



University Ss. Cyril and Methodius in Skopje  
Faculty of Agricultural Sciences and Food



*2<sup>nd</sup> International Symposium for Agriculture and Food  
7-9 October 2015, Ohrid, Republic of Macedonia*

# SYMPOSIUM PROCEEDINGS



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## SECTION 2. AGRICULTURAL ECONOMICS

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## COOPERATION ATTITUDES OF FARMERS IN THE REPUBLIC OF MACEDONIA IN THE PROCESS OF RDP GRANT APPLICATION

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### Abstract

The dispersion of information at local level, social capital and cooperation between farmers are very important aspects for institutional growth and development. With the recognized importance of cooperative action and the benefits of the rural development programs for the rural areas and population in transition countries, there is a need for deeper insight into the factors that affect the (dis)incentives for cooperation among the farmers in Macedonia. The study was designed as an exploratory research by employing descriptive statistical analysis and hypotheses testing in order to open potential issues for further research. The results indicate that farmers recognize the benefits of cooperatives and cooperation. The underdeveloped social capital and lack of trust and information are the main factors that influence the cooperation attitudes of farmers in the country.

**Key words:** cooperation, information, rural development, social capital, trust.

### Introduction

Considering the significant rural area and rural population in the Republic of Macedonia, where agriculture is the main source of income, fostering rural development through social capital is very important, especially when the designated budget is not fully utilized.

Social capital is receiving an increasing consideration in debates on rural development as a key factor in developing rural areas (Michellini, 2013). Social capital includes formal or informal social structures of cooperation for mutual benefit that offer a suitable arrangement for better information flow (Bordieu, 1983; Coleman, 1990; Woolcock, 1998). Formal social capital involves participation in formally constituted organisations and activities, while informal social capital involves informal social relations (networks) (Pichler and Wallace, 2007) that shape social life and economic activities (Granoveter, 2005). Grootaert and Bastelaer (2002) identify two forms of social capital. The first is its structural form which includes the observable social structures (networks, associations, and institutions) and the rules they embrace. The second is its cognitive side which contains more abstract and intangible elements such as attitudes and norms of behaviour, shared values, reciprocity, and trust.

Macedonia experiences lower levels of social capital and distrust, especially in the institutionalized forms of cooperation. The main factor for the poor formal cooperation in rural areas is the existing distrust in public institutions since they are influenced by the

state (Lissowska, 2013) as a consequence of the negative past experience with agricultural cooperatives in the former socialist system. There were attempts to revive and introduce the concept of modern cooperatives in the country by donor projects. Regardless, there are still a limited number of cooperatives and other formal organizations that effectively support information flow in rural areas. Many recently introduced cooperatives ceased to exist after the funding period due to their inability to sustain cooperation and development (Nikolic *et al.*, 2015). Since formal networks remain unsuccessful structures for dispersion of information in rural areas, informal networks may present a valuable source of social capital and information exchange. In fact, Fukuyama (1995) and Murray (2006) emphasized that informal social capital is particularly strong and stable in times when the formal structures are weak.

Membership in cooperatives, civic groups or public institutions was evidenced to positively influence growth (Raiser *et al.*, 2002). Since dispersion of information at local level is very important for improving the consumption of grants from the rural development programme, it is necessary for rural population to achieve higher levels of social capital. In this regard, formal and informal cooperative actions in rural areas have a recognized importance. Informal networks may substitute formal networks in cases when formal cooperation is absent or weak. Therefore there is an urgent need to primarily identify the level of social capital and trust in the formal (institutionalized) structures, so to set a basis for identification of the development level of the informal ones. Hence, *the aim* of this study is to identify the reasons behind the (dis)incentives for formal rural networking in the country during the process of application for the rural development programme. This research focuses on farmers, as they represent the majority of rural population in the country where agriculture is a main source of income in rural areas.

In this regard, the study is designed as an exploratory research by employing descriptive statistical analysis and hypotheses testing in the framework of the social capital theory. It is expected the observed results to lay the initial groundwork for future research on this issue for the Republic of Macedonia.

