The Impact of Socio-Economic Structure of Rural Population on Success of Rural Development Policy

Macedonia, Serbia and Bosnia and Herzegovina

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The views expressed in this publication are those of the authors and do not necessarily represent opinions of the SDC and the University of Fribourg.

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List of Abbreviations

AKIS	Agricultural Knowledge Transfer System
BA	Bosnia and Herzegovina
CAP	Common Agricultural Policy
CEE	Central and Eastern Europe
CMS	Composite Mean Scores
CSO	Civil Society Organization
ENO	Existing Network Organization Region
EU	European Union
EUR	EURO
FADN	Farm Accountancy Data Network
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
IPARD	Instrument for Pre-accession Assistance in Rural Development
LFA	Less Favored Areas
MK	Macedonia
NGO	Non-Governmental Organization
NNO	No Network Organization Region.
NUTS	Nomenclature of Territorial Units **for** Statistics – NUTS
OECD	Organization for Economic Co-operation and Development
PCA	Principle Components Analysis
RD	Rural Development
RDP	Rural Development Policy
RS	Serbia
SCT	Social Capital Theory
SNA	Social Network Analysis
ToRA	Theory of Reasoned Action
TPB	Theory of Planned Behavior
UAA	Utilized Agricultural Area
WB	Western Balkan
WVS	World Values Survey

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FOREWORD

Agriculture has been recognised as an important sector in Macedonia, Serbia, and Bosnia and Herzegovina. Many reforms have taken place in the last decade. Some reforms were supported with studies, whereas others were *ad hoc*. Some had an impact evaluation, but most did not. Most of the research and studies performed in regard to agriculture were aimed at the institutional, market, and farm household levels; however, there is a lack of focus on the farmer. Understanding the farmer and the motives behind his behaviour and interpersonal relationships can contribute to the explanation of the successes and failures of some governmental or non-governmental initiatives and provide recommendations for future strategies and approaches to address farmers.

Giving a behaviouristic approach to the analysis is a modest attempt to make a contribution in the scientific aspects, and develop evidence-based policy recommendations. We are hopeful that the findings presented herewith will help in better understating farmers and will address new research topics. We also hope that the conclusions and the given recommendations will play a part to a positive change in the approach towards the farmers, which will eventually increase the effectiveness of the agricultural and the rural development policy.

This monograph is primarily aimed to those involved in agricultural and rural development policy design, as well as all facilitators in the process of information dissemination and assistance in preparing applications. It is also aimed to those who want to see that the market and its mechanisms are not the sole drivers of the farmer's behaviour.

This publication is one of the outcomes from the research-based, policy-directed, regional project "The impact of socio-economic structure of rural population on success of rural development policy". Our intention was to prepare a compilation presenting the project objectives, main findings, and conclusions in a more simplified manner. Therefore, only part of the results from the research is given here, while some aspects will be presented at conferences and in scientific journals. If you are interested, we will be pleased to share more details. We would be grateful to all our readers to share their opinion and comments with us.

This is a joint effort of fifteen researchers to give an answer to a number of questions in just one year. It would not have been possible to accomplish this without the synergic power of our shared interest, expertise, and enthusiasm. Each researcher made significant contributions. Although we were divided in three groups—policy, network and behaviour—we shared our knowledge and resources, and the presenting publication is literally a Net-Work. We all learnt something new — new theory, new methods, and even something new about our countries. More importantly, it was a continuation of the collaboration among the agricultural economists in the region. Therefore, we all thank the Regional Research Promotion Programme (RRPP) for supporting this project.

We would also like to thank our peer reviewers, Prof. Dr. Bo Öhlmér from the Swedish University of Agricultural Sciences, Prof. Dr. Marija Babović from the University of Belgrade, and Prof. Dr. Martin Huber from the University of Fribourg, for their effort and suggestions.

Editors

PART ONE: INTRODUCTION

1. INTRODUCTION

Kotevska A., Bogdanov N., Nikolić A.

Background

Macedonia, Serbia, and Bosnia and Herzegovina are located in the Western Balkan region, a part of Europe with extremely rich biodiversity and favourable natural conditions for agricultural production. Regardless of the rich natural resources, their agricultural sectors are faced with numerous challenges, including low competitiveness, technological backwardness, and slow progress with structural reforms. These conditions have a deep impact on agricultural production, overall economic activity, and incomes in rural areas which caused demographic imbalances and threat to rural livelihoods. Other countries of Central and Eastern Europe (CEE) have experienced similar effects in the transition process (Csaki and Nash, 1998; Csaki et al., 2005; Swinnen and Rozelle, 2006).

The agro-economic scientific community showed a huge interest in the transitional changes in the agriculture of CEE countries. Concerning the size of their territory and the complexity and pace of reforms, it was a great challenge for researchers and academic community to analyse, describe, and measure the effects of transition on the different aspects of structural changes in agriculture and rural areas. However, this was not a case with Western Balkan countries. Over the past few decades, agro-economic science has not revealed much about the rural areas in the Western Balkans.

Social scientists (mostly international) addressed general political, social, and economic issues of the transition process of Balkan countries, though agricultural and rural issues received not much attention in domestic research (Černić Istenić, 2014). After two decades of transition, there are no systematic comparative studies dealing with the complex and multidimensional changes in rural areas and livelihood patterns of rural population. There are only indicative, general, insufficiently evidence-based comparisons on the demographic, economic, social, and political changes in the rural areas. Various factors caused the low presence of topics related to the rural areas of Macedonia, Serbia, and Bosnia and Herzegovina in scientific literature, including the absence or insufficient funds for comparative applied research, insufficient attractiveness of topics for international research funds, slow adjustment of national statistical database to international standards, and the lack of national expertise.

The available data for the rural areas of Macedonia, Serbia and Bosnia and Herzegovina originate mostly from reports produced by international donor projects engaged in agriculture and rural areas. These documents often have subjective or false beliefs and misguided attitudes that deal with specific project topics and do not focus enough on inter and intra diversity of rural areas in terms of their natural, geographical, cultural, and other differences.

In addition to the standard problems encountered by all transition countries in CEE, the transition

period in these three countries was marked also by wars and ethnic conflicts. Complex political settings, economic and institutional adjustment processes, and market liberalization, have considerably influenced agri-food sectors in Western Balkan countries, which continue to be a major contributor to their national economies. Political instability has slowed down the structural reforms, which subsequently resulted in a developmental delay in comparison to other countries.

All three countries devoted great efforts to join the European Union (EU), each holding a different status in this process. Macedonia was granted EU candidate status in 2005, Serbia has been an officially recognised EU accession candidate country since 2013, and Bosnia and Herzegovina is identified as a potential candidate country. Given the importance of the agricultural sector for the national economies and the highly complex procedure of EU integration process, it is expected that the reform process will contribute to the increase of competitiveness of the agricultural sector and the boost of the economic and social cohesion across rural communities. Such complex approach requires adopting a new model of agricultural policy, more challenging in its conceptual and administrative aspects. Rural development (RD) policy, which requires rules and procedures (e.g., co-financing, compliance with minimum legal standards, preparing business plans) in which neither has enough experience, is a particular challenge for policy makers and beneficiaries.

The progress that countries have made in adjusting their agricultural policy to the Common Agricultural Policy (CAP) of the EU is visible but insufficient. In recent years, countries have adopted (Macedonia and Serbia) or are in the process of adopting (Bosnia and Herzegovina) a long-term strategic and programming documents and setting their objectives and priorities for agriculture and rural development. In general, core orientation of these documents is aligned with EU policy objectives. However, recent studies (Bogdanov and Rodić 2014; Bajramović et al., 2014; Dimitrievski et al., 2014; Volk et al., 2014) have shown that the agricultural policy of these three countries is still much more oriented towards productivism and production support (first pillar of the CAP) in an effort to reduce import dependency and increase exports. The broader social objectives, such as food safety standards, environmental issues, and social problems of rural areas (e.g., poverty rates, depopulation, gender and youth issues, and marginalised rural areas), are relatively low positioned.

Funds intended for rural development are low and unstable, except in Macedonia, which of the three countries is the only one with a substantial budget also planned within the framework of the Instrument for Pre-accession Assistance in Rural Development (IPARD). The low level of support for rural development is just one of the problems farmers in these countries face. In addition, a large number of farmers are not familiar with the measures and mechanisms of support for rural development, and a significant number cannot meet the administrative requirements (e.g. evidence proving property rights, and collateral). These limitations arise partly from the institutional weaknesses. The rural institutions and organisations, both public and private actors, are poorly developed, not skilled or motivated enough to get involved. In such surroundings, farmers are left on their own to deal with the complex rules and procedures to access budgetary support. As seen from previous experience, insufficient preparedness of

farmers and institutions to meet the provided rules has resulted with a low rate of utilization in the initial years of establishing the IPARD. One way to increase the absorption capacity is to support farmers in their intention to improve the farm capacities and to enhance the environment and the rural economy. Establishing and maintaining effective institutional framework can additionally contribute to the use of opportunities and hence provide a more dynamic restructuring of the sector.

Objectives and conceptual model

The overall goal of the project "The impact of socio-economic structure of rural population on success of rural development policy" is to support the socio-economic development in rural areas by increasing both the absorption of the rural development funds and the economic networking of farmers, thus increasing the effectiveness of the rural development policy instruments. In that regard, the project defines few objectives:

- To present the current state of the rural areas and RD policy in Macedonia, Serbia, and Bosnia and Herzegovina;
- To understand socio-economic characteristics of rural population in relation to RD support;
- To understand motivational factors and barriers of rural population to apply for RD support;
- To understand motivational factors and barriers of rural population to take part in formal organisations; and
- To understand the informal networks organisation and structure.

Based on this understanding, the project intention is to give recommendations how to increase the application for the RD funds and the economic networking of farmers, and thus contribute to the overall project goal.

The conceptual structure of the research is multi-dimensional, (see Figure 1). The first dimension is the personal level of behaviour (farmer). The second dimension focuses on the interpersonal relationships among farmers (networks). Socio-economic characteristic and social pressure is the intercept point between them. The third dimension is the cross-country comparison among Macedonia, Serbia, and Bosnia and Herzegovina.

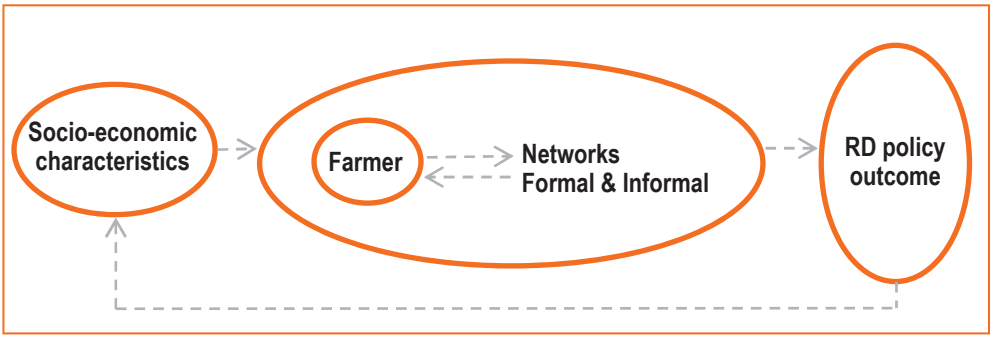

Figure 1: Conceptual map

Social psychology provides suitable conceptual frameworks and methodological tools to understand farmer behaviour and to design interventions to support a behavioural change. Although theory of planned behaviour (TPB) is not a theory of behaviour change (Ajzen, 1991, 2011), according to a meta-analysis of Webb and Sheeran (2006), it is among the most frequently used theories for changing behavioural intentions. One way to initiate a behaviour change is by motivating people (in case of a lack of intention). Positive attitudes towards the behaviour, strong approvals by the respected others, and high confidence in the perceived behavioural control ultimately results in stronger intentions to engage in certain behaviours. Once an intention is formed, the second stage is to close the intention-behaviour gap by helping individuals to overcome obstacles to perform the behaviour. It is important to identify the internal and external factors that form the intentions and behaviour determinants to design an appropriate assistance plan.

Institutional economics analyse the relationships between actors, not the actors themselves. In most cases, networks arise as an informal mechanism of coordination based on individual interaction and restricted to limited groups with related interests (Thomson, 2003). Social capital measures the level of trust and recently has been recognised as a new production factor for stimulating economic growth (Chloupkova et al., 2003). The higher the social capital, the better access to resources (Bian, 2008). In addition, social capital positively influences the transfer and quality of information. Timely and accurate information is also important for timely and proper knowledge for the RD support; therefore, understanding how informal networks are organised and structured might give an idea on how to use such models in stimulating formal networks.

The combination of theoretical approaches enables deeper understanding of the current situation in the Western Balkan countries. In addition, it fills part of the research gap on the factors that facilitate or hinder the farmer behaviour in terms of their application to RD measures or their formal networking as a means for providing flow of information and distribution of resources. It leads to generalized and specific conclusions as well as evidence-based recommendations for policy makers and local community to increase the effectiveness of the rural development policy and ultimately mitigate the social disparities.

This monograph is structured in four parts with ten chapters. Part one contains the introductory chapter and the second chapter which describes the rural areas in Macedonia, Serbia, and Bosnia and Herzegovina and their institutional and budgetary support. Part two covers the theoretical and methodological framework. The third and the fourth chapters give a review of the two main theories applied in the monograph (i.e., the theory of planned behaviour and the social capital theory, respectively). The fifth chapter describes the data collection process from the design of the questionnaire and the selection of households and regions to data analysis techniques used in the process. The following four chapters (i.e., part three) present the main results from the study. The sixth chapter analyses the relationship between the socio-economic indicators and farmers past behaviour in terms of application for RD support. The seventh chapter focuses on the factors determining farmers' intentions to apply for RD support.

The eighth chapter describes the farmers' attitude towards networking, and the ninth chapter discusses the network structures existing in the surveyed sub-regions. Part four contains the conclusions and recommendations. The annex includes an extended list of tables and data not presented previously.

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2. RURAL AREAS AND RURAL DEVELOPMENT POLICY IN MACEDONIA, SERBIA, AND BOSNIA AND HERZEGOVINA

Bogdanov N., Nikolić A., Dimitrievski D., Kotevska A.

Delimitation of rural areas

The definition and delimitation of a target area is a crucial step in any research project (Santini et al., 2013). The Organization for Economic Co-operation and Development's (OECD) definition of rurality is frequently used for the purpose of international comparisons, but such an approach was not applicable for this project.

The problem in dealing with the rural issues in Macedonia, Serbia, and Bosnia and Herzegovina is that there is no unified definition of rural areas; therefore, the data on rural areas and their socio-economic characteristics are not comparable or compatible. Each country has its own official definition based on statistical criteria (Macedonia) or administrative decisions (Bosnia and Herzegovina and Serbia). Even when using administrative definitions, they are applied on different territorial units or frequently change without clear criteria. Recently, Macedonia and Serbia have intensified efforts on the adoption of the EU methodology on the classification of territorial units defined by the Nomenclature of Territorial Units for Statistics (NUTS).

In post-war censuses in Socialist Federal Republic of Yugoslavia (1953, 1961, and 1971), the division of urban, rural, and mixed settlements was done based on the population size of the settlement and the ratio of the agricultural and total population. This approach was abandoned in the population censuses later (1981, 1991)[1], in which the settlements were classified as "urban" or "other" settlements. This division of settlements was based on the municipal assembly to assign a settlement the status of urban[2] (Bogdanov, 2007). As in many other countries, rural is considered the corresponding residual to urban (Hill and Karlsson, 2005); thus, all settlements that were not declared urban were classified as others and automatically considered as rural.

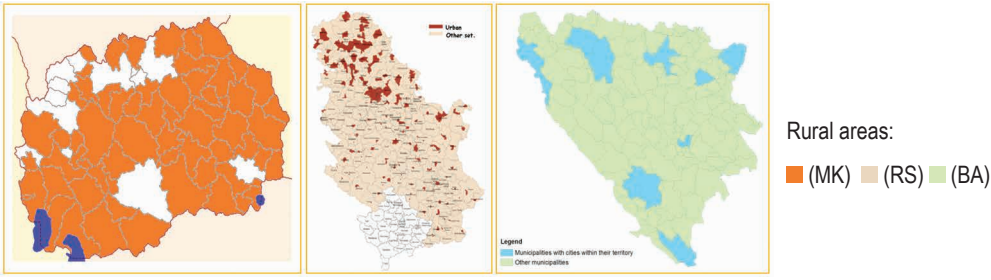

Figure 2: Rural areas of Macedonia, Serbia, and Bosnia and Herzegovina

1 In Macedonia this approach was used in the 1994 Census, whereas in Serbia in the 2002 and 2011 Censuses.
2 This applies only to the settlements which have a general urban plan and the decision of the municipal assembly.

Box 1: Definitions used by national institutions and statistical offices

- Macedonia—The rural areas are defined in the Law of Agriculture and Rural Development (MAFWE, 2010), according to which rural areas are municipalities in which all settlements have less than 30,000 inhabitants or the population density is less than or equal to 150 inh./km^2 of the municipality area. The State Statistical Office produces data on rural areas based on criteria from the Law on Territorial Organization (2004) defining cities and villages, based on population size, infrastructural development and share of the primary sectors in employment, which is quite a different approach.
- Serbia—Administrative definition of urban settlements is in place; rural is considered to be the residue of urban settlements that are defined by administrative decisions of municipalities. The Population Census of 2011, Household Budgetary Survey and Labour Force Survey provide data on areas other than urban.
- Bosnia and Herzegovina—There is no official definition of rural areas, but an administrative definition of urban settlements exists (Law on local governance—Official gazette 129/2007 and 83/2014). In general, the OECD criterion of population density (150inh./km^2) is used in different documents focusing on rural areas. Only the Household Budgetary Survey and Labour Force Survey provide data on areas other than urban.

