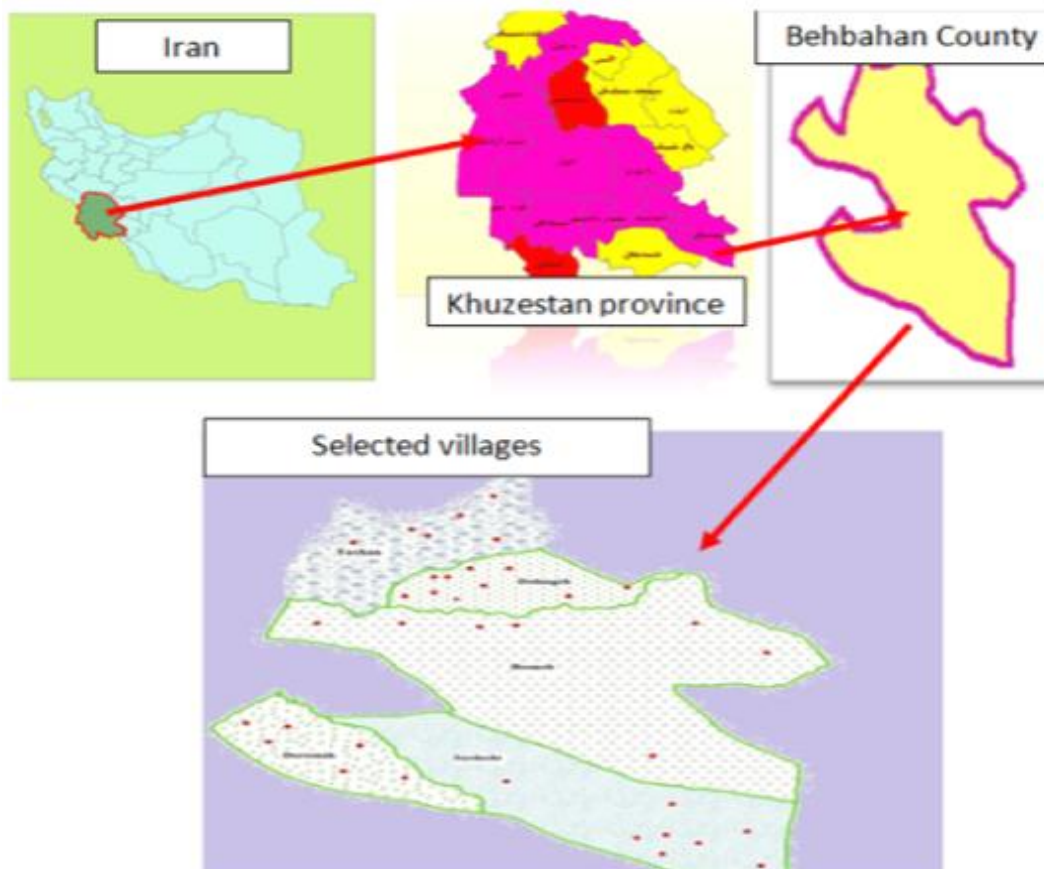
Identifying the effective factors on adoption crop insurance indicator

Table 5 presents the selected variables influence on the social capital indicator between farmers. This objective was accomplished using multiple regression analysis. Among 12 variables that entered into model 6 variables was significant influential on social capital and these variables together explained 56.7% of the variance of this indicator in the region selected for the study.

The variable that entered the regression model first was "Human capital" Considered alone, this variable explained 45.1% of the variance in the amount of social capital indicator. The variable that entered the model second was "Extension participatory" and explained 4.2% of the variance. The third that entered in the equation was "agrarian land" and explained 2.8% of the variable alone. The fourth variable was "off- farm income" that explained 1.5% of the indicator. The fifth significant variable was "Family cost" that explained 1.5% of the social capital. Finally the sixth variable that interned in the equation was "Physical capital" that explained 1.6% of the dependence variable. These variables together explained 56.7% of the variance in the social capital indicator among the farmers in the Behbahan County in Iran.

Table 2. Ranking of social capital variable.