Following the introduction, the subsequent section describes the data and the research method in details. The next section presents the description of the sample. The hypotheses are then set, followed by the results. At the end, short discussion supports the conclusions.

### **Materials and methods**

This study is designed as an exploratory research to determine if the observed reasons behind the (dis)incentives for formal networking among the farmers in the process of grant application for the rural development programme might be explained by the social capital theory.

To address this issue, a survey was conducted in approximately 300 farm households in Macedonia, during November–December 2014. The selection of the sample considered previously defined criteria in terms of: (1) household location and its level of networks development, and (2) rural household type and its perspective future in agriculture. By the first criterion, two pilot regions were selected: the rural area of the municipality of Strumica represents the pilot region with an existing formal network organisation, while the rural area of the municipality of Bitola is the pilot region without



an existing formal network organisation. The second criterion resulted in selection of those rural households that are classified as farm households which are economically and demographically viable. These are farm households with at least two members, out of which at least one is younger than 50 years of age.

The survey followed a structured questionnaire, including: (1) socio-economic characteristics of farmers, and (2) farmers' opinions on reasons behind the (non)membership in a particular network (formal or informal), in the context of grant application for the rural development programme. The first part of the questionnaire covered background information on: a) farmer and household profile (i.e., age, gender, education, primary occupation, and main household income), b) farm type (production orientation) and size, and c) farm performance (i.e., farm profitability assessment, dependency on subsidies to break-even, intention to invest and the type of investment, expectancy to continue farming in the next 3–5 years, and availability of a farm successor). The second part of the questionnaire covered questions focused on farmers' memberships in organisations and if not being a member, their reasons for avoiding membership. In fact, the first part of the questionnaire describes the sample by using descriptive statistics, while the second part targets the prime aim of the research through hypothesis testing.

In particular, alternative hypotheses include reasons behind the disincentive to be a member of a cooperative between cooperative members and non-members, such as lack of trust, time or information, as well as reasons such as farmers not seeing benefit in cooperation actions, disliking cooperative members, considering that cooperatives do not function well or thinking that there are no such organisations. These hypotheses are tested by applying nonparametric chi-square test in Stata 12.0 (StataCorp, 2011) since data are nominal. The chi-square test is used to determine whether there is significant difference between the empirical (observed) frequencies and the theoretical (expected) frequencies of the sample modalities (Risteski and Tevdovski, 2008).

### **Description of the sample**

The exploratory research examined two regions, the rural areas of the Strumica and Bitola regions. In the Strumica region there is an existing and functional cooperative, while in the Bitola region there is no existing formal network organisation. The description of the sample is summarized in Tables 1 to 4.

The majority of respondents in the observed rural areas are male, in average 47 years of age, with a secondary school of education (Table 1). Agriculture is the primary occupation of the majority of heads of the household with no other employment out of agriculture. In fact, 90% of the household income comes from agriculture, mainly from a labour intensive production. The majority of farmers have long experience in farming.

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SECTION 2. AGRICULTURAL ECONOMICS

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Table 1. Summary statistics for the sample profile in selected rural areas

<i>Farmer and household profile</i>	Country level
Age (mean ± standard deviation; median)	46.5 ±12.2; 45
Male respondents (%)	92
Level of education (%)	
Primary education (4 years)	8
Primary education (8 years)	36
Secondary school (3-4 years)	49
College (2 years)	2
University (4 years)	4
Agriculture as household primary occupation (%)	95
Household income from farming (%)	90
Years in farming (mean ± standard deviation; median)	25.4 ±11.6; 25

The main production orientation in the rural municipalities of Bitola is dairy farming with an average herd size of 11 heads, while in the rural municipalities of Strumica it is early-vegetable production with an average farm size of 0.7 ha (Table 2).