Such deficiency and inconsistency of the rurality definition makes data difficult to compare. Although the Balkan countries are less urbanized, according to the available data, less than half the population lives in rural areas (Table 1), which is lower than the EU average (in 2012, 90% of EU land area, a home to 57.5% of the total EU population, was classified as predominantly rural and intermediate).

Table 1: Rural settlements and population of Macedonia and Serbia

Country	Census of population	Municipalities	Area (%)	Population (000)	Population (%)
MK[3]	2002	62	88.7	985	47.3
RS	2011	N.A.	N.A.	2915	40.5

Source: Authors elaboration; Notes: No available data for Bosnia and Herzegovina

Rural territory

- The Western Balkans possess a great wealth of plant and animal species, making the region one of the richest parts of Europe in terms of biodiversity (European Economic and Social Committee, 2011). Land and natural resources are diverse, ranging from fertile plains and river valleys to the not very productive karst, hilly, and mountainous areas. Rural areas are characterised by great heterogeneity, fragmented territories, and heterogeneous landscape among and within each country.

3 This calculation is based on criteria defined in the Law on Agriculture and Rural Development (MAFWE, 2010) and the data available from the 2002 Census. There is no official number of rural area and rural population, neither available data on area and population size per settlement, but at municipality level. If calculated at the municipality level by the criteria defined by MAFWE 2010, the total rural area is 88.7%, and the rural population is 47.3%. In practise, some of these municipalities include cities, which should be excluded from the calculation, thus reducing the share of rural area and population.

- Lowland rural areas are found in west-south Herzegovina, north Bosnia and Herzegovina, and Serbia (Pannonian and Peri-Panonian plain), in the valleys of large rivers (Neretva, Bosnia, Sava, Danube, Morava, Vardar), and in southwest (Pelagonia) and southeast (Strumica) Macedonia. These areas are characterised by a bimodal farm structure with favourable soil and climatic conditions for capital-intensive agricultural production and well-developed economy. The demographic trends and human resources are more favourable compared to other regions. Entrepreneurial capacity exists, as well as social and economic networks that together contribute to a more dynamic restructuring of the economy and economic progress.
- Rural areas of mid-range mountains and hilly areas (the central part of Balkan Peninsula) are characterised by a mixed type of farming practices and production structures, with regions specialized in fruit and wine production and commercial vegetable growers. In parallel, there are rural regions in decline, with unfavourable conditions for agriculture and industry, insufficiently competitive to participate into global market, which are typical examples of transitional losers and face serious structural difficulties. These regions are usually in the vicinity of the former major industrial cities, often outside main traffic routes with no other attractions that would attract investors.
- Mountain communities are characterised by extremely rich biodiversity and by having mineral resources in some parts of the region (Eastern Serbia and spread throughout Macedonia). One of the peculiarities is that rural settlements can be found even at high altitudes of over a thousand meters. These areas are deeply affected by depopulation, sodue to the absence of human activity spontaneous afforestation and abandonment of land are noticeable. The dominant characteristic of farming practices are small arable plots, low-intensity use of the production factors (except for labour and traditional technologies), and landscapes mostly dominated by grassland and forestry.

Despite the variety and abundance of natural resources and local heritage, social, ethnic, and cultural diversity, rural areas are still a synonym of backwardness and poverty in most of the countries.

Rural economy

Because of the lack of data, the socio-economic situation of rural areas cannot be represented by standard indicators related to the Gross Domestic Product (GDP) of rural areas and their structures. For this reason, the overview focuses on the different aspects of the labour market, employment, incomes of rural households, and characteristics of farming sector.

Data on rural population in Macedonia, Serbia, and Bosnia and Herzegovina are inconsistent, incomplete, and outdated (Tables 1 and 2) and do not sufficiently reflect the changes caused by the war, migration, and the negative rate of natural increase. In general, patterns of demographic change in rural areas differ among regions, without a consistent pattern of population growth or migration. However, progressive depopulation is the most prominent

feature (particularly in remote and less fertile areas), indicating the lack of economic opportunities in rural areas. Those moving to rural areas are either retired or young families who have failed to achieve reasonable living standards in urban areas. There are just a few of those who settled in rural areas looking for better living conditions or had the intention to start their own business.

Table 2: Demographic structure in Macedonia, Serbia, and Bosnia and Herzegovina

	MK (National)	RS (Rural)	BA (National)
Population ratio 2011/2002	102.0	81.2	101.1
Average age	38.0	43.6	N.A
Share of active population (Age 15-64, %)	71.0	66.0	67.4
Share of population in fertile age (Age 20-44, %)	38.0	36.1	N.A.
Aging index (65+/0-15)	73.0	144.3	109.5
Age dependency ratio ((0-15+65+)/(15-64))	41.0	51.5	48.3

Source: Author's calculation

Rural labour markets in all three countries are characterised by high levels of unemployment, low rates of job creation, and a lack of human capital. A decline in population, population ageing (Table 2), and an increase of early school leavers have a strong, negative impact on the rural labour market (Table 3). The unfavourable education structure, poor qualifications, and a lack of skills among the economically active population represent a serious constraint for the rural economy. The rural labour market is characterised by low labour force mobility and a lack of alternative employment and income opportunities. The most vulnerable groups which are in danger of being excluded from the labour market are rural youths, women, and the ex-industrial workers (Bogdanov and Babović, 2014, Bogdanov and Cvejić, 2011, Cvejić et al., 2010).

Table 3: Employment and educational structure of rural population

	MK	RS	BA
Educational structure of rural population (%)			
Without primary education	12.1	34.6	N.A.
Primary education	42.2	24.5	N.A.
Secondary education	38.6	37.4	N.A.
University education	6.9	3.5	N.A.
Employment/unemployment rates (%)*			
Employment rate (15-64)	40.9	40.6	N.A.
Unemployment rate (15-74)	26.7	29.0	N.A.

Source: Author's calculation
*Labour Force Survey

Employment is dominated by agricultural workers, whereas the share of wage employed and non-farm self-employed in rural areas is well below the national averages. Among other sectors, manufacturing and trade have a significant place in the structure of the rural economy, expressed as a share of total employment (Bogdanov and Babović, 2014). Regarding the structure of the income of rural households, the model is somewhat different—the largest share is wages/salaries, followed pensions, whereas farming income is positioned in third place. An important specificity of the income of rural households is the high share of remittances from abroad. Recent research has shown a positive impact of remittances on poverty in rural areas in Macedonia, but not much in Bosnia and Herzegovina (Petreski and Jovanović, 2013). The same performances of the rural areas are visible in other CEE countries, including new member states of EU (Mishev et al., 2010; Juvančić and Jaklić, 2011).

Major characteristics of rural economies are poor diversification of economic activities and income sources, as well as a low level of entrepreneurial activity. The low level of economic activities is a result of insufficient investments in public goods and services, such as physical infrastructure (roads, irrigation etc.), business services, system of information, knowledge, and technology transfer. The rural areas that show the most favourable growth and economic strength are those managed to take benefit of their comparative advantages, including agro-processing industries, touristic attractiveness, indigenous knowledge (Bogdanov and Nikolić, 2012; Santini et al., 2012).

The rural economies in Macedonia, Bosnia and Herzegovina, and particularly Serbia is dominated by agriculture far greater than in other EU countries. The share of agriculture, forestry, and fishing in the total national Gross Value Added ranges from approximately 8% in Bosnia and Herzegovina to almost 10% for Macedonia and Serbia (the EU-27 average is less than 2%). Employment in agriculture, forestry, and fishing accounts for approximately 17% of the total employment in Macedonia to 20.5% in Serbia.

The agricultural sector is characterised by low factor productivity, mostly due to the slow process of farm consolidation and inefficient use of production factors, including labour (European Economic and Social Committee, 2011). Small scale and the fragmented nature of private farming dominates in some regions even in a form of subsistence farms lacking the resources for economically viable production. The average farm size ranges from 1.9 hectares in Macedonia to 5.4 hectares in Serbia (Table 4). In Macedonia and Bosnia and Herzegovina, small farms represent the dominant share in utilized agricultural area (UAA), whereas in Serbia, with the exception of small family farms, there are also small numbers of very large holdings occupying the considerable part of the total UAA (30–40%).

The existence of a large number of small and semi-subsistence farms is a consequence of the slow restructuring of other sectors and closing the big state enterprises. Besides devastating impact on the rural economy and labour market, these factors caused surpluses of industrial workforce to find shelter within the family holdings and semi-subsistence agriculture, thus achieving food security (Bogdanov et al., 2012, Bogdanov and Petronijević, 2009).

Table 4: Farm structure

	Agricultural holdings			Average farm size	
	Up to 2 ha	Up to 5 ha	Up to 10 ha	UAA/farm (ha)	LSU/farm (heads)
MK (2013)	78%	94%	98%	1.9	2.14
RS (2012)	48%	77%	92%	5.4	4.1
BA (2010)	N.A.	N.A.	N.A.	2.0	N.A.
EU-27 (2010)	49%	69%	80%	14.5	20.0

Source: Volk et al., 2014

A large part of the primary agricultural sector is excluded from the commercially oriented agri-food chain. Fragmentation across the supply chain and the presence of a large number of small producers with unstable market surpluses (in terms of volume and quality) adversely affect their negotiation power in relation to retailers and processors. Contract farming in most agricultural sub-sectors is not a common practice, mostly because of the weak performance of primary production and a large part of the processing industry.

The increase of the attractiveness of the rural areas, thereby reducing out-migration, closely depends on the improvement of physical infrastructure, better access to social services, the improvement of social structures, and by offering support to the development of entrepreneurship. Failure to meet the specific needs of rural areas and their inhabitants, in addition to the absence of systematic and the better coordinated activities of various stakeholders, brings a serious threat of further increase of the developmental gap between the urban and rural areas.

Institutional settings

Implementation of policy reforms, as in transitional countries, induces behavioural responses in a whole range of players and agencies. A wide array of actors, including consumers, producers, households, and local communities, change their behaviour by establishing diverse operational models and new organisational structures to better respond to policy changes. They are progressing in different ways in search for new niches and approaches that ensure their sustainability in reformed policy context, often causing an institutional vacuum and the absence of continuity in the reforms.

In Macedonia, Serbia, Bosnia and Herzegovina, changes in the political, economic, and policy context during transition have led to decentralization and devolution of a number of state services to private sector and civil organisations, thus exposing farmers to market forces and risk. Current economic services and social infrastructure in rural areas are poor and underdeveloped. The poor horizontal and vertical integration and the absence or low efficiency of institutions for logistic support across the food chain are considered major obstacles for the more dynamic sector development. The horizontal and vertical organisation of farmers in producer groups and cooperatives is very limited, as are rural people's participation in policy and governance processes.

Despite the long tradition of agricultural cooperatives, joint activities of farmers are still a critical issue. The same is with other forms of rural civil society organisations (CSOs), whose activities on rural development are very limited and poorly visible by rural people. The old cooperative system from socialist times did not survive transition, mostly because of the poor legislative solutions governing the privatization of state enterprises and discriminatory treatment of cooperatives in respect of access to the state support to agriculture. Unresolved issues concerning property disputes, unequal access to capital market, and devastating effects of grey economy have influenced the slowing down reforms of cooperatives. At later stages of transition, many donors' projects aimed at modernising agricultural production, favouring and even conditioning the farmers' cooperation and establishing some forms of associations and cooperatives. These cooperatives developed by an "external power" usually end after the intervention and are focused on survival without being able to sustain cooperation and development.

Regardless of turbulent changes through which the cooperative sector passed in recent decades, agricultural cooperatives are still the most numerous and the most common form of business association of farmers in all three countries. However, large differences exist in terms of the types of cooperatives, the approach of their organisation, the activities in which they are engaged, and the relationship to the membership.

In addition to agricultural cooperatives, important factors of logistical support to farmers are producer/farmer organisations and associations. Their activities are primary oriented towards representation, lobbying, and advocating for farmers' interests; advising, informing, and training of farmers; and supporting the professional organisations of farmers. Some of them are organised as representative associations of a certain group of producers or as the different actors in the market chain at a local/regional or national level.

Although there are specific issues for individual countries regarding legislation, public financing, fiscal status of CSOs, and the level of civil and social dialogue, there are some common issues throughout the region, particularly in rural areas (European Economic and Social Committee, 2011). There is no strong tradition of civil society, and there is a general misunderstanding among local authorities at both the local and regional levels regarding the advantages of working in partnership with civil society. The public financing is in most cases insufficient and not transparent enough. In addition, most of the CSOs, including farmers' organisations, are fragmented and suffer from counter-productive competition instead of cooperation. This prevents them from establishing powerful pressure groups. Most CSOs are concentrated in either the capital city or in two or three other cities, leaving the countryside unaware of the role of civil society and its activities. The geographical distribution of CSOs is uneven; whereas the religious and ethnic minority groups are best organised and are protecting their interests.

The status and role of civil society in rural development are the topics often forced, particularly by donor activities in all three countries. Donor projects have created new forms of CSOs, mainly focused on the transfer of information and knowledge in the fields of accession policy, agriculture, environment, and the protection of human rights and similar. Cuts in donor funds

caused many of these organisations to disappear. The real impact of various farmers' and producers' associations based on their advocating capacity and power are relatively low in all three countries.

Transfer of knowledge in the field of agriculture is carried out through a system of formal education on all levels (from secondary education to doctoral studies) through a variety of training organised by educational and research institutions and organisations, agricultural advisory and support services, private-sector companies, project units, and the media. The agricultural extension service[4] monitors production in selected farms where extension agents record the costs of inputs, yields, and other data related to farm management. In addition to their work conducted on farms, extension agents are available to other households, giving advice and recommendations, information on new technologies, and new methods of farm management, including applications for rural development and Farm Accountancy Data Network (FADN). Advice, assistance, and other activities that producers receive from extension agents are free of charge to all beneficiaries.

Individuals, institutes, and private domestic and foreign companies also provide consultancy services to the agro-food sector through rural networks and consulting companies. A system of non-governmental organizations (NGO) that is supported by donors (and in Serbia also by the ministry) disseminates knowledge and information in rural areas under the rural network. The rural network consists of regional centres for rural development and of local action groups established at the municipal level and is actively involved in training programmes for local rural development actors. Input suppliers provide corresponding extension services to promote their products, thus ensuring the products' proper use and to maintain the firms' market share. Such consulting services are often directed by commercial interests, exposing the farmers to the risk of contradictory information and advice (Berkum Van and Bogdanov, 2012).

The opportunities provided by public-private partnerships in the fields of creation and transfer of knowledge and technology, as well as the greater involvement of other stakeholders (e.g., co-operatives, private consulting economic entities, agencies, NGOs, and others) are not fully utilized.

Agricultural and rural development policy

Agricultural policies of CEE countries have undergone various degrees of adjustments, with rapidly changing policies in highly volatile markets (Buchenrieder and Möllers, 2011), and were

4 In Macedonia, the National Extension Agency works throughout the country in 30 cities, grouped into six regions with Directorate in Bitola and 44 dispersed offices in rural areas.
In Serbia, the agricultural extension service network includes 34 regional centres (22 in Central Serbia and 12 in Vojvodina), employing about 230 extension agents.
In Bosnia and Herzegovina, public extension services is responsibility of Entity Ministries (two), while offices are organized in six regions of Republic Srpska, and in the scope of ten responsible Cantonal ministries in Federation of Bosnia and Herzegovina, so they mainly perform administrative work and devote very little time to field related work.

largely driven by their aspirations to join EU. These experiences were often discussed in the literature during the1990s–2000s, primarily from the perspective of dynamics of reforms, the impact of pre-accession support on structural changes, and policy adjustments to the CAP. The transition economists very rarely dealt with the issue of justifying the adoption of CAP by transitional countries and by testing alternative policy scenarios.

Reforming agricultural policies implies (Bogdanov et al., 2015): (1) moving away of productivism; (2) neoliberal philosophy in terms of trade regulation (Cocklin et al., 2006); and (3) new patterns of interaction and combinations of state, market and civil society (Renting and Van der Ploeg, 2001). From a conceptual perspective, the transition implies a switch from the emphasis on supporting agricultural productivity growth (productivism) to a more complex and multidimensional objectives related to the wider rural development issues (post-productivism) (Evans, et al., 2002; Woods, 2011). Although the literature often emphasizes the lack of empirical evidence that these sophisticated concepts are successful in developing countries, they are to some extent forced to adjust their agricultural policies to such a framework.

The experience of CEE countries with rural development policy shows that rural issues entered in the later stages of transition, which was closely tied to the availability of European funds for pre-accession assistance (Bogdanov et al., 2015). The principles of rural policy and its operational framework (e.g., participation, networks, and partnerships), as well as rules governing the support for rural development (e.g., co-financing, compliance with the minimum standards provided, and preparing business plans) were great obstacles that hindered structural reforms (Nemes, 2004; Csáki and Jámbor, 2013). This has been explained by World Bank (2008): “As politicians maximize short-run political support rather than their constituency’s welfare, they prefer the former instruments over the latter”. Both policy decision makers and farmers accustomed to the previous policy regimes were faced with insufficient capacity to deal effectively with these challenges. Policy decision makers lack the awareness of rural development policy benefits and experience in conceptualizing policy objectives and mechanisms of support, whereas farmers lack managerial knowledge and skills to meet the necessary requirements (Hubbard and Gorton, 2011).