Variable	Mean	Rank
Information exchange with other farmers about agricultural new methods	3.92	1
Amount of security feeling in rural environment	3.73	2
Norm of activity in voluntary rural organizations	2.66	3
Norm of helping to other farmers	3.61	4
Trust in group memberships	3.50	5
Participation in rural programs	3.43	6
Amount of tendency to living in village	3.36	7
Tendency to relationship with legal system	3.26	8
Norms of lending agricultural facilities from other farmers	3.22	9
Voting	3.22	9
Trust to other farmers	3.22	9
Tendency to getting new information about agriculture	3.19	12
Trust in the legal system	3.16	13
Trust in politicians	3.16	13
Tendency to participate in rural organizations	3.14	15
Frequency of meeting socially	3.10	16
Norm of activity in formal organizations	2.09	17
Norm of activity in legal organizations for access to new information	2.09	17
Amount of advisory with other farmers when facing with problems	3.01	19
Norms of borrowing agricultural facilities from other farmers	2.75	20

**Figure 1.** The location of the study area (Behbahan) on the Khuzestan province, Iran.

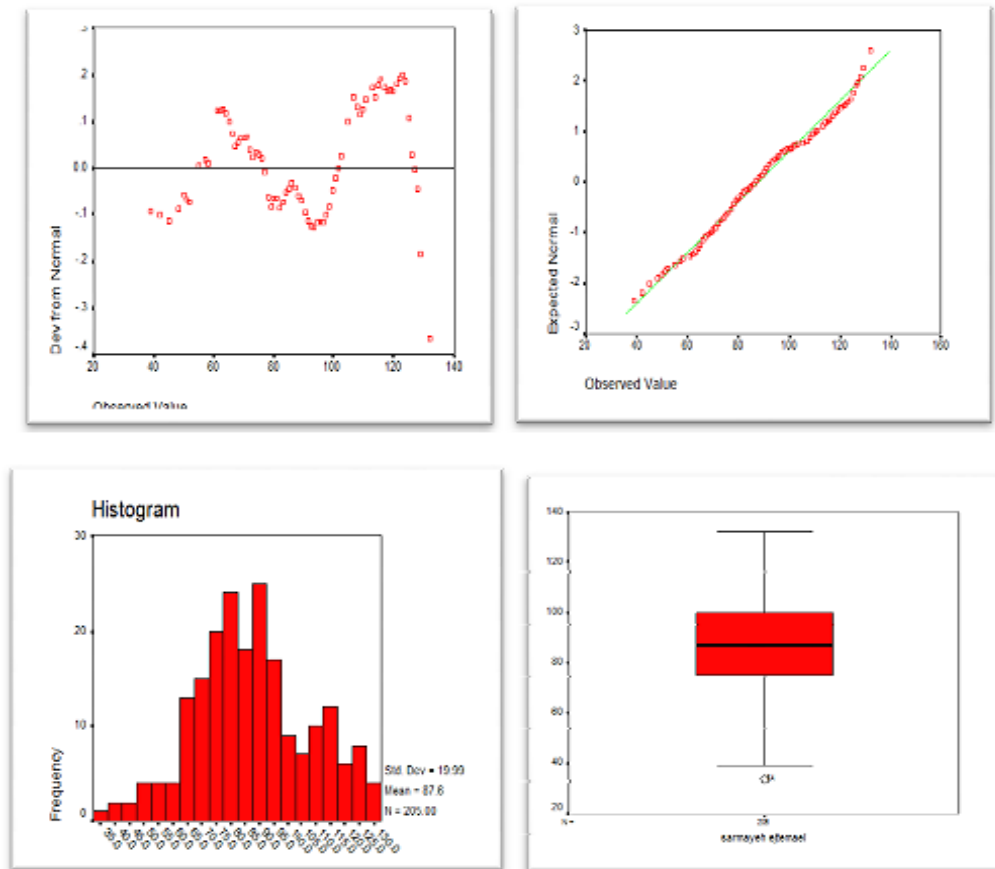


Figure 2. Graphical result of normality test.

Table 3. Statistical result of normality test.

Variable	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Social capital	0.058	205	0.094	0.987	205	0.059

Table 4. Correlation between research variable and social capital.

Variables	Social capital indicator	
	Correlation	P-value
Farmers age	-0.368**	0.000
Farmers literacy	0.384**	0.000
Family size	-0.348**	0.000
Experience in agriculture activities	-0.339**	0.000
agrarian land	-0.192**	0.006
Family cost	0.354**	0.000
Off- farm income	0.328**	0.000
Extension participatory	0.578**	0.000
Human capital	0.681**	0.000
Financial capital	0.156*	0.025
Physical capital	0.143*	0.034
Natural capital	0.164*	0.015

Table 5. Results of multiple regression analysis.