Table 2. Summary statistics for the farm type and size (mean±standard deviation; median)

<i>Farm type</i>	<i>Farm size</i>	
	Strumica region	Bitola region
Farmed area (ha)	1.2 ± 0.7; 1	9.4 ±18.7; 5
Cereals	0.3 ± 0.4; 0.2	4.1 ± 7.4; 2
Industrial crops	/	2.6 ± 5.6; 1
Fodder crops	0.1 ± 0.2; 0	2.1 ± 7.7; 1
Vegetables	0.7 ± 0.4; 0.7	0.3 ± 1.0; 0
Orchards	0.0 ±0.1; 0	0.0 ± 0.2; 0
Vineyards	0.0 ±0.1; 0	0.0 ±0.2; 0
Total livestock units	0.3 ± 0.9; 0	12.1 ± 26.2; 6
Cattle	0.0 ± 0.2; 0	10.7 ± 26.4; 5
Pigs	0.3 ± 0.8; 0	0.6 ± 2.2; 0
Sheep	1.6 ± 7.2; 0	9.2 ± 38.2; 0
Poultry	0.2 ± 1.7; 0	8.6 ± 33.6; 0

Large part of farmers was unable to evaluate the performance of their household in relation to the others; however a slight optimism exists among them in regards to their own farm performances. Large percentage of farms perceived to be dependent on subsidies to break-even, though there is significant regional difference regarding this issue. For instance, majority of vegetable farms from the Strumica region stated that are not dependent on subsidies to break-even(since vegetable production is profitable), while those in Bitola region are very dependent on them because of the unfavourable farm structure and the poor governance structures in dairying.

Half of the surveyed farmers plan to invest in a mid-term perspective, mainly in extension of the current production and in equipment. There still is a lack of incentives among them to apply for the available governmental support, even though on-farm investment support dominates in the structure of the rural development program (Volk *et al.*, 2014).

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Table 3. Summary statistics for the farm performances

<i>Farm performance measures</i>	Country level
Perceived performance relative to others (mean ± standard deviation; median)	3.3 ± 0.9; 4
Dependency on subsidy to break-even (%)	
Not dependent	41.2
Slightly dependent	21.8
Very dependent	37.0
Plan to invest in the next 3-5 years (%)	
Definitely not	13.5
Unlikely	13.1
Not sure	16.2
Very likely	25.9
Definitely yes	31.3
Planned type of investments (% yes)	
Equipment's	22.6
Equipment	44.8
Land	4.4
Extension of production	47.1
Diversification	0.7
Rural tourism	0.3
Livestock	15.2
Other	5.7

One reason for the low utilization of the budget of the rural development program is the poor setting of the governance structures for implementation of policy reforms. These governance structures should include wide array of agents and organizations, such as farmers, households, consumers, governmental and non-governmental organizations, etc.

In order to improve the access to information and achieve growth of their farm economy, farmers should be encouraged to participate in formalized voluntary organizations (Koutsou *et al.* 2014). Nevertheless, the participation in formally organized networks in the regions subject to this research is very low. Only 7% of the surveyed farmers are members of a cooperative, out of which 14% are from the Strumica region. In the Bitola region, there are no members of a cooperative since there is no existent cooperative, while in Strumica there is a cooperative that operates well. Another detected form of formal networks in the observed rural areas was the membership in non-governmental organizations (NGO), such as producer/farmer organizations and associations. These usually provide logistical support to farmers so their activities are primary oriented towards representation, lobbying, and advocating for farmers' interests; advising, informing, and training of farmers.

Table 4. Summary statistics for formal networking among farmers

Region	Member in a formal network	
	Cooperative (%)	NGO (%)
Country level (n=298)	7.0	3.0
Strumica (n=150)	14.0	1.3
Bitola (n=148)	0	4.7

From the results, it is evident that NGOs work better in regions where there is no active cooperative, but the farmers' interest to be a part of such a network is still low. However, this may indicate that, on one hand, there is a need farmers' to be supported by formal networks, but on the other hand, farmers do not show great interest to be a part of them due to still not enough explored benefits. This observation lays groundwork to further explore the disincentives among farmers to be active members in formal organizations.