During the transition process, all three project countries have gone through several reforms of their agricultural policies. The policy reforms were carried out under the influence of political changes, requirements arising from international agreements, but were heavily influenced by developments in the global market. Political and economic instability have caused a lack of agricultural policy continuation and stability. In addition, the operationalization of agricultural policy was constrained by low funding (particularly in Serbia and Bosnia and Herzegovina) and inadequate selection of measures and instruments of support. Regardless, the fluctuations in the dynamics and effects of reforms, the capacity of key national institutions for designing and implementing agricultural and rural development policies, strategies, and programs are improved. However, important obstacles for more efficient policy implementation are the *ad hoc* approaches in defining measures and the poor realisation of planned activities and funds. Implemented measures and budgetary payments often differ from those planned in

programming documents, mainly because of budgetary constraints, political instability, influence of lobby groups, and market volatility. In such settings, it is difficult to achieve the set goals, since beneficiaries do not get clear messages on the government's priorities and objectives.

The key challenge for the agriculture sectors of all three countries is the process of EU integration. The accession process is a complex and demanding issue, particularly for the agricultural sector, because of its size and importance for national economies, its structural deficiencies (prevalence of small farms), and its social impacts on rural population. Generally, national agricultural policies are still oriented towards productivism, specific sub-sectors, and interests of big producers, while lower priority is given to structural and rural development support. The limitation of such an approach is the insufficient confrontation to the technological backwardness, rural poverty, environmental problems, and unfavourable social structures in rural areas.

The lessons of previous accession are embedded in IPARD, the new EU framework for pre-accession assistance, primarily in terms of ways of its operationalization. The obligation for candidate countries to adopt the whole concept of EU to support agriculture and rural development still remains. Therefore, the countries of the Western Balkans start tough but necessary reforms, which take place in conditions of substantially changed power relations and different global environment (in time for the big enlargement). The message often sent to policy makers is that the CAP is a moving target, but it is rarely recognised that Balkan countries have to shoot that target from different positions and from longer distances (Stojanović and Bogdanov, 2007).

Box 2: IPARD status in Macedonia, Serbia, and Bosnia and Herzegovina

The objectives of the IPARD are two-fold: (1) to provide assistance for the implementation of the *acquis* concerning the CAP; and (2) to contribute to the sustainable adaptation of the agricultural sector and rural areas in the candidate country. The assistance is in the preparation of the IPARD program and its supportive documents, as well as in the strengthening of the institutional capacities and the creation of administration preconditions (technical and human) for establishing a paying agency. This is a major task for candidate countries. Because of the different status in the EU integration process, all three countries are not in the same position in regard to accessing I PARD funds.

- Macedonia—On June 2007, the Assembly of the Republic of Macedonia adopted the Law on Establishing an Agency for Financial Support in Agriculture and Rural Development (Paying agency) for the purpose of successful implementation of the measures under agriculture policy and rural development policy. Since 2009, the government has issued ten public calls for applications to use IPARD funds. During this period, the IPARD Program 2007–2013, with an rate of approval of 30%, committed funding to about 300 projects. The uptake has been slow, with the result that part of the total funds were recommitted and allocated to rural infrastructure projects in a different part of the IPA programme.

Source: IPARD Monitoring Committee, 2015

- Serbia—Directorate for Agrarian Payments, as a part of the Ministry of Agriculture and Environmental Protection was established in 2009. Directorate performs the activities related to the implementation of the subsidies program in agriculture, making calls for applications, decides on the right to assistance, making payments to the final beneficiary, performs administrative and on-the-spot checks, establishes and keeps accounting records of contractual obligations and payments, implements international assistance to agricultural policy in the Republic of Serbia, and manages the Farm Register. By establishing the Directorate, necessary institutional framework has been set up which will enable the use of the IPA pre-accession funds.

  Source: http://uap.gov.rs/about-us/

- Bosnia and Herzegovina—The Office for Harmonization and Coordination of Payment Systems in Agriculture, Food and Rural Development has current competencies that are nearest to the role of the IPARD paying agency. National, entity, and district politics have not made a formal agreement about the establishment of an IPARD operative structure. It is known that the establishment of a paying agency, as the institution responsible for the implementation of CAP measures (including direct support, instruments of common market organisations, and support to rural development) is regarded as the most demanding individual requirement for any EU candidate country to meet. The suspension of EUR 45 million from IPA funds, envisioned for Bosnia and Herzegovina in 2013, is a clear warning that a quick response to this problem is needed.

  Source: Bajramović et al., 2014

Budgetary support to agriculture and rural development

The total budgetary support to agriculture and rural development is relatively low in comparison to the EU average. The data[5] for 2012 show that budgetary support per hectare of UAA amounted from about EUR 50 in Bosnia and Herzegovina to about EUR 150 in Macedonia. The relatively low budget considering the agricultural land area suggests the limited potential to address development issues with these funds (Volk et al., 2014).

The structure of the total budgetary support to agriculture differs considerably between countries. In general, market and direct producer support measures prevails, especially in Serbia. Macedonia and Bosnia and Herzegovina, as countries with less favourable land resources and performances of the agricultural sector, have a larger share of funds for rural development than in Serbia. However, the share of structural and rural development measures of support in Macedonia, Serbia, and Bosnia and Herzegovina in total budgetary expenditures is considerably lower than in EU countries (see Figure 3).

The total amount of funds for rural development support is low and unstable. The level of budgetary funds for structural and rural development support varies from below EUR 10 per hectare of UAA in Serbia to about EUR 25 per hectare in Macedonia. In Serbia and Bosnia and Herzegovina, rural development support was not even funded in certain years. Macedonia and Bosnia and Herzegovina show fluctuation through the years in terms of measures applied

5 Data are calculated based on a realised budget per policy measures, according to the Agricultural Policy Measures template (Rednak et al., 2013).

and the amount of funds, whereas Serbia, besides the instability of the selected measures, has experienced reduction in supporting rural development measures. Such obvious instability of rural development policy reflects low priority that national governments give to rural problems, whereas from the perspective of policy beneficiaries, it means an unstable investment environment and high business risks. This approach obstructs the handling of some key structural problems of agriculture and rural areas (e.g., technological developments, activation of land market, and reaching sustainability of farms in marginalised areas), but also affects a country's capacity to draw IPARD funds.

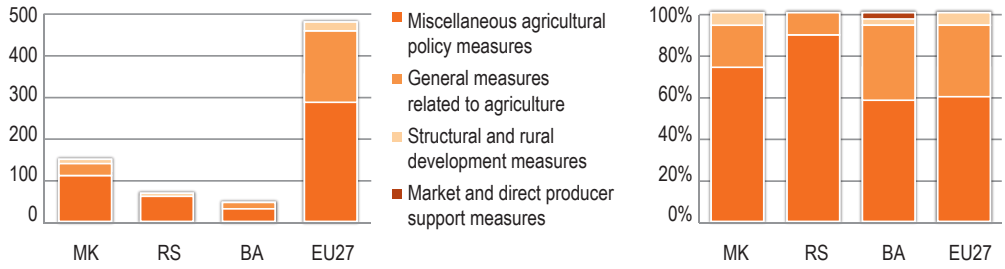

Figure 3: Budgetary expenditure for agri-food sector and rural areas, by pillars, 2012 (million EUR and %)

Figure 4: Budgetary expenditures for structural and RD measures, by axis, 2012 (million EUR and %)

On-farm investment support for improving the competitiveness of agriculture (Figure 4) dominates in the structure of rural development support in all three countries. Funds intended for improving the environment and the countryside are minor, which is a challenging question from the perspective of balanced territorial development. Since all three countries face socio-demographical and structural problems in their mountainous and remote areas, the absence of support to farmers in marginalised and less favoured areas (LFA) in Serbia and Bosnia and Herzegovina is a serious failure of agricultural policies.

Funds for supporting rural economy and population are also rather weak. All countries have financed some infrastructural projects in rural areas, as well as investments for on-farm diversification of economic activities in the field of rural tourism. They have funded activities

on the improvement of social networks, establishment of local action groups, and local/regional partnerships.

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PART TWO:
THEORETICAL AND METHODOLOGICAL FRAMEWORK

3. THEORY OF PLANNED BEHAVIOUR

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Understanding motivation, along with information on resources and constraints, can adequately explain and predict farmers' behaviours (Gasson, 1973). The behavioural approach, being "an actor-oriented, largely questionnaire-based methodology" has gradually gained importance in agricultural and rural studies, more concretely in studying farmers' responses to policy initiatives (Burton, 2004). The theory of planned behaviour (TPB) is perhaps the most popular model for understanding, predicting, and possibly changing human behaviour.

Development of TPB

The groundwork of TPB as a social psychology theory of value expectancy was set by the Theory of Reasoned Action (ToRA) and developed through the collaboration of Fishbein and Ajzen (1975, 1980). ToRA was the first model in behavioural science suggesting a connection between attitudes and subjective norms towards undertaking and performing a behaviour (Burton, 2004). Fishbein and Ajzen (1975) distinguish four major classes of variables: beliefs, attitudes, intention, and behaviour as the foundation of their proposed conceptual framework. In addition to considering individual's personal attitudes, which (until then) were considered a sole (or at least main) determinant of behaviour, ToRA distinctively adds social norms as compatible construct that influences behaviour. In order "to deal with the philosophical issue of how attitudes are transferred to behaviours" (Burton, 2004), the individual's intention to perform the behaviour is put forward as the proximal cause of the actual behaviour.

ToRA's limitations are manifested in explaining and predicting behaviours over which the individual has incomplete volitional control (i.e., consciously wishes to perform them). To address this issue, the follow-up TPB additionally considers the concept of perceived control over the behaviour. As such, the theory of planned behaviour assumes three independent predictors of intention (Ajzen, 1985, 1991, 2012): (1) the attitude towards the behaviour described as the degree to which the individual has a positive or negative evaluation of the behaviour under consideration; (2) the social (normative) predictor in terms of the perceived social pressure whether to perform the given behaviour; and (3) the perceived behavioural control or the individual assessment of the level of complexity to perform the behaviour in question (Figure 5). Aggregating the different behaviours in different occasions and situations provides a "more valid measure of the underlying behavioural disposition than any single behaviour" (Ajzen, 1991). In their respective aggregates, "behavioural beliefs produce a favourable or unfavourable attitude towards the behaviour; normative beliefs result in perceived social pressure or subjective norm; and control beliefs give rise to perceived behavioural control" (Ajzen, www).

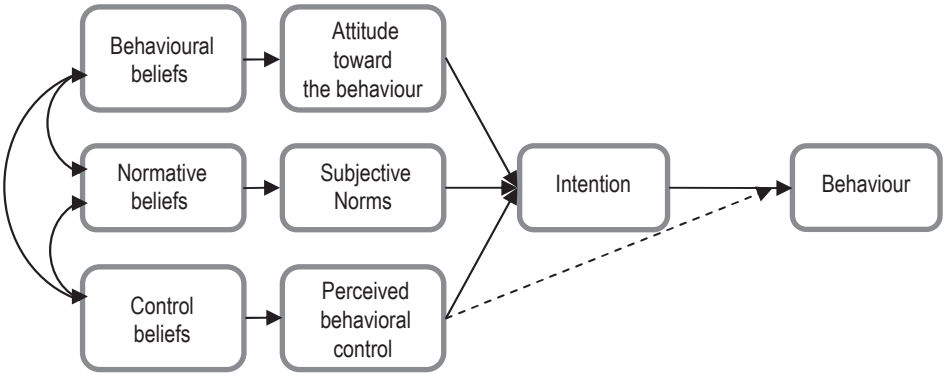

Figure 5: Schematic representation of TPB (Ajzen, www)

The attitude towards the behaviour considers the favourable or unfavourable assessment of the individual of a certain behaviour. It combines the behavioural beliefs and the subjective value of the outcome, that is, the belief that performing a behaviour will lead to a certain outcome influences the favourable or unfavourable evaluation of the concerned behaviour (Ajzen, 2012). The proposed expectancy-value model of attitudes (Fishbein and Ajzen, 1975; Ajzen, 1991; Ajzen, 2012) suggests that attitudes develop from the beliefs an individual holds about the object of the attitude, hence the beliefs are formed by associating the object with certain attributes that are already valued in a positive or negative connotation.

The subjective norm or the perceived social pressure relates to whether the individual should engage in certain behaviour and places the individual in a social context. It concerns the beliefs whether other people, who are significant to and respected by the individual, think that the individual should engage in the behaviour in question (Burton, 2004). Normative beliefs reflect the "likelihood that important referent individuals or groups approve or disapprove of performing a given behaviour" (Ajzen, 1991). Analogous to the expectancy-value model of attitude towards a behaviour, the subjective norm is determined by the normative beliefs related to the expectations of the important others (Ajzen, 2012).

The third construct of TPB regards whether the individual can perform a certain behaviour is considering the available resources and opportunities and whether he or she feels constrained to do so. The perception of behavioural control is very similar to the notion of self-efficacy. Many factors can influence the performance of certain behaviour (Ajzen, 2012). In that sense, the actual behaviour control is related to the individual's skills, abilities, resources, and intelligence needed to perform the behaviour. The perceived behavioural control in the sense of TPB focuses on the individual's beliefs of capability or controllability over performing a given behaviour. In line with the previously explained expectancy-value model of attitudes, the control factor to encourage or inhibit behavioural performance contributes the perceived behavioural control in direct proportion to the individual's subjective notion of the presence of the control factor (Ajzen, 2012). The perception of control over the behaviour is encouraged by the belief of having a greater hold of resources and opportunities, and conversely a lower anticipation

of obstacles or impediments (Ajzen, 1991).The sufficient actual control of the process would expectedly enable the individual to fulfil the intention when the opportunity arises. In many situations, the perceived behavioural control can serve as an alternative for actual control and contribute to the prediction of the behaviour in question.

Attitude towards the behaviour, subjective norm, and perception of behavioural control produce the behavioural intention. In general, these three behavioural constructs accurately predict the behavioural intentions (Ajzen, 1991). The fundamental idea of TPB is that behaviour is guided by the intention to perform the behaviour in question, and in empirical terms, behavioural intentions account for a considerable proportion of variance in behaviour (Ajzen, 2012). Intentions indicate the degree of effort the individual is willing or planning to put forth to perform the behaviour. Intentions encapsulate the motivational factors that influence behaviour, and given the availability and accessibility of the required opportunities and resources, as well as the intention to perform the behaviour, the individual should eventually succeed in performing the behaviour. Strong intention to engage in behaviour is generally a strong indicator of its ultimate performance. In that sense, the individual's intention to perform the considered behaviour is positively related to the favourable attitude towards the behaviour, the approval received by the referent social environment, and the high degree of perceived behavioural control.

Evidence suggests that because behaviour is guided by the intention to perform the given behaviour, intentions can predict a significant proportion of the variance in behaviour. Sheeran's (2002) meta-analysis of 422 correlational studies showed that intentions have strong associations with behaviour, whose impact has a large effect size. The weighted average correlation of the intention-behaviour relationship from all included studies is 0.53 i.e., intention explains an average of 28% of the variance in future behaviour (*ibid*). A more recent meta analysis of 47 studies emphasizes the importance of the control over behaviour, showing that intentions have less impact on behaviour in an environment when there is lack of control over the behaviour, when there is high likelihood for social reaction, or when the performance contributes to habit formation (Webb and Sheeran, 2006). Nevertheless, the relative importance of the determinants of intention is expected to vary across behaviours and situations (Ajzen, 1991).

Strong correlations are reported between behaviour and both the attitudes towards the behaviour and the perceived behavioural control components of the theory. To date, it is only the subjective norm construct that is generally a weaker predictor of intentions and behaviour. Armitage and Conner (2001) argue that this occurs partly because of poor measurement and methodological approach, as well as the need for expansion of the normative component. In agricultural related studies, the phenomena of social norm can be to some extent explained by the importance of independence to farmers (Gasson, 1973), making it understandable that farmers would not be willing to declare in a survey that they are under social influence by the respected others (Burton, 2004).

TPB recognises the potential importance of additional variables that could complement the understanding of behavioural determinants. These variables, considered background factors,

have an indirect impact on behaviour through the formation of behavioural, normative, and control beliefs. In other words, their impact on behaviour is mediated by the beliefs (Ajzen 2011). These background factors include age, gender, education, nationality, religion, socioeconomic status, personality, past experience, and exposure to information. The identification and explanation of relevant factors should be based on content–specific theory (*ibid*). Adding other factors in the TPB model is also suggested in applied agricultural or rural social psychology research. To that effect, Burton (2004) provided references to a number of studies that suggested the inclusion of independent variables that can contribute significantly to the attitudes or subjective norm, such as self-identity, habit, and moral obligation.

Applications of TPB

TPB is a useful conceptual framework for dealing with the "complexities of human social behaviour" (Ajzen, 1991), and since its conception, it has been used to predict and explain human behaviour in different contexts in various scientific and applicative studies, dealing with topics related to health, investment and purchase decisions, academic performance, technology acceptance, political participation, voting employment, job-search behaviour, and environmental protection (Ajzen, www).

Reviews of the TPB show that it is also highly applicable to agricultural research (Jackson et al., 2006) because farmers are not driven by profit maximization only, but rather, farmers' behaviours are influenced by a range of socio-economic and psychological variables (extensive list provided in Willock et al., 1999).

Recently, many studies apply TPB in relation to: farmers' behaviours in the agricultural policy context (Garforth and Rehman, 2006; Gorton et al., 2008; Dos Santos et al., 2010; Emery and Franks, 2012); conservation behaviour and practices (Beedell and Rehman, 2000; Vining et al., 2002; Wauters et al., 2010; Lokhorst et al., 2011; Reimer et al.; 2012); consumers' food behaviours, more recently focusing on modelling organic food consumption choices (Bissonnette and Contento, 2001; Arvola et al.; 2008, Vermeir and Verbeke, 2008; Kaufmann et al., 2009; also see an extensive list in Aertsens et al., 2009); farm decision-making and management (Willock et al., 1999; Bergevoet et al.; 2004, Fielding et al., 2005; Artikov et al., 2006); and new studies focusing on topics, such as farmers' purchase intentions of agricultural machinery (Feng et al., 2010), farmers' decisions to extend their businesses outside conventional agricultural production (Hansson et al., 2012), consumers' purchase intentions of water buffalo milk products in Greece (Cazacu et al., 2014), and the identification of the relationship between ecological concerns and consumption on genetically modified food (Kimet et al., 2014). Short summaries of few related studies applying TPB in agricultural policy context are given below.