Source of variation	Degrees of freedom	Sum of squares	Mean square	F-Ratio	P-Value
Regression	6	32188.053	5364.676	36.436	0.000
Residual	167	24588.251	147.235		
Total	173	56776.305			
Variables in the equation					
Variables	R2 Cumulative	R2 Change	F Change	P Change	Beta
Human capital	0.451	0.451	9.184	< .01	0.615
Extension participatory	0.493	0.042	3.310	< .01	0.213
Agrarian land	0.521	0.028	3.042	< .01	0.175
Off- farm income	0.536	0.015	3.700	< .01	0.233
Family cost	0.551	0.015	-3.068	< .01	-0.192
Physical capital	0.567	0.016	2.498	< .01	0.146
Variables not in the equation					
Variables	Beta	t		Sig-t	
Farmers age	-0.064	-0.880		0.380	
Farmers literacy	0.091	1.259		0.210	
Family size	-0.103	-1.528		0.128	
Experience in agricultural activities	-0.026	-364		0.716	
Natural capital	0.37	0.184		0.854	
Financial capital	-0.008	-0.138		0.890	

Conclusion

Social capital is at the heart of quality of life issues. From education to health to development, improving social capital can affect the life of a rural community and has been central to equitable and sustainable solutions to local development problems. The empirical studies indicate that social capital has a profound impact in many different areas of human life and development: it affects the provision of services in both urban and rural areas; transforms the prospects for agricultural development; influences the expansion of private enterprises; improves the management of common resources; helps improve education; can prevent conflict; and can compensate for a deficient state. More generally, it helps alleviate poverty for individuals and for countries as a whole. The purpose of this study was assessment of social capital between rural farmers and identifying effect factors on it. There are various different definitions about social capital. In order to test the amount of social capital in this paper, six dimensions of social capital were used: (1) general trust that (2) institutional trust that (3) norms of helping (4) norms of active social participation (5) rural participation (6) tendency to rural livelihood.

Older people in rural areas are invisible, or marginal to policy development (Milne et al., 2002). Social capital is especially significant for older people whose lives are rooted in localities and who may be particularly dependent on social interaction to promote well-being

(Shucksmith, 2000). It is important to stress that older people are not a homogenous group and there is no single experience of living in rural areas (Milne et al., 2002, 2007). Mean of farmers age were high. On the other hand, age has negative correlation with social capital.

The result of this study showed that the majority of rural farmers have low social capital and this result was confirmed by previous studies. According to the result, majority of farmers have low membership or participation in rural organization while some authors argued that when people are well organized in groups, and their knowledge is sought, incorporated and built upon during planning and implementation, then, they are more likely to sustain activities after project completion (Singh and Ballabh, 1997; Uphoff et al., 1998), on the other hand, some researchers argued that indigenous communities generate strong connectedness among them and carry out collective activities successfully (Garforth and Munro, 1995; Uphoff, 1996; Wolff and Wahab, 1996).

The correlation result showed that there is positive correlation between farmers' literacy as confirmed by Ghasemi et al. (2006), Offe and Fuchs (2002), and Healy (2004). Family cost, off-farm income, extension participation, human capital, financial capital, physical capital, and social capital between farmers were rejected by Kawachi et al. (1996) and confirmed by Ghasemi et al. (2006), and Offe and Fuchs (2002). Also, there are negative significant relationships between social capital

indicator and variables such as: farmers' age, family size, and experience in agricultural activities and agrarian land, which were rejected by Ghasemi et al. (2006), and Offe and Fuchs (2002).

Result showed that farmers had various economic statuses, and this factor has negative effect on social capital. Economic needs are important, but these exist alongside cultural, political and social needs in societies. While result showed that farmers by connections to social groups can produce social capital. These actions constitute different forms of indigenous social capital, and act as a resource for people to counterbalance negative effects of poverty. Putnam (1995) argued that a certain amount of wealth is needed to create social capital.

According to the result of stepwise regression "Human capital", "Extension participatory", "agrarian land", "off-farm income", "Family cost", "Physical capital" were effective factors on social capital formed between rural farmers. According to result of paper recommended that:

1. With holding formal and informal educational courses, Iranian government can increase level of education and literacy between rural farmers that this way increase social capital in long term.
2. With diversification in resource of rural income, Iranian government can increase income in rural communities that this politic caused increase social capital.
3. With integration and creation of land and cooperative development between farmers can increase agrarian land and finally increase social capital.

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