### **Hypotheses setting**

Several hypotheses are proposed to identify the (dis)incentives among farmers for (not) being members of cooperatives in the grant application process for rural development programme. In fact, we test if there is significant difference in the expressed opinions between members and non-members of cooperative in regard to several reasons behind the disincentives to belong to any formal organisational arrangement, such as lack of trust and lack of information. Members and non-members of cooperative may express different opinions on this issue since they have different experiences, i.e. members may conceptualize on a past experience, and non-members do not have any experience but just beliefs. Explanation behind the setting of each hypothesis follows below.

In socialist economies, cooperative type of organisations were often non-voluntary and governmentally imposed (Raiser *et al.*, 2002). The misinterpretation of the current meaning of cooperatives created distrust among farmers for the real purpose behind their existence, which is to economically support farmers' interests. Since social capital is related to the local conditions and the historical background of the society (Productivity commission, 2003), it is assumed that trust (lack of trust), as the most important factor of social capital, is the main reason for farmers to avoid membership in formal organizations, and therefore sets the first hypothesis.

**Hypothesis 1:** *There is significant difference between members and non-members of cooperative in their opinion that lack of trust is an important reason for not being a member of a formal organisational arrangement.*

Furthermore, because of the presumption of low levels of social capital in post-socialist countries, farmers' formal and informal networks are expected to be underdeveloped. Social networks are important source of information and opportunity possibilities (Traikova *et al.*, 2008), and their underdevelopment can often be a limiting factor in the case of information transfer for the existence of cooperative type of organization and their role. This sets ground for the second hypothesis.

**Hypothesis 2:** *There is significant difference between members and non-members of cooperative in their opinion that lack of information is an important reason for not being a member of a formal organisational arrangement.*

Several sub-hypotheses are proposed in order to obtain deeper understanding of the main reasons for the low participation and farmers attitudes towards membership in formal networks (outlined in the two preceding hypotheses).

**Sub-hypothesis 1:** *There is significant difference between members and non-members of cooperative in their opinion that farmers think there are no organizations of that type is an important reason for not being a member of a formal organisational arrangement.*

**Sub-hypothesis 2:** *There is significant difference between members and non-members of cooperative in their opinion that farmers do not see a benefit from the*

membership is an important reason for not being a member of a formal organisational arrangement.

**Sub-hypothesis 3:** *There is significant difference between members and non-members of cooperative in their opinion that farmers do not like the people from the cooperative is an important reason for not being a member of a formal organisational arrangement.*

**Sub-hypothesis 4:** *There is significant difference between members and non-members of cooperative in their opinion that cooperatives do not function well is an important reason for not being a member of a formal organisational arrangement.*

In this regard, lack of information to farmers could lead to farmers' inability to recognize the existence of cooperatives as well as the benefits stemming from membership in cooperatives. Assumingly, the lack of trust creates aversion towards other cooperative members and their intentions, therefore farmers are expected to perceive cooperatives as non-functional organizational arrangements.

#### **Status of formal cooperation in rural areas**

According to the summary results from the survey (Table 5), farmers did not show high interest in expressing their reasons for low participation in formal organisational arrangements. This may indicate that farmers do not believe in formal networks and the interest for their membership in such organisations is low. These facts go back to the main assumed reasons for the existence of the low level of social capital in rural areas, which are the lack of trust and information.

Table 5. (Dis)incentives for formal networking among farmers

Reasons for not being a member of formal network	Yes (%)
Lack of trust	20.5
Lack of information	12.4
Farmers do not see a benefit from the membership	7.7
Farmers do not like the people there	1.0
Farmers perceive that they do not function well	3.7
Farmers think there are no such formal organizations	35.2

However, the observed attitudes of farmers towards membership of organisations create a different image (Table 6). In fact, optimism exists among farmers in their perception of the benefits from the formal cooperative actions which may be an indicator for future motives of farmers to become part of some kind of a formal network. Majority of the farmers agree that membership in organizations is useful (over 70% of respondents). They also agree that organizations contribute to the development of the village and disagree that the members of the organisation only think of themselves and their interest and that they respect joint agreements.