Willock et al. (1999) emphasize the importance of the psychological factors in the decision-making of farmers in their study of Scottish farmers' businesses and environmental behaviours. They conclude that multiple attitudes influence both business and environmentally-oriented

behaviours, some directly and others mediated by objectives. They argue that behaviour is to some extent influenced by variables relating to farm structure.

Bergevoet et al. (2004) developed an empirical model, based on TPB, to test the hypothesis that differences in Dutch dairy farmers' goals, objectives, and attitudes are a determinant of strategic and entrepreneurial behaviour and consequently would relate to farm size. They found that TPB as a psychological model is useful in empirical research into aspects related to the entrepreneurial behaviour of dairy farmers, but could likely be improved by including past behaviours, barriers, and skills. Answers to statements about goals as well as statements related to standard TPB constructs explained approximately 38% of the variance in farm size. Farm size was mainly explained by farmers' instrumental goals and was not related to fulfilling intrinsic, expressive, or social goals.

In a study that focused on the behaviours and motivations of farmers in responding to policy changes in England (Garforth and Rehman, 2006), TPB was used as the conceptual framework and has been applied to predicting farmers' intentions to change their farming systems over the next 5 years as a result of the introduction of the single payment scheme within the EU Common Agricultural Policy. The set of beliefs, social referents, and probable investment strategies responding to the given policy initiative was identified through focus group discussions with the target population (i.e., the farmers, followed by a survey of 683 farmers). The intention to change the farming system and practices in light of the introduced policy in the next 5 years was neutral to slightly negative. The researchers found strong correlations between intentions and TPB predictors (i.e., attitude, subjective norm, and perceived behavioural control) and therefore assumed that the stated intention with respect to the farmers' behavioural responses to the single farm payment scheme could serve as a reliable predictor of actual future behaviour. Within this study, many of the surveyed farmers gave neutral or non-committal responses on many of the measures, hence, as the authors state "indicating a continuing degree of uncertainty about how the scheme will impact on their farm and on farming in general" (Garforth and Rehman, 2006, p. 67). For instance, 48% of the respondents registered a neutral attitude in regard to their general evaluation towards the introduced policy measure. Farmers with high levels of debt and fixed costs tended to have negative attitudes towards change in response to the single payment scheme. Farmers considered less profitable saw the new scheme as an opportunity to improve their livelihood, as they would avoid costly production linked investments.

Gorton et al. (2008) conducted a study of farmers' attitudes and behavioural intentions related to agriculture and the Common Agricultural Policy, with particular focus on the assumed differences between new and established EU states. The results showed that most farmers in the enlarged EU persist on an agricultural orientation, focus on productivity, and are opposed to policy liberalization. The majority of farmers believed that policy support is imperative for the survival of the farm. The diversification concept, in parallel with the development of additional income sources and off-farm opportunities, was perceived as difficult for a large number of farmers.

The TPB principles were used, not to perform quantitative and statistical testing and prediction of future behaviour, but to structure and elicit responses in the study of receptivity of farmers to collaborative agri-environment schemes by Emery and Franks (2012). The qualitative socio-cultural analysis focused on potential behaviours (e.g., cooperating with other farmers, and undertaking environmental work outside of agri-environment schemes), whereas the respondents scored their favourability towards the behaviour in question (i.e. attitude); difficulty and level of personal control (i.e., perceived behavioural control); the social context (i.e., subjective norm), and the intention to execute the behaviour. They argue that a lack of communication and mutual understanding between farmers, the independence, timeliness of farmers, and risk perception present potential barriers to collaborative agri-environment schemes. They suggested that farmers are likely to support such policy interventions if created properly, with inclusion of the farmers in the scheme design, greater flexibility, locally targeted and clearly defined aims, and demonstrable measurable benefits.

Poppenborg and Koellner (2013) also used the TPB approach to reveal the determinants of land use decisions. They found limited influence of the social norm and noted that environmental behaviour was influenced by farmers' incomes and stressed the importance of economic incentives, such as payments for ecosystem services.

Gorton and Barjolle (2013) explored ToRA and TPB as model approaches to study food consumer science applied in six countries of the Western Balkan. They argued that these theories are valid in explaining intentions and behaviours, but also that to understand the food choices, a thorough consideration is needed of how attitudes are created and modified.

To our knowledge, this theory has not yet been applied in the agricultural and rural development policy context in the Western Balkans.

TPB in behaviour change

The theoretical framework used in designing interventions is one of the key features determining its impact on behaviour change (in line with method and mode of delivery). Although TPB is not a theory of behaviour change (Ajzen, 1991, 2011), according to a meta-analysis of Webb and Sheeran (2006), it is among the most frequently used theories for changing behavioural intentions. Because it is a good model for predicting and explaining intentions, it proved to be a useful conceptual framework for designing interventions and evaluating their effectiveness (Webb and Sheeran, 2006; Ajzen and Albarracin, 2007; Ajzen, 2011).

One way to initiate a behaviour change is by motivating people to engage in behaviour (in case of a lack of intention). Intentions can be modified by changing the major determinants of intentions or by changing their relative weights. This motivation can be performed presenting information to guide the formation of new beliefs, rather than changing existing beliefs (Ajzen, 2011). Changes in intentions will result in a behavioural change to the extent that the intentions are directly compatible with the behaviour, the person's adequate control over the behaviour,

and that the intentions have not changed prior to the behaviour. Large changes in appropriately selected beliefs are required to produce change in intentions, and a strong intention-behaviour link is required to produce change in behaviour.

Once an intention is formed, the second stage in the behaviour change intervention is to close the intention-behaviour gap by helping individuals to overcome obstacles that weaken the relationship between intentions and behaviours (by increasing behavioural control) (Ajzen, 2012). Therefore, it is important to identify the internal and external factors that form the control to design assistance to provide individuals with the required self-esteem, tools, and resources (e.g., trainings and networks) to encounter unanticipated difficulties and ultimately gain actual control over behaviour performance.

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4. SOCIAL CAPITAL THEORY

Tuna E., Nikolić A., Milić T.

Transition and emerging countries experience substantial institutional, political, economic and cultural heterogeneity across the rural areas (Stam et al., 2014). Barriers to rural development are multiple and interacting, and need to be tackled simultaneously, considering the socio-economic and environmental circumstances of rural areas (Mikulcaka et al., 2015). Therefore, public policies promoting the territorial approach to development are more likely to yield economic outcome and ensure sustainable development (see Figure 6). The territorial approach is focused on developing a consistent set of measures which will activate a plethora of capital (Waldstrøm and Svendsen, 2008) and empower key individual and group skills to support the development of all dimensions of competitiveness (environmental, economic, and social). Such an approach enables the creation of development policies which will place the focus on the most important problem—how to successfully convert capitals to economic outcome and increase the quality of life in rural areas (Mikulcaka et al., 2015). There are many rural regions that were successful in applying such an approach and have seized opportunities and expanded on their existing assets, such as location, natural and cultural amenities, and social capital (OECD, 2006 recited by Kjeldsen and Svendsen, 2011).

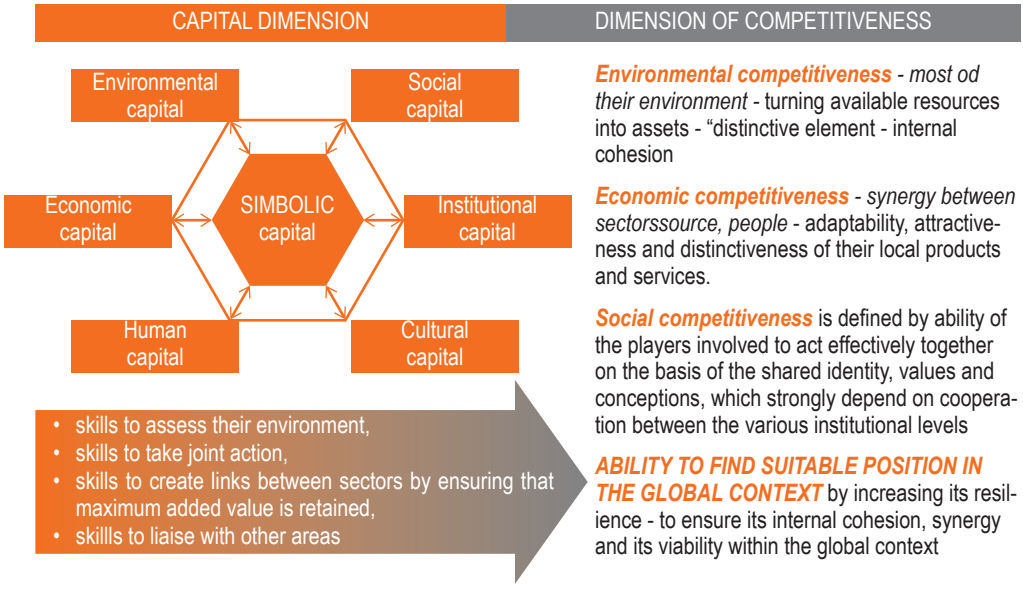

Figure 6: Territorial approach to the development of rural areas

Source: Bogdanov and Nikolić, 2012

Given the literature consensus that economic activities are embedded in the social context, it is not surprising to see the growing literature which confirms that social capital has profound impact on development (Grootaert and Bastelaer, 2002; Moody and White, 2003; Granovetter, 2005; Nardone et al., 2010; Obach and Tobin, 2013;) and that difference in social capital helps to explain the differences in development among regions with similar endowments (Rutten and Boekema, 2007; Sabatini, 2009). Since the mid-1990s, social capital has received increasing attention in debates on rural development as a key factor in overcoming poverty, fostering competitiveness, and developing rural areas (Michelini, 2013). Because social capital enables participants to act together in pursuing a shared interest, it can stimulate growth of other forms of capital as well (Kim and Kang, 2014; Mikulcaka et al., 2015). Therefore, social capital that shapes individual and group interaction and socio-economic behaviour becomes more important for rural development than the technical and economic considerations. To create and implement a successful RD policy, it is necessary to get insight into the characteristics of social capital. To do so, it is important to understand not only the theoretical concept of social capital, but also the way social capital is measured.

Concept of social capital

The notion of social capital is very complex and is therefore vaguely defined and often described as a "catch all notion" (Paldam, 2000). As such, social capital definitions and classifications vary depending on the scientific approach and field of research in which it is applied. Nonetheless, all social capital definitions carry the central premise of formal or informal social structures of cooperation for mutual benefit (Bourdieu, 1983; Coleman, 1990; Woolcock, 1998). Fukuyama (2002) defines social capital as "shared norms or values that promote social cooperation, instantiated in actual social relationships". Therefore, social capitals' productive side is characterised by the relationships among individuals that enable them to retrieve resources embedded in the social structures, i.e., resources that would not be reachable otherwise (Coleman, 1990). Bourdieu (1983) defines social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition". The societal aspect of social capital also comprises the political environment, the formal institutions, and governance structures (OECD, 2001). In his definition, Putnam (1993) includes trust, norms, and networks as social structures, as key components for cooperation among individuals, and as important for the development of the society; or: "connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them" (Putnam, 2000).

Building on Uphoff's classification of social capital, Grootaert and Bastelaer (2002) identified two forms of social capital which are reinforcing and cannot exist separately: (1) its structural form which includes the observable social structures (networks, associations, and institutions) and the rules they embrace and (2) its cognitive side which contains more abstract and intangible elements, such as attitudes and norms of behaviour, shared values, reciprocity, and trust. In accordance to the form and scope of social capital, it can be classified as social capital

on a micro (horizontal relations among equals), meso (horizontal and vertical relations among groups) or macro level (the institutional and political environment which shapes the economic and the social activity) (Grootaert and Bastelaer, 2002).

In respect to social networks, social capital can be differentiated in three categories (Woolcock, 2001). Bonding social capital observes the connections among similar and equal individuals, groups, or institutions (horizontal, close links, such as kinship, friendship, and neighbours) which are important for support and joint problem solving. Bridging social capital (the mixture of strong and weak ties) refers to the connections among horizontal, heterogeneous groups of distant individuals with similar interest (i.e., live in the same area, region, or village), and are important for attaining data from various sources. Linking social capital refers to the connections that individuals, groups, and institutions, based on authority or the vertical plane or groups with a position of financial power (e.g. Civil society organisations) (Granovetter, 1973; Lin, 2005).

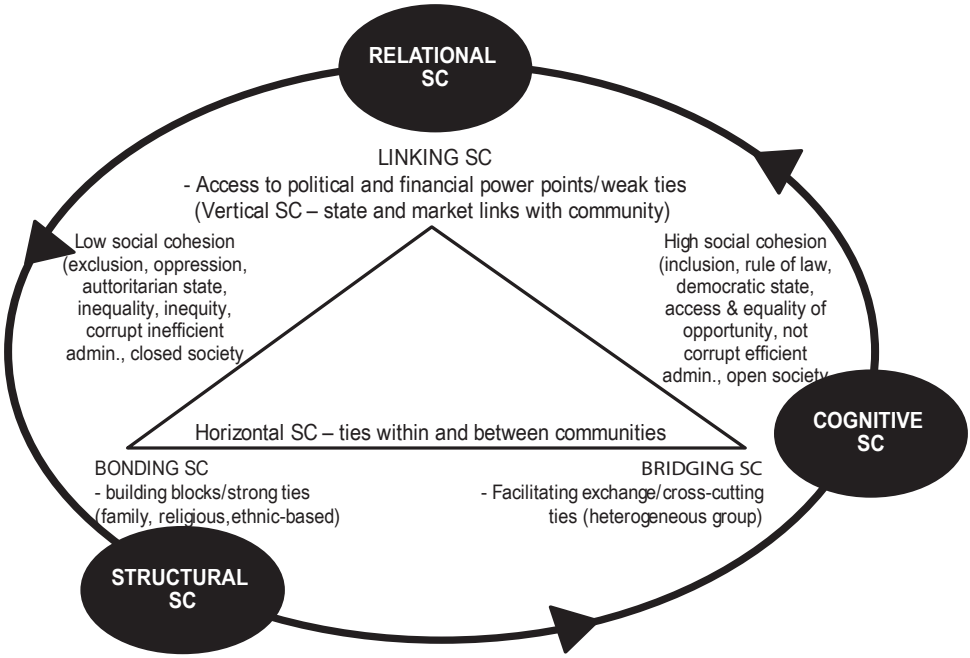

Figure 7: Multiple forms of social capital

Source: Nikolić et al., 2015 (Adopted from Nardone et al., 2010)

It has to be outlined that one type of social capital can be affected by the level of another type of social capital (Shien-Chien and Hung, 2013). For example, structural social capital can foster social interaction by supporting the development of the relational and cognitive form of capital, whereas the latter can improve communication, and in doing so, it can foster the development of relational social capital. Therefore, all types of social capital must be assessed integrally. The distinction between the social capital types reflects on the different power position and roles that networks, groups, and individuals play in shaping development (Sabatini, 2009). In specific

context, a different combination of its multiple forms can give different results (Michelini, 2013). That is why those types of capital support resource activation and result in economic outcome (see Figure 7).

On a societal level, Collier (1998) defines civic social capital as the generalized trust and social relations. Conversely, the governmental social capital represents the formal institutional dimension which describes the political system and freedoms (North, 1990). Pichler and Wallace (2007) differentiate between formal (institutionalized forms) and informal social capital. Formal social capital "involves participation in formally constituted organisations and activities" and informal social capital involves informal social relationships (networks). The informal relationships and networks are particularly strong and stable in times when the formal structures are weak which is often the case in times of changes in the political and economic environment (Fukuyama, 1995; Murray, 2006). To summarize, the most important features of social capital are: (1) its relational dimension (i.e., concerns relations rather than individuals), (2) trust and networks through which resources are attained, and (3) its cultural, historical, and local context.

Like others forms of capital, social capital has a productive side which would not be attainable in its absence. Its formation, maintenance, and reproduction entail an investment of time and money on socialising, and social capital can be seen as both the resources and the outcomes of the development process (Woodhouse, 2006; Righia, 2013). This is why a feedback connection between economic outcome and collective actions exists (see Figure 8). The creation of social capital as a publically owned key resource/capital enables collective actions, activates other capital and resources, and enables sustainable development process to take places (Nardone et al., 2010). However, social capital has to be seen as aninstrument to facilitate policy specific objectives rather than the direct policy objective itself (Nardone et al., 2010) (see Figure 8).

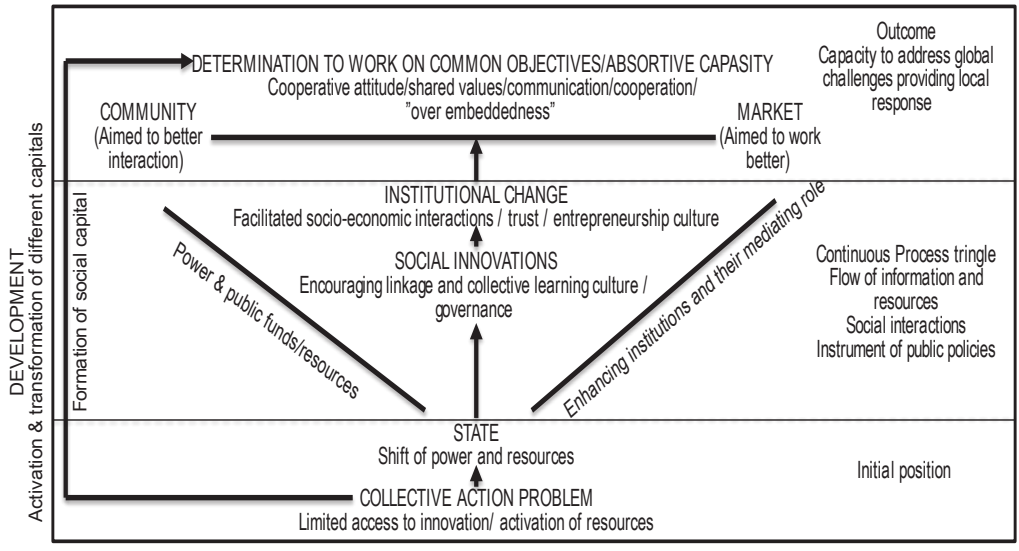

Figure 8: Channels through which social capital affect development – continuous process
Source: Nikolić et al., 2015

Social capital shapes economic outcome by:

- affecting the notion of shared values and the identification of the key elements for efficient communication and coordination for all social actors (Murray, 2006);
- decreasing the transaction costs (enforcement/control costs) by facilitation of productivity growth and innovation capability (Granovetter, 2005; Sabatini, 2009; Iturrioz et al., 2014);
- facilitation of productivity grow and innovation capability (Granovetter, 2005; Eklinder-Fick, 2014) through the facilitation of information flow, resources and power distribution, and growth/downsizing of other capitals (Righia, 2013);
- affectingthe costs required for coordination of specialised or small businesses influencing enforcement/control costs (Sabatini, 2009; Iturrioz et al., 2014);
- acting,in many instances, as a surrogate for formal institutions (administration) by decreasing the risk of establishing new businesses, building the ability to act together, and affecting allocative efficiency (Labonne and Chase, 2011; Righia, 2013; Stam et al., 2014);
- building the ability to act together and affecting allocative efficiency (Labonne and Chase, 2011), collective actions (Michelini, 2013; Bassiet et al., 2014), and better poverty targeting.

Social capital has both advantages and disadvantages. It can provide a range of valuable services; however, it can also have negative effect on individuals and groups in regard to corruption or poor performance. This aspect of social capital discourages entrepreneurship culture by excluding outsiders, putting excessive demand on group members, restricting individual freedoms and downward levelling norms, as well as hindering the achievement of policy goals by coalescing opponents into an effective coalition (Nardone et al., 2010; Sanchez-Famoso et al., 2013).

Social networks, economic, and rural development

Local social context influences the formation of formal and informal social networks that facilitate the development of shared social norms, values, identity, and trust, which affect groups and individual power-society positions, as well as the capacity to use resources embedded in networks. Social networks shape social interaction and the quality of social capital, so there is constant feedback between social structures and individual's behaviours (Kadushin, 2012). Therefore, most empirical studies consider networks, trust, and social norms which are the most significant aspects of social capital measurement. In cross-national studies, the economical outcomes of social capital are seen through the lens of the World Values Survey (WVS) measurements of trust (Sabatini, 2009). Kadushin (2012, p. 11) underlines a few questions which describe social theories through social structures: What is the relationship between basic personality constructs and social relations? How do groups form? What is the most effective way to construct efficient organisations for all its stakeholders? How do information, innovation, and ideas spread and develop? What are the basic resources of individuals and

how can they be utilized in the most effective manner? In this respect, social networks provide valuable information on social life and are a representation of the structural aspect of social capital depicted in the network structure, which shapes socio-economic interactions. They address the relations of the actors in the network and present the patterns of the flow of resources and exchange of resources and opportunities (Dufhues et al., 2006, Sabatini, 2009). Social networks are an important feature of social capital recognised by Bourdieu (1986) who underlines that the number of connections held by certain actors in the network indicates their level of social capital and the access to social capital resources of those connected to them. Different networks comprise distinctive patterns and structures of social relations providing opportunities and constraints for the actors who are embedded in it (Wasserman and Faust, 1994; Portes, 1998; Lin, 2001). Networks are used to investigate the influence of social capital on network emergence, activation, and durability (Smith-Doer and Powel, 2002). The informal relations, also characterised as non-economic actions, are thought to shape social life and economic activities (Granovetter, 2005). The social capital and its network form affect economic outcomes because networks affect the flow and the quality of information and are a source of reward and punishment.

Networks are one of the most important elements of social capital, along with the concept of trust and norms (Putnam, 1993). The type of ties that shapes networks defines its characteristics, usability, and the way in which social capital works (see Figure 7). The type of network ties also defines a propulsive force of networks and socio-economic interactions; therefore, it shapes the path of development that communities pursue. Cooperative attitudes and civic engagement are preconditioned by trust and loyalty and are considered to be an advantage that helps in reducing transaction costs (provide better diffusion of information and reduce monitoring and information costs) and increases the willingness to invest and improve economic relations (Fukuyama, 1995; Rao, 2003, Sabatini, 2009, Lissowska, 2013). The network structure of social capital is correspondingly used as a metaphor for advantage because it may influence the economic outcomes, primarily because of the transaction costs which are lowered by the effective flow and quality of information and the reward and punishment systems that exist in these structures (Burt, 2000; Granovetter, 2005). Social networks are expected to contribute to economic development and welfare because of the networks type of governance, the reciprocity of the ties, and the increased trust generated through repeated cooperation (Putnam, 1993). “Social network analyses reveal what is hidden at plain sight” (Kadushin, p.6).

Along with the problems of the social capital definition, the lack of suitable data is another barrier for the theoretical and empirical development of this theory. Data from primary sources often provide better information on human relations and are especially important in cases with data insufficiencies that are evident in transitioning countries. Additionally, the conventional, statistical sampling techniques are not always applicable. Sampling in Social Network Analysis (SNA) is particularly difficult and risky because there is always risk of omitting important relations by not including all actors in the network. Therefore, in most instances, it is the researcher who decides on the boundaries of the sample, depending on the research

hypothesis and the structure of the data and its availability (Wasserman and Faust, 2009). Typically, sampling in SNA is achievable where complete enumeration of actors is available, providing in this way full information on all the existent relations in the network of interest (Scott, 2000). This research design is known as the whole-network approach, where most, if not all the dyadic relations in the observed set of actors are included. Often, data of all actors in a bonded network are unavailable, and instead, researchers can apply the personal-network approach (Borgatti et al., 2013). This social network research design can be based on a random sample and is suitable for simplifying the restrictions that bonded networks pose, and improves the data quality in the aspect that it provides anonymity of responses. The primary difference between these two approaches is that in the whole-network approach, the egos and alters are the same (farmers), and in the personal-network approach, they could be different which can contribute to the richness of the data (Borgatti et al., 2013). When the actors or the nodes in the network are persons, a questionnaire and a face-to-face survey are an appropriate mode for data collection, and one of the most frequently applied means of data collection in this type of research (Wasserman and Faust, 1994).

For social capital to be an operational tool in the creation and evaluation of development initiatives and projects, it has to be measured. Certain measurement problems arise because of the "multidimensionality and dynamic nature" of the social capital concept; therefore, measuring social capital is best through its key components identified as trust, social norms, and social networks (Sabatini, 2009). SNA is applied as a methodological approach that gives presentation and quantification of social capital by analysing social structures. Social structures are formed by analysing the nodes which represent the actors in the network (the farmers), with special interest in the relationships (ties) they form (Wasserman and Faust, 1994; Hanemman and Riddle, 2005). A specific part of the network data gathering in the SNA is the "Name generating table". It provides information on the farmer's informal cooperation and the effect of this cooperation on the level of application for rural development programs (Lin, 2005; Wasserman and Faust, 1994). Often, it includes a fixed choice design of relational questions where each surveyed farmer is asked to nominate a certain number of persons (typically three to five) with whom they discuss important issues. The number of nominations is typically given not as a constraint, but as motivation, since constraints on the nomination process produce measurement errors (Lin, 2005; Wasserman and Faust, 1994).

There are different network measures which reflect on the network structure (Table 5). Density is one of the most important macro perspectives in the network. Denser networks are assumed to offer a faster transfer of information. Reciprocity is another measure which expresses the degree of cohesion, trust, and presence or absence of social capital by measuring the reciprocated ties (ties in both directions) among the actors in the network (Hanneman and Riddle, 2005). On an ego level, degree is a measure which provides information for the quantity of each ego's relations by depicting the number of ties that it established with its alters. It shows the level of cooperative behaviour (degree of relation) and can have an effect not only on their access to resources and social capital, but also on the level of cooperation for the entire network (Lozano et al., 2008).

Table 5: Definition of basic network cohesion measures

Measure	Range	Meaning
Density	Values closer to 1 - better connectedness of the actors in the networks Values close to 0 indicate to a complete network disconnection.	The ratio between the number of possible ties in one population and the ties which are actually present; by ascertaining pairs of nodes (dyads) and their predominance. Larger density - indicator of higher levels of trust:
Average degree	For non-symmetric data, it represents the average of nodes in-degree (number of ties received by a node) and out-degree (number of ties initiated by a node)	Indicator for the level of social capital, but on ego level. Provides information for the quantity of each ego's relations - the number of ties that each ego establishes with its alters.
Reciprocity	Number of reciprocated ties, important in directed ties:% of reciprocated ties, divided by the total number of ties.	Express the degree of cohesion, trust, and presence or absence of social capital
Average distance	Important macro-characteristic of the network as a whole. Greater distances, longer the time for information to diffuse across a population.	Looks beyond actors' direct relations - how individuals are embedded in networks through their close or distant actors.
Normalized betweeness centrality	% of each ties that goes through a certain node (number of times a certain node lay on the path between different sets of actors in the network).	Actors with higher values expected to have stronger position in the networks (social capital generating points) - possibilities to control information and resources.
Average reciprocity	Number (%) of reciprocated ties (ties in both directions) among the actors in the network	It express the degree of cohesion, levels of trust and information exchange. Highly dependent on the network size: in large populations, most actors have no direct ties to most other actors
Diameter	Number of ties, or the maximum distance between any pair of nodes in the network.	The longest path that the information might flow; Expresses how distant are the remotest two actors are in the network.
Network fragmentation	Average distance among nodes when certain nodes in the networks are removed. Values from 1 - all nodes are distance 1 from each other (complete graph), and 0 when all nodes are isolates.	Applied: distance-weighted fragmentation ("breadth") -expectation that the graphs would be disconnected. Measure defined as the average distance among nodes when certain nodes in the networks are removed.
Component ratio	Maximum 1 – every node is an isolate; Minimum 0 – there is just one component.	Normalized measure – larger the main component is (number of nodes), greater is the global network cohesion.

Measure	Range	Meaning
Connected-ness	Maximum 1 – every node is in the same component; Minimum 0 – every node is in a different component.	Share of node pairs that can reach each other by a path of any length (belong to the same component).
E-I index (external - internal index)	Values from -1 - all ties internal to the group Values to 1 - all ties external to the group.	Membership in organisation as a measure of actors' embeddedness in the network macro-structure (network composition).

Source: Coleman, 1988; Wasserman and Faust, 1994; Hanemman and Riddle, 2005; Borgatti et al., 2013.

Social capital, transition, and the Balkans

In its fundaments, social capital encompasses "culture, institutions, social norms, and networks of interpersonal relationships" (Sabatini, 2009 p. 429). Each society has a distinguishing structure and level of social capital which is determined by the historical, cultural, and political background (Granovetter, 1985). The level of institutional development and implementation affect the levels of trust and social capital primarily seen as an individual's willingness to cooperate (Lisowsska, 2013). Transitional countries challenged by deep socio-economic and political crisis are expected to exhibit lower levels of social capital and distrust in institutionalized and governmentally stimulated forms of socio-economic cooperation. When these institutionalized forms of cooperation are absent or underdeveloped, people are presumed to rely more on relationships preserved in their cohesive, informal networks which are driven by trust, reliability, and coordinated actions for reaching common goals and are important for their economic progress (Kadushin, 2012).For instance, in the former system of centrally-planned economies in the communist countries in transition, the large state influence in the functioning of social organisations caused large distrust in public institutions (Lissowska, 2013), but informal networks (kinship, friendship) remained functional (Muray, 2006). Nevertheless, these types of relationships contribute to economic growth less than formally institutionalized cooperation and involvement in civic organisations, which is the case for fully evolved market economies (Raiser et al., 2002). Social capital can also have negative consequences for the society because of the opportunities to use informal networks for the assistance of individuals (family and friends), rather than to contribute to the general public interest (Fukuyama, 2002).

Social capital is thought to influence rural development, networking, and decision-making in rural areas. It facilitates the utilization of local resources by creating social networks, trust, and civicness (Wiesinger, 2007). Analysis of the economic success in agriculture in CEE shows that factors of major importance are the institutional environment and the concept of social capital reflected through dimension such as trust, economic freedom, perceived corruption, and governmental neutrality (Slangen et al., 2001). Empirical data on the level of average trust in the Balkan countries reveal low levels and a constant decline of trust in these countries,

particularly in Serbia. Conversely, Macedonia demonstrated an increase of these levels from 2000–2010; however, the trust in the formal governmental institutions is still generally low in the Balkan countries (Golubovic et al., 2014, UNDP, 2009). Evidence of the network dimension of social capital in these countries was provided in the case of participation in voluntary participation in formal and informal networks. The results showed an evident decrease of social participation from 2000–2010 (in Bosnia and Herzegovina from 2.4% in 2000 to 1.3% in 2010; in Macedonia from 6.5% in 2000 to 2.9% in 2010; while remained unchanged in Serbia – 2%) (Golubovic et al., 2014). Informal relationships, such as kinships and friendships, remain of high importance in the daily life of the Balkan population (*ibid*).

In the rural population, social networks contribute in terms of access to technical information, extension, and development activities (Hoang et al., 2006). The importance of social capital and the benefits of network membership in agriculture and rural development is seen in the ability of individuals to manage common and often limited resources (i.e., managing common resources in rural areas) (Fafchamps and Minten, 2002; Pretty, 2003; Fafchamps and Gubert, 2007) and to obtain otherwise unobtainable resources that are embedded in formal or informal networks. Business oriented individuals in rural areas point to trust as the major factor for cooperation and transaction costs (Kjeldsen et al., 2011). Following Putnam's conceptualization, Bogdanov and Janković (2013) examine the importance of social capital and networks for the development of rural tourism in several rural regions (within the context of territorial capital), looking at several aspects: the ability of working collectively; a mutual trust and connections/ties between stakeholders; and the type of networks between institutions and individuals/households. They stressed that weak social ties hinder more efficient valorisation of other elements of the territorial capital, primarily natural resources and built environment (where it exists) (*ibid*, p. 180). Social capital is seen as an important precondition for the development and consequence of abilities of different actors for effective common action in the achievement of development goals. The effect of social capital on infrastructure and economic growth in the rural districts in Serbia was also examined by Runia (2010). In Macedonia, empirical evidence that farmers use their close relationships for information and technology exchange was provided in the case of dairy farmers. The findings showed that the informal networks of dairy farmers offered a faster transfer of information; however, they were localized (within their village communities), with high levels of homophily and embeddedness, and stronger social ties among actors within the same ethnic groups (Tuna et al., 2014). The social capital in Bosnia and Herzegovina is weak, but the bonding type of capital has been stronger (UNDP, 2009). This suggests the existence of closed family/friends networks which have a low ability to facilitate information flow and to enhance the absorptive capability of local actors, and strongly contributes to downward levelling norms, values, and identity and fuel corruption in all social spheres. Because of the small size and low level of modernisation, restoring social capital potentials and changing farmers' attitudes towards cooperation is an important determinant for the economic growth of farms and rural areas in the post-communist Balkan countries (Tuna, 2014). According to the Food and Agriculture Organisation (FAO) (2012), the undeveloped and inefficient socio-economic networks/organisation affects entrepreneurship. For example, Bosnia and Herzegovina has

the lowest number of enterprises per 1,000 inhabitants, and setting up companies is the most expensive in the region and more expensive than in any EU country. All this is recognised as a strong barrier to support communities, to contribute to development, and to create capabilities to cope with EU integration and global challenges.

The examined literature suggests that evidence on how social capital and network structures in post-socialist countries are still rare (Springer and Steigner, 2011). Currently, there are no studies that provide cross-country evidence on the factors that facilitate or hinder the flow of information and the distribution of resources in the farmers' network structures in the post-communist Balkan countries.

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5. DATA AND METHOD

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The complex objectives of the project require multiple approaches to answer them. The theory of planned behaviour (TPB) is used as the conceptual framework for understanding farmers' intentions to apply for rural development support. The social network analysis (SNA) is used to measure the relationships of farmers in terms of sharing information regarding the rural development support. Therefore, the data collection is performed with a specifically-structured and designed questionnaire to meet the requirements of all planned analytical approaches.

Questionnaire design

The development of the TPB related questions followed a few steps (Ajzen, www). These questions were designed to obtain measures of the constructs of the TPB. Eliciting accessible beliefs was done by using open-ended questions to agricultural experts and supplemented with modal accessible beliefs from the literature review. When testing the questionnaire with the farmers, the recurring model of statements with different labels of the scales was evaluated as difficult and confusing for them to follow; thus, most of the questions were simplified on a 5-point disagree-agree (Likert-type) scale, and only few kept their original Likert scale format. Both the Likert-type and Likert-scale gradations are given in a semantic differentiate format for each of them, ranging from 1 (totally disagree or the worst evaluation) to 5 (totally agree or the best evaluation).

The behaviour of interest in this research, as defined by the TACT components[6] (Azjen, 2006), is an application to RD support for (1) personal benefit (own household) or (2) public benefit (e.g., infrastructural improvements, renewal of the villages, and rural tourism). According to this approach, the target is the rural development program, whereas the action is the application itself (submitting application to responsible institution) in the context of gaining personal or public benefit, defining time as short-term (in the next year) and mid-term (in the next 3–5 years).