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Table 6. Farmers' perception of formal networks

<i>Personal attitudes of farmers towards membership of organisations</i>	In %
Membership in organization is useful	
Strongly disagree	2.3
Disagree	9.0
Don't know	16.7
Agree	35.5
Strongly agree	36.5
Organizations contribute to development of the village	
Strongly disagree	2.3
Disagree	8.4
Don't know	22.1
Agree	40.5
Strongly agree	26.8
People of organizations only think of themselves and their interest	
Strongly disagree	17.7
Disagree	17.7
Don't know	26.8
Agree	27.8
Strongly agree	10.0
Farmer believes that members in organization respect joint agreements	
Strongly disagree	7.0
Disagree	12.0
Don't know	38.8
Agree	26.4
Strongly agree	15.7

Table 7. Farmers' intentions towards formal networking

<i>Intention of farmers towards membership in organisations</i>	In %
Farmers' assessment of their intention to become a member of organization for their own benefit (to get information, technical support, advise, experience, etc.)	
Very weak benefit	12.1
Weak benefit	13.8
Don't know	53.7
Strong benefit	13.7
Very strong benefit	6.7
Farmers informally cooperate between each other	
Yes	93.9
No	6.1
Frequency of informal cooperation	
Never	2.7
Rarely	13.2
Not sure	9.2
Sometimes	48.8
Always	26.1
Reasons for informal cooperation (% yes)	
Information exchange	19.6
Technical support	14.5
Common problems	45.3
Informal socialization	36.5
Other reasons	32.1

In this regard, through assessment of their intention to become a member of formal organisations (Table 7), it is found out that farmers are mainly indifferent since they are not aware of the benefits from membership. It is easier for them to create social ties on informal than on formal level. Hence, agricultural producers mainly informally cooperate between each other on occasional basis. The main reasons for this cooperation is sharing common problems and socializing between each other.

Since rural development programme is aimed to foster development of rural areas, farmers were assessed if they are aware of the benefits from this programme and if they consider that it may lead to higher networking of rural population (Table 8). Farmers show some level of awareness for the benefits of the rural development programme, especially for that it supports the survival of family farms. This is important for economies in transition; however, the policy has to be thorough to prevent negative effects from the imposed support. Negative effects may result in hindering the development of the agricultural sector as farmers may not be motivated to restructure. In regard to the rural development programme as a mediator in achieving higher levels of informal social capital, farmers are neutral. However, there is a slight positivism among farmers which think that this programme is a good way to communicate between each other.

Table 8. Farmers' awareness for the benefits of the rural development programme

<i>Awareness of farmers for the RDP benefits</i>	In %
RDP measures support the survival of family farms	
Strongly disagree	1.7
Disagree	3.3
Don't know	21.1
Agree	38.1
Strongly agree	35.8
RDP leads to higher networking of rural population	
Strongly disagree	2.0
Disagree	10.4
Don't know	45.8
Agree	29.8
Strongly agree	12.0

In order to explore the reasons for the low interest among farmers to be a part of formal networks, several hypotheses were tested. Moreover, a chi-square test of independence was performed to examine if there is significant difference in the expressed opinions between members and non-members of cooperative in regard to several reasons behind the disincentives for the membership in a formal network (Table 9).

The results from the tests show that the lack of trust is a major disincentive factor for farmers not to be a member of a formal network, but this observation differs by the current membership status,  $\chi^2 (1, N = 298) = 5.81, p = .02$ . In fact, those few members of a cooperative think that lack of trust should not discourage other farmers to become members of formal arrangements. Lack of information, on the other side, is not a strong disincentive factor for farmers to not participate in a formal network and this perception does not differ by their current membership status,  $\chi^2 (1, N = 298) = 3.20, p = .07$ .