SNA requires a name generating table, which is a specific tool for gathering relational data. Respondents nominate at least five people they communicate with the most regarding the RD program and provide additional information for each nominee. The number of nominations asked is given not as a constraint, but as motivation because constraints on the nomination process produce measurement errors (Lin, 2005; Wasserman and Faust, 1994).

The questionnaire includes information on the farmers, households, and farms, and is used as background information for both approaches.

6 TACT elements: Target, Action, Context and Time.

Questionnaire structure

The questionnaire contains three major parts: (1) rural development support (question groups 1–4); (2) network and organisations (question groups 5–15); and (3) farmer and his household (question groups 16–18).

In part one, the first group of questions is focused on the farmers' awareness of the availability of such RD support and their past experience (since 2011). The second group of questions is a list of 24 statements to reveal the constructs of the TPB approach (farmers' attitudes and perceptions of the RD support, approval, and support they receive by their family and peers, evaluation of their personal abilities, and access to these funds). The third group of questions is an assessment of the general attitude, support, and intention to use RDP funds for his/her personal household benefit and to participate in projects of public benefit, such as development of the village area. In terms of obstacles, this group of questions measures the access to credits and evaluation of risk to get a credit to co-finance such projects. The fourth group of questions is an evaluation of the help received by 11 different sources of information and advice.

In part two, the fifth group of questions is focused on farmers' memberships in organisations, their reasons and frequency of cooperation with others, or their reasons for avoiding memberships. The sixth group of questions contains 11 statements to measure farmers' perceptions of organisations and their peer support. The seventh group consists of two statements on their intentions to become a member of an organisation for personal benefit (e.g., to get information, technical support, advice, or experience) within a year and for common public benefit (e.g., to initiate infrastructural improvements or for village renewal). Question groups 8–15 are the name generating table, including seven attributes for each nominee (i.e., relation, age, educational level, main reasons and frequency of cooperation, past experience with RD support, and membership affiliation with organisation).

In part three, the sixteenth group is background information concerning the farmers' profile (i.e., age, gender, education, primary occupation, number of members of household and evaluation of the household performance compared to the others in the village).The seventeenth group of questions is about the farm household and the perception of farm performance (i.e., experience in farming, additional labour engaged on the farm, share of agricultural production sold on market, share of household income from farming, farm profitability assessment in the last 3 years, 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 the availability of a successor of the farm). The eighteenth group of questions is about the agricultural capacity and production structure of the farm.

Survey

The survey took place from November–December 2014 simultaneously in Macedonia, Serbia, and Bosnia Herzegovina. In the survey, approximately 300 farm household per country in two different sub-regions in each country participated and a total of 895 questionnaires were completed. During the survey, 46 farmers in Macedonia and 55 in Bosnia and Herzegovina refused to participate in

the survey due to various reasons (e.g., “I’m busy”, “I don’t have time for surveys”, “I don’t what to share personal information”, and “I don’t what to have problems with the ministry later”.)

The data collection procedure, in terms of SNA, differs in the three countries. In Macedonia, the existence of partial farm lists allows a whole-network approach; opposite to the remaining countries, where open network approach is applied instead. This approach provides certain complexness of the information by including and identifying more nodes (actors) in the networks with which farmers discuss RD related issues.

Selection of regions and household types

The selection of the regions and farm households was made using previously defined criteria to meet the project objectives:

- **Criteria 1: Compatibility of administrative units**

  Administrative organisation of the territory of project countries considerably varies in terms of the size of territory and population, as well as of the available statistical databases. Therefore, the orientation of the research team was to select the pilot region at the municipality level as the lowest territorial units for which there are official statistical data.

Box 3: Administrative organisation of the countries

- Macedonia has adopted the EU classification of spatial units in NUTS. Based on this classification, the territory of Macedonia is divided as follows: NUTS-1 and NUTS-2 - country, NUTS-3 comprises of eight statistical regions—Skopje, Eastern, Northeastern, Pelagonia, Polog, Southeastern, Southwestern and Vardar. Since 2004, municipalities were reorganised into 85 municipalities (10 of which comprise Greater Skopje) which could be assimilated to the Local Administrative Unit LAU (1) level .

  To measure only the existence and non-existence of a formal network, the economic development or ethnic structure are assumed to be the same. Hence, to avoid economical differences between the regions or mentality difference due to ethnicity, the regions selected are Pelagonia (Bitola) and Southeastern region (Strumica) (NUTS-3). The extension service in Macedonia is spread across the country, thus the presence of their local offices is assumed to be with equal effect.
- Serbia—According to EU classification of spatial units in NUTS, the country is organised in two NUTS-1 regions: Serbia-North, comprising of two NUTS-2 regions Vojvodina and Belgrade; and Serbia-South, comprising of three NUTS-2 regions Šumadija and Western Serbia, Southern and Eastern Serbia, Kosovo and Metohija. The administrative division is on 24 districts and150 municipalities.

  Because of the very pronounced differences in the characteristics of agriculture and rural areas between northern Serbia (Vojvodina region) and the rest of the country, for the pilot regions selected, there are two municipalities in Central Serbia (NUTS-2 Šumadija and Western Serbia region) with entirely different characteristics.
- Bosnia and Herzegovina is divided into three entities: the Federation of Bosnia and Herzegovina (divided in 10 cantons and 79 municipalities), the Republic of Srpska (62 municipalities), and the Brčko District, which was established in 2000 out of land from both entities. (City of Brčko is a separate administrative unit – district.)

- **Criteria 2: The existence of a difference in terms of networks development**

  To compare the influence of social networks on the level of utilization of the rural development support, the criteria are the existence of operational institutionalized forms of networks in one of the sub-regions (contrasting the other). Because of the different circumstances in each country, the form of network in each country slightly differs. Hence, Bosnia and Herzegovina, the region with an existing network organisation (ENO) has an agricultural incubator (Zepče); Macedonia is a region with an operational cooperative (Strumica); and Serbia is a region with regional and local producer associations, cooperatives, chambers of commerce, and small and medium size enterprises in agri-food sector (Kragujevac). The counter-part region is without an existing network organisation (NNO) (Visoko, Bitola, and Aleksandrovac, respectively).

Table 6: Selected municipalities for the survey

Country	ENO*	NNO**	Comment
Macedonia	Municipality: Strumica No of settlements:1 Respondents: 150	Municipality: Bitola No of settlements:12 Respondents: 149	Different municipalities within different NUTS-3 region
Serbia	Municipality: Kragujevac No of settlements: 48 Respondents: 150	Municipality: Aleksandrovac No of settlements:32 Respondents: 150	Different municipalities within same NUTS-2 region
Bosnia and Herzegovina	Municipality: Zepče No of settlements: 32 Respondents: 147	Municipality: Visoko No of settlements35 Respondents: 149	Regions belong to the same canton

*ENO- Existing Network Organization Region; **NNO- No Network Organization Region.

The household selection criteria to ensure that the survey covers economically and demographically viable farms are as follows:

- **Criteria 1: A rural household that meets the criteria of national statistics to be classified as a farm household (where such rule exists).**

  This is to ensure that the survey will cover rural households that are qualified to be beneficiaries of agriculture and rural development support.

- **Criteria 2: Rural households with at least two members, out of which at least one is younger than 50 years of age.**

  This is introduced to avoid single-member households and elderly households, as they are mostly not interested in applying for rural development measures.

Data analysis

The multiple research approaches require multiple data analysis techniques. Data analysis is performed by simple descriptive and correlation statistics, non-parametric tests, factor analysis, and SNA.

Because most of responses are presented on an ordinal scale, simple descriptive statistics is applied to sketch the sample and the general response, whereas non-parametric tests (Kruskal-Wallis test and Mann-Whitney test as *post hoc* procedure) are used to investigate the differences between countries and regions. Correlation statistics is used to check the levels of relationships among farmers' intentions and behaviours regarding the rural development support and certain socio-economic and psychological variables. The correlation between ordinal ranked statements is calculated using Spearman's rho correlation coefficient (r_s), as a statistical measure of the strength of a monotonic relationship between paired data, whereas variables of the nominal and interval type are analysed by Pearson's correlation coefficient.

The factor analysis of the RD support statements is performed using the method of principle components analysis (PCA), and to get interpretable factors, orthogonal Varimax rotation is applied. The statements were subjected to PCA using statistical software SPSS. The missing values in the dataset were imputed using the maximum likelihood method with the expectation–maximization (EM) algorithm, suggested as an advantageous approach to traditional techniques (Baraldi and Enders, 2010). PCA enables computing of composite mean scores (CMS) for each factor; here the summated scales method is used (Hair et. al., 2010).

SNA is applied as a methodological approach to present and quantify social capital by analysing social structures. The social network data are collected from each respondent based on their personal perception of their relationship with others. The collected data are coded in an adjacency matrix (NxN in terms of the number of nodes representing the actors in the network; where 1 is assigned to existing relations and 0 otherwise). Those directional ties (relationships) between the nodes provide information on the farmer's informal cooperation and its effect on the level of RD application (Lin, 2005, Wasserman and Faust, 1994). The coded data are analysed in a specialized software tool UCINET (Borgatti et al., 2002). Different network cohesion measures (Table 5) quantify the social capital and trust through the network structures and determine the patterns and flow of information regarding RD issues. To provide an additionally qualitative understanding of the network structure, the visualisation of the networks is done through "sociograms", using the UCINET package–NetDraw (Borgatti, 2002).

Delimitation and recommendations for further analysis

There are few issues concerning data used and methods applied in this study that pose limitations and affect and restrict the analysis.

The availability and comparability of secondary data concerning most aspects of rural areas and the rural population is very limited in all three countries. It was not possible to encounter

consistent and comparable cross-country statistical data on the socio-economic situation in the rural areas of the focus sub-regions of this research. Having such insights about the socio-economic context could have been used to better explain some of the research findings.

Considering the lack of an accurate list of farmers (with contact details), the mentality of the farmers' population in these countries and the general avoidance of providing information, the only viable way to conduct a survey and collect micro-economic data is by direct (face-to-face) interviewing. Although more time-consuming and relatively more expensive than, for instance, a postal survey, the applied data collection approach secured the necessary number of the respondents and lowered the occurrence of missing values.

Due to the explained institutional weaknesses (lack of full farmers' list), it is not possible to randomly select respondents in each region of the project countries. This affects the likelihood to provide generalized conclusions. Still, the size of the sample size and the cross-country approach, allow drawing conclusions that are reliable enough to represent the situation in the three countries and to be used as foundation for recommendations.

The issue of farm lists also affected the data collection procedure in the SNA. The existence of a partial farm list in Macedonia enabled a whole network approach. In Serbia and Bosnia and Herzegovina, because a list of farmers was unobtainable, the alternative was to use an open network approach; hence, the network types differ between the countries.

The questionnaires were translated from English to each country's official language. The translation in some cases cannot fully grasp the spirit of the local languages, which to some extent affected the respondents' understanding and presumably pushed respondents to claim a more neutral position. Finding suitable persons to carry out the survey additionally affected the successfulness of the opinion survey.

This analysis provided a primary perspective of the different network structures. A more detailed analysis of the socially defined attributes on an ego level, such as farm size, age, and education, and other farmers' attributes further defined the patterns of embeddedness and cooperation.

The used approach (questionnaire design and implementation) allowed performing an analysis based on the TPB concept, with focus on the determinants and their relationship with the intention to perform the behaviour (in this case, the intention to use RD support). However, eliciting beliefs from the target population and applying more closely the TPB guidelines (Ajzen, 2006) would result in a narrower definition of the behaviour of interest (with same TACT elements) and would further strengthen the analysis outcome.

A possibility remains to have a follow-up survey after six months to one year to check whether the intentions come to a realisation and whether the behaviour is actually performed. The current analysis can be extended by using a confirmatory factor analysis and a structural equation model, per country or in a multi-country comparative context. The confirmatory factor analysis would provide grounds for validation of the applied theory and modelling of the relations between the latent constructs and the intention, with the current data, or actual behaviour, in case of an additional follow-up survey.

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PART THREE: RESULTS

6. SOCIO-ECONOMIC CHARACTERISTICS OF SURVEYED FARMERS RELEVANT FOR PARTICIPATION IN RD PROGRAM

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This chapter gives an overview of the socio-economic structure of surveyed households in the selected regions and countries and highlights the link between the socio-economic characteristics and farmers' decisions to utilize the existing governmental support for development of rural areas. Hence, background information on the characteristics of farm holders, households, and farms is presented to get a clearer perspective on the socio-economic status of surveyed farm households. This overview is further used to explain the importance and correlation of factors that shape farmers' behaviours to apply for a rural development support. These results are important to reference future policy developments in defining targets and more efficient information campaigns as critical success factors of any rural development support.

Introduction

There is a high consensus that any kind of policy and research study on rural issues should consider the social and economic aspects of development that take place in rural areas. The argument in favour of this statement is that both aspects of development—social and economic—are mutually conditioned so that one aspect cannot be understood without the insight into the other (Conyers, 1993).

The aim of this section is to present the socio-economic status of surveyed farms to better understand how the combination of social and economic structure influences farm system performances and farmers' behaviours. In addition, the relationship between the socio-economic structures and the level of grant application for Rural Development (RD) support is analysed to recognize the different interaction of factors influencing the RD support utilization.

A structured survey, conducted in rural areas of three Balkan countries (Macedonia, Serbia and Bosnia and Herzegovina) covered approximately 300 farms in each country (about 150 farms per sub-region). The overall sample for explaining the socio-economic structure consists of 894 farmers, considering that some of the households were excluded from the final database due to lack/inconsistencies in the respondents' answers. The criteria for selection of the rural regions and the household types are presented in Chapter 5. The main difference between the two sub-regions is the existence of network organisation (ENO) in one of them, whereas the other is without an existing network organisation (NNO).

Attributes of farm holders and farms are presented by using standard sets of statistical indicators. The farm holder profile is analysed by variables related to age, gender, education, primary occupation, and experience in farming. The farm characteristics are examined by variables related to household characteristics, farm size, and operation. Descriptive statistics

is used to describe and compare the basic features of the sample data. To determine whether there is a link between the socio-economic characteristics of the surveyed farms and the past behaviour for the application for RD support, a correlation statistics is employed and set at a 5% significance level for both correlation methods. The variables of the nominal and interval type are analysed by Pearson's correlation coefficient, whereas ordinal scales are analysed by Spearman's correlation coefficient.

Farmer and household profile

The majority of farmers are male (92% in Macedonia, 94% in Serbia, and 88% in Bosnia and Herzegovina). The mean age of respondents ranges from 46.5 years in Macedonia to 52.8 years in Serbia, which is lower than the official national statistics report. To cover demographically viable households, one of the criteria for the selection of household was to have at least one farm member younger than 50 years of age (see Chapter 5). The age structure of farm holders in Macedonia is younger, showing that in this country, the process of transferring property rights is more dynamic than in other countries, as a consequence of the adoption of young farmers' schemes. Namely, support for young farmers in Macedonia is intended for farmers under the age of 40 years, whereas in Serbia, the limit is set at 50 years. A higher average age of farmers in Serbia reflects prevalence of the traditional model of transferring the property rights through inheritance that is dominant in the Balkans, causing low activity in the land market and slowing down farm restructuring. The least variation of age between the respondents is in Bosnia and Herzegovina. This is related with the high number of newcomers after the collapse of the industry and the migration trends caused by post-war difficulties.

In terms of education, there are no significant differences between countries and sub-regions. The majority of respondents have secondary school education, whereas in Serbia, there are over 10% of those with higher education. The share of farmers with primary school and lower education is highest in Macedonia, even though they are younger than in the other countries. In Bosnia and Herzegovina, the educational structure of respondents confirms the previous finding that newcomers are ex-industry workers, since 80% of farm holders have secondary education.

Table 7: Farmer profile

	MK	RS	BA
Age (mean ± standard deviation; median)	46.5 ±12.20; 45	52.8 ± 13.22; 53	48.9 ± 10.15; 50
Male respondents (%)	92	94	88
Level of education (%)			
Primary education (4 years)	8	7	3
Primary education (8 years)	36	24	10
Secondary school (3-4 years)	49	58	80
College (2 years)	2	7	3
University (4 years)	4	4	4
Agriculture as household primary occupation (%)	95	77	55
Household income from farming (%)	90	58	65

Agriculture is the primary occupation of the majority of heads of the household. This is particularly true for Macedonia, where 95% of those surveyed do not have any other activity other than agriculture, mostly likely as a consequence of lower education and a production structure that is oriented towards labour intensive production (dairy and vegetables).

Households differ significantly in terms of income diversification. In Macedonia, 90% of household income comes from agriculture, whereas in Serbia, the contribution of agriculture is less than 60%. This fact indicates that there are significant disparities concerning the size and quality of assets (both human and physical) and the type of farms included in the sample (both in terms of human and agricultural resources). These differences are also result of different conditions on the local labour market, the general characteristics of the region's economy, and natural resources.

The largest number of farmers in Macedonia and Serbia has experience in farming of 16–30 years, whereas those in Bosnia and Herzegovina have 6–16 years (Figure 9). Data show that half of the surveyed farmers in Bosnia and Herzegovina have less than 15 years of experience in farming. Such a large number of farmers who started agricultural activity at a later age, could be the side effect of spatial and sectors reallocation of labour force in transitional economy that appears in case of the collapse of a local industry sector, as well as the expansive value added agriculture—niche markets.

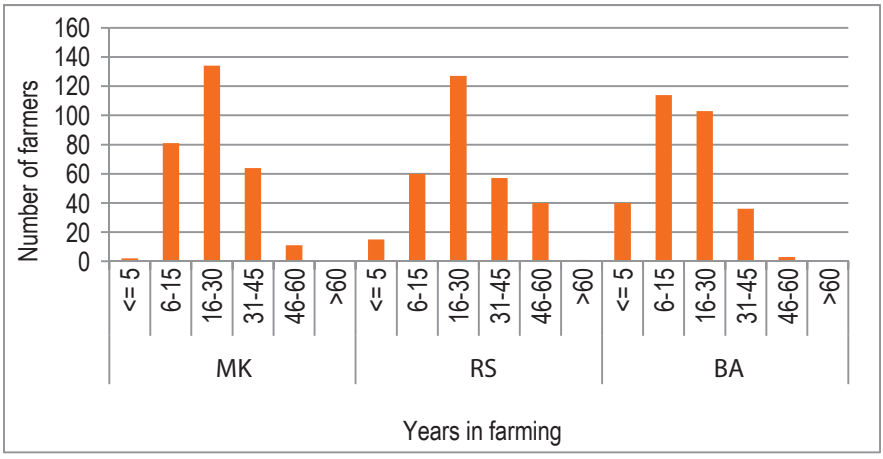

Figure 9: Farming experience of respondents

The median number of household members in Macedonia and Serbia is 5, whereas in Bosnia and Herzegovina it is 4. However, there is a wide variation in each country, ranging from 1 to 12 in Macedonia, 1 to 13 in Serbia, and 1 to 10 in Bosnia and Herzegovina. By a median value, each household in each country has at least one household member below the age of 18 years. However, older members dominate the household. In terms of median value, at least two members are between 18 and 50 years of age and at least two more are over 50 years old. The equal age distribution between the adult members of the household shows that half of the adult household members are in active age, whereas the other half have a declining working

condition. This is an important indicator for the sustainability of the farm, also considering the low number of younger members in the household that could inherit the farm.

Table 8: Household structure (mean ± standard deviation; median)

	MK	RS	BA
Number of household members	5.0 ±1.85; 5	5.3 ± 1.97; 5	4.2 ± 1.33; 4
Household members under 18	1.1 ± 1.19; 1	1.1 ± 1.25; 1	1.0 ± 1.17; 1
Household members between 18 and 50	2.4 ± 1.17; 2	2.4 ± 1.18; 2	2.5 ± 1.14; 2
Household members over 50	1.5 ± 0.88; 2	1.8 ± 0.95; 2	0.8 ± 0.92; 0

Most farm holders have not yet determined a successor of the farm, although they are almost unanimous that the farm will continue to operate for the next few years. Such an attitude confirms that in the Balkan countries, besides the traditional models of changes in property rights, there are conservative and rigid management structures.

Farm type and size

When analysing the socio-economic differences between countries and regions, it is very important to stress the farm type and production orientation (Table 9). For instance, the ENO region in Macedonia is characterised with early-vegetable production with an average farm size of 0.7 ha. Conversely, dairy farms prevail in the NNO region with an average herd of 11 heads and cereal/fodder production on an average farm crop area of 4 ha. Both sub-regions are agriculture intensive. However, dairy farms in the ENO region underperformed during the past period because of the Macedonian dairy sector's crisis in 2007. This sub-sector is characterised with an unfavorable farm structure due to the high production and transaction costs in the dairy farming and poor governance structures (Tuna et al., 2014). For this reason, the government established some support for the dairy sector to overcome small sizes and to improve milk quality. This survey shows that these farmers lack the incentive to apply for the available support dedicated to sector restructuring.

In Bosnia and Herzegovina, the farms are small, producing mostly vegetables and cereals. In each sub-region, cereals are mostly used as input in the livestock production. The production structure reflects the vicinity of bigger towns—Sarajevo, Zenica, and Doboj. The ENO region has larger farm sizes (2.5 ha) than the NNO region (0.9 ha), but in both regions, farm sizes are under the estimated national average (3 ha). Both sub-regions are considered labour intensive agricultural regions.

Table 9: Farm size (mean ± standard deviation; median)

	MK		RS		BA	
	ENO	NNO	ENO	NNO	ENO	NNO
Farmed area (ha)	1.2±0.67; 1	9.4±18.75; 5	8.7±9.29; 6	5.3±5.58; 4	0.9±1.49; 0.4	2.5±5.19; 0.6
Cereals	0.3±0.34; 0.2	4.1±7.44; 2	5.2±7.07; 3	2.8±4.27; 2	0.1±0.45; 0	1.6±4.57; 0
Industrial crops	0	2.6±5.58; 1	0.0±0.33; 0	0.1±0.58; 0	0.0±1.71; 0	0
Fodder crops	0.1±0.18; 0	2.1±7.66; 1	1.2±2.16; 0	1.0±1.72; 0.5	0.0±0.26; 0	0.1±0.83; 0
Vegetables	0.7±0.38; 0.65	0.3±0.96; 0	0.1±0.40; 0	0.1±0.59; 0	0.5±1.14; 0.2	0.2±0.73; 0
Orchards	0.0±0.05; 0	0.0±0.22; 0	0.9±2.51; 0.2	0.8±1.02; 0.5	0.1±0.32; 0	0.4±1.76; 0
Vineyards	0.0 ±0.11; 0	0.0±0.17; 0	0.0±0.16; 0	0.5 ±1.06; 0.1	0.0 ±0.02; 0	0.0 ±0.02; 0
Total livestock units	0.3±0.90; 0	12.1±26.20; 6	8.9±13.29; 5	6.5±32.64; 3	1.6±2.36; 0	10.9±42.84; 0
Cattle	0.0±0.18; 0	10.7±26.42; 5	4.8±9.01; 1	2.0±3.72; 1	1.4±2.26; 0	5.1±30.12; 0
Pigs	0.3±0.84; 0	0.6±2.22; 0	7.4±15.20; 3	3.2±5.13; 2	0	3.7±15.03; 0
Sheep	1.6±7.17; 0	9.2±38.24; 0	4.4±7.68; 0	3.7±16.60; 0	1.3±5.26; 0	2.1±13.85; 0
Poultry	0.2±1.67; 0	8.6±33.58; 0	29.3±163.52; 10	64.9±652.4; 10	1.9±9.28; 0	89.1±618.4; 0

In Serbia, the rural economy of the ENO region is dominated by labour intensive farming. Because of the large number of households with other gainful activities, the average farm size is smaller than the national average (i.e., 3.85 ha/farm in relation to 5.44 ha/farm). The farms are specialized in the fruit and vegetable production and some of them (13% of family farms) have incomes from on-farm processing activities (mostly dairy products and fruits). Conversely, the NNO region belongs to an area with natural resources oriented economies, mostly mountainous. Because of the variation in geographical characteristics, this region is highly heterogeneous. Wine, fruit, and vegetable production are the most important sources of income, whereas the extensive livestock production (sheep farming) dominates in mountainous villages.

Farm performance

A significant portion of the respondents gave a neutral response when evaluating the performance of the household in relation to the other households, with light optimism among respondents regarding their own farm performances.

A large percentage of farms in Macedonia and particularly in Serbia perceived to be dependent on subsidies to break-even, whereas in Bosnia and Herzegovina very little (Table 10). This does not indicate that Bosnian farmers perform better on their own than farmers in the other two countries, but that the level of rural development support in Bosnia and Herzegovina is very low so farmers are not considering it as a real opportunity for development. In Macedonia, there is a significant regional difference regarding this issue. For instance, farms from the ENO region are not dependant on subsidies to break-even, whereas those in the NNO region are very dependent on them. Subsidies are important for maintaining the existing agricultural structures, but do not stimulate structural changes. Farmers expect to be rescued by the state; therefore, they are not motivated to invest, especially not in high-risk projects. Not guided by

motives of maximizing profitability, farmers retain the existing farm structures by investing mostly in low-risk investments and current assets (Simonovska, 2014). The expectations to get financial support do not lead to a self-motive for restructuring (Kornai, 1986); however, these expectations shall be satisfied by the government under the circumstances of an imperfect agricultural and rural capital market. These constraints create obstacles for investments in agriculture, necessary for modernisation and agricultural development.

Most of the farmers from the sample are either not sure they will invest in the next 3–5 years or they are very likely to invest in a mid-term perspective (Table 10). The planned investments are mainly in extension of the current production and in equipment. Diversification and rural tourism investments are the least favoured among farmers. This result is very important because the diversification of on-farm income from rural tourism is often forced by a donor community in Balkan countries. In a situation where an elderly population prevails in rural areas, when the large investments in physical infrastructure and in human capital are needed to improve accessibility, it is hard to establish a sufficiently stable and sustainable (infra) structure for the development of rural tourism.

Table 10: Farm performance

	MK	RS	BA
Perceived performance relative to others (mean ± standard deviation; median)	3.0 ± 0.52; 3	3.2 ± 0.44; 3	3.1 ± 0.53; 3
Dependency on subsidy to break-even (%)			
Not dependent	41.2	31.7	87.8
Slightly dependent	21.8	42.0	6.8
Very dependent	37.0	26.3	5.4
Plan to invest in the next 3-5 years (%)			
Definitely not	13.5	3.0	6.8
Unlikely	13.1	7.0	13.2
Not sure	16.2	13.0	29.7
Very likely	25.9	39.7	34.8
Definitely yes	31.3	37.3	15.5
Planned type of investments (% yes)			
Equipments	22.6	20.6	6.8
Equipment	44.8	43.3	18.9
Land	4.4	18.7	15.5
Extension of production	47.1	46.7	24.0
Diversification	0.7	5.3	6.4
Rural tourism	0.3	2.7	3.0
Livestock	15.2	24.0	23.0
Other	5.7	1.7	4.1

The relationship among socioeconomic status and farmer incentives to apply for rural development support

The interpretation of the results from the correlations analysis is linked to the method applied because relationships between the variables of nominal and interval type are linear, whereas between those of the ordinal type are monotonic.

The analysis shows a significant correlation between some variables (Table 11). For instance, the educational level in Macedonia is the only factor that influenced the farmers' decision to apply for the RD support, but with statistical significance only when measured on the whole sample. In fact, farmers with higher education levels have more intensively applied for RD support, whereas those with lower education have not. The same relationship was found for Serbia, especially evident in the NNO region. In Serbia, the farmers who applied for the RD support are those that sell a higher portion of their farm production on the market, as well as those from the ENO region who have higher portions of the household income generated from farming activities.

In Bosnia and Herzegovina, the farmers' decision to apply for RD support was influenced by several factors: the primary occupation of the head of the household, the size of the household, the level of farm commercialization, and the proportion of household's income from agricultural activities. All listed factors are of particular importance for the ENO regions.

Table 11: Pearson's correlation between socio-economic characteristics and farmers' application for RD support

	Education [1)]	Number of household members	Primary occupation[2)]	Agricultural production sold on market (%)	Household income from farming (%)
MK	0.1615*	0.0566	-0.0060	-0.0414	0.0239
ENO	-0.0391	0.0034	0.1416	0.0205	-0.0143
NNO	0.1151	0.1498	-0.1302	0.0149	0.0710
RS	0.1439*	-0.0113	-0.0788	0.1360*	0.1127
ENO	0.0616	-0.0142	-0.0506	0.1400	0.1723*
NNO	0.2159*	-0.0083	-0.1047	0.1374	0.0418
BA	0.0398	0.1467*	-0.2306*	0.1082	0.2162*
ENO	-0.0280	0.1871*	-0.4504*	0.2008*	0.4317*
NNO	0.1099	0.1040	-0.0130	0.0295	-0.0004

Note: Dependent variable: "In the last 3 years farmer have applied for the RD support" (1=Yes; 0=No)

[1)] 1=Primary school (4 years); 2=Primary school (8 years); 3=High school (3-4 years); 4=College (2 years); 5=University (4 years)

[2)] 1=Agriculture; 2=Other

Table 12 complements the previous table. In all three countries, farmers who are more likely to farm in the next period, have mainly applied for the RD support which shows they are more entrepreneurially oriented and are committed in improving their operations. It suggests that they see perspective in agriculture and that they are ready to take steps in this direction, including the investment and financial risk.

Table 12: Spearman's correlation between socio-economic characteristics and farmers' application for RD support

	Likelihood to farm in the next 3-5 years[1)]	Identified successor of the farm[2)]	Farm profitability in the last 3 years[3)]	Dependency on subsidies to break-even[4)]	Plan to invest on the farm in the next 3-5 years[1)]
MK	0.1680*	0.1984*	0.3024*	0.1259*	0.1994*
ENO	0.1468	0.0030	0.1733	-0.0520	0.1080
NNO	0.2890*	0.1518	0.3862*	-0.1757*	0.3078*
RS	0.1448*	-0.0561	0.1762*	-0.0343	0.1850*
ENO	0.1390	-0.1231	0.1871*	0.0188	0.2218*
NNO	0.1591	0.0100	0.1620*	-0.0954	0.1650*
BA	0.2205*	0.1458*	0.0981	0.0848	0.0893
ENO	0.5114*	0.2185*	0.2258*	0.1307	0.2011
NNO	-0.0940	0.0577	-0.0376	0.0269	-0.0434

Note: Dependent variable: "In the last 3 years farmer have applied for the RD support" (1=Yes; 0=No)
[1)] 1=Definitely not; 2=Unlikely; 3=Not sure; 4=Very likely; 5=Definitely yes
[2)] 1=Definitely not; 2=Unlikely; 3=Not sure; 4=Very likely; 5=Definitely yes
[3)] 1=Very unprofitable; 2=Moderately unprofitable; 3=Break-even; 4= Moderately profitable; 5=Very profitable
[4)] 1=Not dependant; 2=Slightly dependant; 3=Very dependant

Observed by individual countries, various factors influence the decisions of farmers to apply for RD support to a different extent. In Macedonia, all analysed factors had an impact on the farmers' decisions, especially in the NNO region. In Serbia, in addition to the likelihood to be farming in the near future, other factors of importance are farm profitability and the plan to invest on the farm, whereas Bosnian farms that identified a successor have more intensively applied for RD support. It is interesting that in Serbia there are no regional differences in the factors that influenced the farmers' decision whether to apply for support. In contrast, these regional differences are most pronounced in Macedonia.

Conclusions

The analysis of the socio-economic characteristics of surveyed farmers and farm households indicated the existence of significant differences across countries and regions within each country. Such high heterogeneity of the sample emerges as a result of deep differences in the socio-economic structure of the rural areas in Macedonia, Serbia, and Bosnia and Herzegovina, as described in Chapter 2.

Generally, farm holders are mostly middle-aged and male, with low levels of education. Farmers from Macedonia and Serbia have longer experience in farming than those from Bosnia and Herzegovina. Half of the Bosnian farmers have only been in farming less than 15 years. Farmers in all countries are mostly neutral or slightly positive in the positioning of their farm in comparison to other farms in their surroundings. There is a strong consensus regarding their intention to continue farming in the near future. A significant difference was found in terms of the importance of agriculture in the total households' income. Data show that the farms in Macedonia rely much more on income from agriculture (90% of total household income), whereas in Serbia, a significant share of farms has additional income from mixed sources (58% of total household income is from agriculture). In Macedonia, farmers sell almost their entire output on the market (96%), whereas this share is much lower in the other two countries (59% in Serbia and 70% in Bosnia and Herzegovina). This is to some extent related with the type of agricultural production that dominates in the particular sub-region.

Basic socio-economic patterns are found in the selected rural areas which influence the level of application for rural development support. Except for Bosnia and Herzegovina, education is an important factor influencing the farmers' decision to apply for a certain grant for rural development. An important factor for Bosnian rural households in their decision to apply for rural development support is their agricultural engagement, whereas this is not relevant for Macedonian and Serbian farmers. In all three countries, farmers who are more entrepreneurially oriented and are committed to improving their operations have decided to apply for RD support.

To conclude, the social and economic profile of farms influences their attitude towards RD policy in Macedonia, Serbia, and Bosnia and Herzegovina. Therefore, understanding the way in which these factors can exert influence should go beyond the narrow framework of agriculture and should contribute in defining rural policy beneficiaries, as well as contribute to RD policy enforcement.

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7. FARMERS' INTENTIONS TO APPLY FOR RURAL DEVELOPMENT SUPPORT

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Introduction

Farmers' actions are led from complex processes influenced by socio-economic and psychological variables (Willock et al., 1999). Better understanding of the motivation, along with accompanying information on resources and constraints, can adequately explain and predict farmers' behaviours (Gasson, 1973). The socio-economic development in rural areas in the Western Balkan countries can be strengthened by a better understanding of the behaviour of the rural population. This issue gains significance in terms of successful access and use of rural development instruments related to the capacity, understanding, and motivation of potential beneficiaries (i.e., the rural population, particularly, farmers). The rural development approach tailored to the local mentality is crucial for sustainable improvement of rural areas and the quality of life of rural people.

The aim of this chapter is to examine and understand the factors behind the behaviour of farm managers and their intention to apply for rural development funds. The conceptual model applied herewith is based on the theory of planned behaviour (TPB) developed by Ajzen (1985, 1991, 2012), where the individual intention to perform a given behaviour determines the performance. Intentions correlate with the degree of effort the individual is willing or planning to put forth to perform the behaviour. The individual intention is influenced by the direction and intensity of the attitude towards the behaviour, the subjective norm, and the degree of the perceived behavioural control. The more positive the attitude towards the behaviour, the approval received by the referent social environment, and the higher degree of perceived behavioural control, the stronger the intention to engage in a behaviour, and ultimately, the greater the likelihood the performance of the behaviour.

Methodological approach

The analysis is based on the relationships between the intention to apply for RD support and the TPB determinants, which are delivered by principal component analysis (PCA). All statements included in the study questionnaire are presented on an ordinal scale (5-point Likert-type scale; 1 denoting strong disagreement and 5 indicating a strong agreement with the statements). The difference between countries and sub-regions is determined with non-parametric tests (Kruskal-Wallis test and Mann-Whitney test). The correlation between intentions and the statements expressing attitudes, norms, and controls is calculated using Spearman's correlation coefficient (r_s).