Even though formal networking among farmers is not hindered by the lack of information, the largest part of farmers are still not aware of the existence of such formal

organisations that aim to support their interests. However, this responsiveness differs by the current membership status,  $\chi^2(1, N = 298) = 12.29, p = .00$ , which is logical since those that are members of organisation are aware that formal networks exist unlike the non-members. Although farmers do not believe that lack of information discourages farmers for formal networking, it could still lead to farmers' inability to recognize the existence of cooperatives. In addition, farmers do not perceive that formal networks are not beneficial for them and this perception does not differ by their current membership status,  $\chi^2(1, N = 298) = 1.89, p = .17$ . Also, members and non-members of cooperative do not recognize that the aversion towards other members of formal networks should stop farmers to become a part of it,  $\chi^2(1, N = 298) = 0.23, p = .63$ . Moreover, farmers do not believe that the perception of cooperatives as non-functional formal arrangements is among the farmers' disincentives for formal networking, and this perception is shared by the members and non-members of cooperative,  $\chi^2(1, N = 298) = 0.87, p = .35$ .

Table 9. Hypotheses test results with a membership of cooperative as a dependent variable

Hypothesis	Independent variable (Discouragements to be a part of a formal network)	Rejected null hypothesis (+); otherwise (-)
H1	Lack of trust	+
H2	Lack of information	-
SH1	There are no organisations	+
SH2	Farmers do not see a benefit	-
SH3	Farmers do not like the people there	-
SH4	Farmers think it not function well	-

To sum up, the main disincentives for farmers to become a part of a formal network are the lack of trust in these governance structures and the perception that there are no such formal arrangements. However, those farmers who had an experience with the membership in cooperative have different perception. They believe that cooperatives are based on mutual trust to support their interest. The positive attitudes towards formal networks are a good foundation for promotion of cooperative type of organisations. However, much has to be done so to raise the trust and thus the awareness for the benefits of the formal networking.

### Discussion and conclusions

Based on the socialistic background, the Republic of Macedonia is expected to experience lower levels of social capital and distrust in the institutionalized forms of cooperation. Trust in institutionalized type of organizations was destroyed during the socialistic period. This was reflected in the small number of functional agricultural cooperatives and organizations, with low importance and power to influence farmers' position in the agricultural value chains. Additionally, there is a low horizontal and vertical integration, and absence or low efficiency of institutions for logistic support, all of which are considered to be among the main obstacles for better consumption of the rural development funds (Bogdanov *et al.*, 2015).

Farmers in the rural areas of the observed regions, although small and highly dependent on agricultural incomes and subsidies to break-even, still avoid membership in

cooperatives which can provide them with access to information and resources. The dispersion of information at local level is crucial for improving the consumption of grants from the rural development programmes. However, farmers often have limited access to information on the available rural development programmes as well as the possibilities these programmes provide for their individual (farm) and rural development.

Even after two decades of transition in the Western Balkan countries, the governance structures for policy reforms implementation are still poorly developed and this is reflecting on the development of the rural social networks which are also weak. As expected, farmers avoid participating in cooperatives mainly due to the lingering distrust in any institutionalized or governmentally induced cooperation. On the other hand, farmers' which experienced cooperative collaboration through their membership in certain formal networks, expressed trust that other farmers, which are cooperative members, would not act opportunistically and only in accordance to their own interests. Additionally, farmers show high consciousness for the usefulness of membership in organizations as well as the possible contribution of such organization for the development of their villages. This positive personal perception of cooperation provides a positive sign for the farmers' intentions to become part of certain formal network in the future, providing that they will be informed for all of the existing organizations that might be of assistance for them to pursue their interests. At the moment, many of the farmers are unaware for the existence of cooperatives or similar type of formal network in their immediate surrounding or even on a broader level.

The fact that farmers still associate the old concept of cooperatives which existed in the former socialist system leads to constant lack of trust and confidence among farmers in the rural areas, and this is a major factor and obstacle for the development of social capital in these areas. This inherited distrust is largely linked to the lack of information and opportunity for farmers to acquire knowledge and experience regarding the modern forms of cooperative association. This is why it is important that the level of informal social capital among the farmers is included and examined in future research. This is especially important in order to evaluate farmers' mutual trust and willingness to cooperate. The mapping of these informal network structures may serve as a base for conceptualization of the future institutionalized models of cooperation in agriculture. In addition to the identified farmers' views and attitudes, the models will be adapted and suitable to fit the specific social capital structure and institutional setting in the country.

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