PCA is used to identify the latent underlying structure among the statements regarding the RD support. The 24 statements expressing the farmers' opinions were subjected to PCA using

SPSS. Standard criteria for examining the factorability and adequacy were used. The Kaiser-Meyer-Olkin measure of sampling adequacy was meritorious with value over 0.8 and the Bartlett's test of sphericity was significant (p=0.000) in all country samples, both individually or aggregated. The missing values in the dataset were imputed using the maximum likelihood method with the EM algorithm. The items with communalities over 0.5 were retained. The number of factors was determined using parallel analysis and a random set of eigenvalues. The solution was further confirmed by the visual scree test and the Kaiser's eigenvalue-greater-than-one rule. The minimum amount of required observations for factor analysis was satisfied, with a final aggregate sample of 895 observations, hence providing around 12 observations per variable on country level or 36 observations per variable on aggregate level. To get interpretable factors, orthogonal Varimax rotation was applied. Following the outcome of the PCA, composite mean scores (CMS) were calculated for each of the factors in each country, using the summated scales method by combining the variables that measure the same concept into one single variable (Hair et. al, 2010).

The sample in each country is divided in two sub-regions depending on the existence of an operational form of network organisation: existing network organisation (ENO) and no network organisation (NNO) region.

Farmers' profile and RD support experience

Most farmers have low levels of education, but with long experience in farming. The average age of farmers is over 45 years, with high variation within the sample. The farmers in Macedonia (MK) are almost exclusively relying on agriculture, whereas in Bosnia and Herzegovina (BA), and most notably in Serbia (RS), many farmers have additional household income from other sources. In all countries, the farmers stated that it is highly likely they will stay in agriculture, though most do not know who will take over their farm and continue the farming activity.

The number of farmers which applied and received funds from RD support, as well as the average amount of received funds per farm household differs in each country. This, to some extent, is linked to the difference in available rural development measures in the countries. In Serbia, 8% of farmers from the sample applied for RD support with an 84% success rate, and raised on average 2,512 Euros, with significant differences in the amount of raised funds between regions ($p<0.05$). Among farmers who received a higher amount of funds prevail those who aim at bigger investments, for example, raising orchards and vineyards (57% in the NNO region). In Bosnia and Herzegovina, out of 37% of the farmers which applied, 55% were successful and were given on average 1,253 Euros (without significant differences among regions). Even though in Macedonia the average amount of paid funds for households is the highest with 5,625 Euros per farmer, only 25% farmers applied, with a 65% success rate. In Macedonia, there are a significantly higher number of farmers who applied for RD support in the NNO region and received more funds (11% applied in the ENO region and 40% in NNO region, respectively).

Table 13: Profile of samples per country (mean ± standard deviation, median)

	MK	RS	BA
Sample characteristics			
Number of farmers in the sample	299	300	296
Age (years)	46.45 (±12.23; 45)	52.75 (±13.22; 53)	48.90 (±10.15; 50)
Work in farming (years)	25.56 (±12.37; 25)	27.93 (±15.01; 25)	18.09 (±11.16; 15)
Formal education (years)	10.10 (±2.86; 12)	10.79 (±2.79; 12)	11.59 (±1.98; 12)
Share of production sold on market (%)	96.31	59.28	72.20
Share of income coming from farming (%)	90.35	58.16	66.20
Identified successor (1-def.not; 5-def.yes)	2.92 (±1.45; 3)	3.15 (±1.59; 3)	3.00 (±1.15; 3)
RDP support			
Familiarity with RD support (1-str.disagree; 5-str.agree)	4.33 (±0.73; 4)	3.50 (±1.09; 4)	2.78 (±1.13; 2)
Farmers that applied for RD support (%)	25.08	8.33	36.49
Farmers that received RD support (%)	16.39	7.00	19.93
Success rate (applied/received, %)	65.33	84.00	54.63
Received RD support per farmer (Euros)	5,625 (±2,495)	2,512 (±1,102)	1,253 (±968)

Macedonia is the only country out of the three that has an RD program, whereas in Serbia and Bosnia and Herzegovina, RD measures are in the framework of other programs. This explains the reason Macedonian farmers are more familiar with RD support (mean 4.3, towards strongly agree), with no significant difference between sub-regions. In Serbia, the level of familiarity with these measures is lower (mean 3.5), whereas in Bosnia and Herzegovina, the low awareness of such measures is even more noticeable (mean 2.8). In these two countries, the familiarity is significantly different between the sub-regions; in Serbia, farmers in the NNO region are more familiar with RD support, which is not surprising since the majority of households depend on RD support (due to investments in perennial crops). On the contrary, in Bosnia and Herzegovina, farmers from the ENO region are more familiar with support to rural development. This is mainly influenced by the existence of an agribusiness incubator that was able to attract EU development funds to support more propulsive farmers' informational and educational events.

Intentions to apply for RD support

The intention to apply for RD support is analysed for the farmers' own households and for common projects contributing to the village/rural area. The farmers in all countries generally intend to apply and use RD support for their own household for a short-term timeframe (one of the next calls) and a mid-term timeframe (next 3–5 years). Macedonian farmers have equally strong intentions to apply for RD support both in short-term and mid-term perspectives (mean 3.4 and 3.5, respectively). Serbian farmers have stronger intentions to apply in immediate calls

(mean 3.8), whereas their mid-term intentions are slightly weaker, but still positive (mean 3.3). On the contrary, Bosnian farmers had stronger intentions to apply in a mid-term timeframe (mean 3.6) than in a short-term prospect (mean 3.2). Significant inter-regional differences appeared in the mid-term intentions of Serbian and Bosnian farmers; Serbian farmers in the NNO region had higher scores (mean 3.4 in the NNO region compared to 3.2 in the ENO region); and Bosnian farmers in the ENO region, where there is a functional agribusiness incubator capable of promoting the program, had stronger intentions to use the support than those in the NNO region (mean 3.7, as compared to 3.4, respectively).

Table 14: Intentions, by country (mean ± standard deviation, median)

	MK	RS	BA
Intention to apply for RD in one of the next calls	3.44±1.13; 3	3.80±0.89; 4	3.23±0.98; 3
Intention to use RD for own household in next 3-5 yrs	3.46±1.09; 3	3.33*±1.07; 3	3.57*±0.75; 4
Intention to participate in RD common projects in next 3-5 yrs	2.96*±1.05; 3	3.42*±1.08; 3	3.41±0.69; 3
Intention to keep farming (mid-term)	4.56*±0.84; 5	4.44*±0.90; 5	4.52±0.70; 5
Intention to invest on farm (mid-term)	3.49±1.40; 4	4.01*±1.03; 4	3.39±1.10; 4
Intention to get credit to co-finance	2.60*±1.27; 3	2.31*±1.07; 2	2.29±1.01; 2

Note: Scale (1-strongly disagree; 5-strongly agree); *p<0.05 significance level, i.e. ENO and NNO regions are considered as non identical populations.

The renewal of the rural areas (e.g. infrastructure and irrigation systems) improves the quality of life of the rural population. Currently, farmers cannot individually initiate and participate in RD projects of common interest. Therefore, their willingness to get involved in such activity is measured at a mid-term prospect (3–5 years). The farmer's intention to participate in projects for common interest is to some extent positive in Serbia and Bosnia and Herzegovina (mean 3.4 in both cases). However, farmers are on average less enthusiastic or neutral in Macedonia (mean 3.0), with significant difference in the response in the ENO region (mean 3.4), as compared to the disinterest present in the NNO region (mean 2.5). The existence of a functioning cooperative in the ENO region might have influence over the more positive intentions to engage in common activities for the village and rural areas.

The intention to invest on the farm in the next 3–5 years is moderate to strong (mean 3.4 in BA, 3.5 in MK up to 4.0 in RS). However, the intention to get credit to co-finance an RD investment is weak in all countries (mean 2.3 in RS and BA, and 2.6 in MK). This corresponds to the strong risk perception by farmers to get credit to co-finance a RD project (mean 1.8 in RS, 2.1 in MK, and 2.3 in BA). There is a significant difference between the sub-regions in Macedonia and Bosnia and Herzegovina. Macedonian farmers in the ENO sub-region have a significantly stronger risk perception (mean 1.8 in ENO region as compared to 2.5 in NNO region), which might be one of the reasons for their active involvement and access to RD support through the existing cooperative. In Bosnia and Herzegovina, the gap between the two sub-regions is smaller, but still significant (mean 2.1 in the NNO region compared to 2.4 in the ENO region).

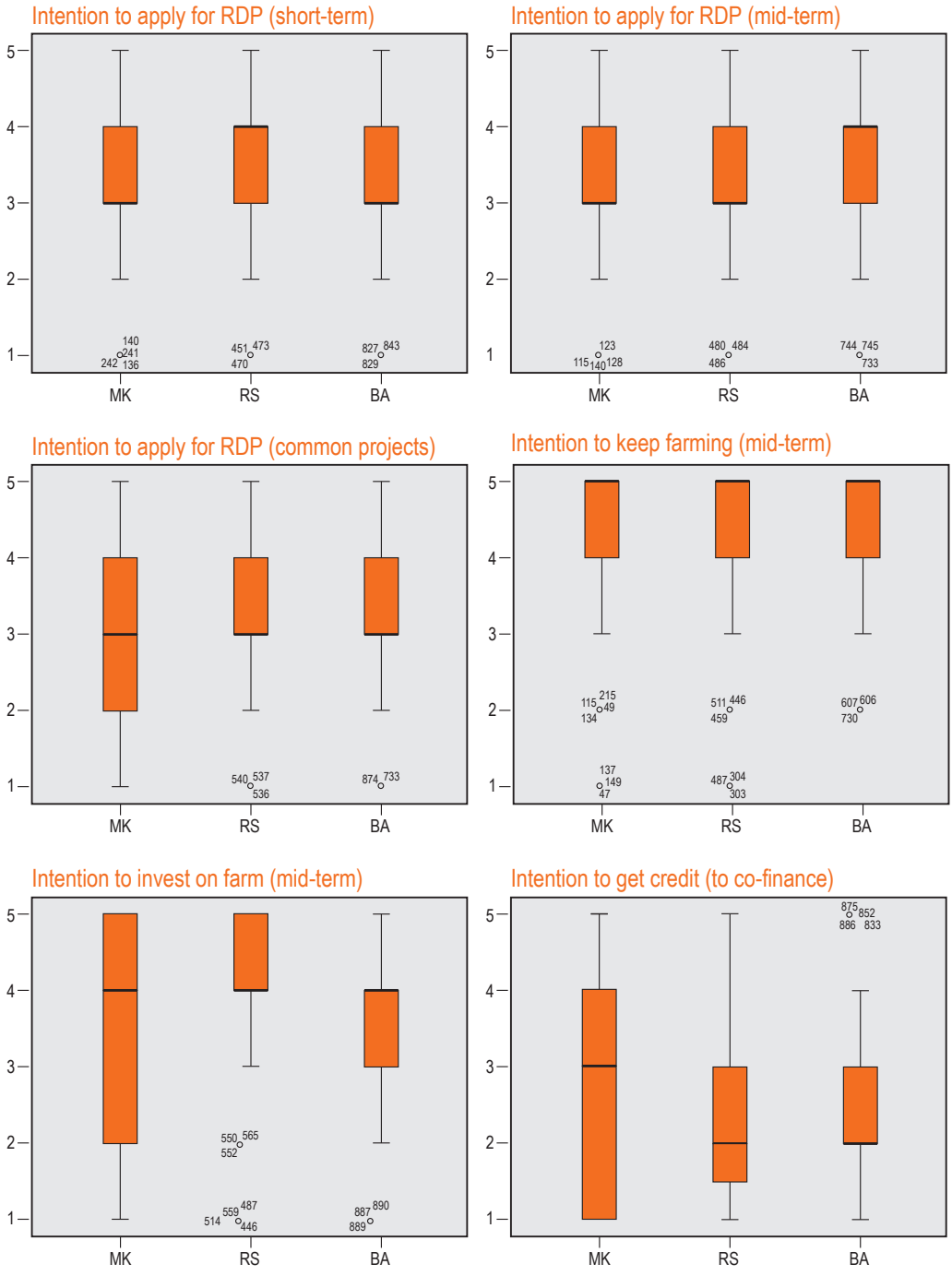


Figure 10: Graphical presentation of farmers' intentions

Overall assessment of RD support opportunities. The importance of RD support for the development of the farm household is significantly and positively correlated with the farmers' intentions to apply for it. These relationships are strongest in the mid-term perspective: Macedonia (r_s = 0.614 short-term; r_s = 0.776 mid-term), Serbia (r_s = 0.530 short-term; r_s = 0.691 mid-term), and Bosnia and Herzegovina (r_s = 0.249 short-term; r_s = 0.689 mid-term). The intention to use RD support for the village benefits also correlates strongly with the attitude to participate in projects of common interest (ranging from r_s = 0.527 in Serbia to r_s = 0.768 in Macedonia).

Factors influencing farmers' intentions to apply for RD support

The factor analysis provided the underlying structure of the farmers' opinions regarding rural development support and yielded into four components in Serbia and Bosnia and Herzegovina and five components in Macedonia. The total variance is explained with 71.15% in Macedonia, 65.42% in Serbia, and 70.31% in Bosnia and Herzegovina. The internal consistency of the components is examined using Cronbach's Alpha. The alpha values indicate reliable grouping into single constructs (all over 0.7), except for perceived behavioural control in Serbia (0.6).

The factors were synthesized into three logical sets, in line with the applied TPB conceptual framework: farmers' attitudes, subjective norms, and perceived behavioural control, with one particularity—the attitudes and perceived behavioural control were split into two groups: (1) attitudes concerning personal versus public benefits, and (2) controls as personal abilities and external barriers.

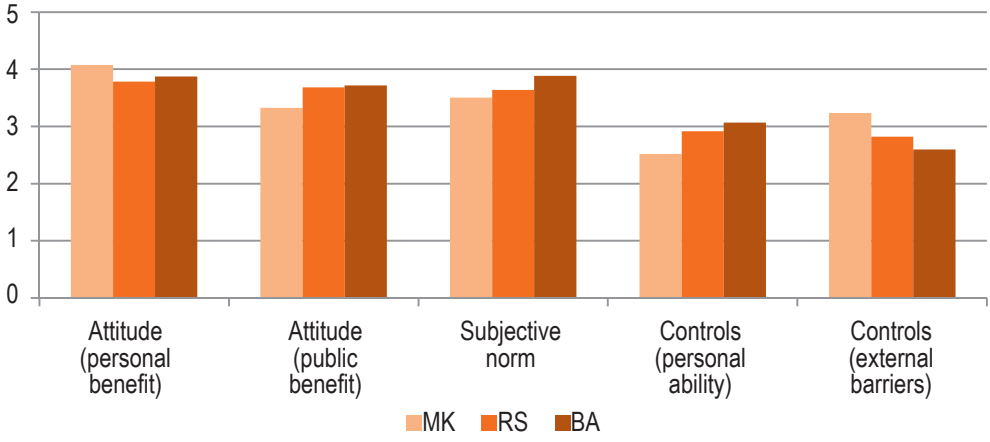


Figure 11: Calculated mean scores (all latent factor statements), per country

There are significant differences on the RD opinion statements among the countries ($p<0.05$), as proven by the Kruskal-Wallis test. The Mann-Whitney test confirmed that the Macedonian sample statistically differs from the other two country samples for most statements. This again can be explained by the fact that Macedonia has a specific RD policy with EU harmonized

institutional organisation (programming and implementation structure). The farmers' attitudes towards RD support are more comparable in Serbia and Bosnia and Herzegovina, with some statistically significant differences in the subjective norms and perceived behavioural controls.

Attitudes towards RD support

The general attitude towards RD support is positive (CMS for BA 3.8, and RS 3.7). The attitude in the Macedonian sample differs with reference to the objectives of the support. For those focused on motivational and income aspects (which bring personal benefit), there is very strong agreement (CMS 4.1), whereas for those bringing public benefits are less strong (CMS 3.3). This overall positive stance is additionally confirmed as over 90% of farmers included in the survey in all countries declare that it is good to have RD support. In Macedonia, the respondents agree more with this statement compared to the other two countries (mean 4.6). In Serbia, the attitudes are more positive in the NNO region than in the ENO region, most likely because in the NNO region prevailing farms rely more on RD support.

Most farmers in all three countries positively assess the RD support for the development of the farms, as well as for projects of common interest. However, greater enthusiasm from the farmers is shown with regard to the use of RD support to improve their own farms. In Serbia, it is particularly evident for the NNO region, where the farmers are generally more affirmative to RD support. In Macedonia, this is the case of the ENO region. In Bosnia and Herzegovina, farmers from the ENO region agree more with the RD support of common interest projects.

Most farmers identify the significant role of RD support to the survival of family farms and to improve the income of the farm (mean 4.0 in MK and BA, and 3.7 in RS). The benefits of RD policy in terms of stronger development of rural areas (protection of environment, closer networking, improvement of infrastructure, implementation of EU standards and development of rural tourism) are more emphasized by farmers from Serbia and Bosnia and Herzegovina. In the past years, there have been a number of programs in Serbia that promoted the importance of rural tourism for the development of the rural areas. This might be the reason why farmers recognize the significance of this specific aspect. In all countries, there is a significant difference among regions ($p < 0.05$), namely, farmers from the ENO region have more positive attitudes towards the benefits provided by RDP. The co-financing requirement in RD projects is evaluated as a good motivator, especially in the Macedonian ENO region (mean 4.0).

Attitudes vs. intentions. The intent to apply correlates positively to almost all statements reflecting attitudes towards the use of RDP. The relationship of attitudes of personal benefits, such as survival, small family farms, increased farm income, and the intentions to use RDP for their own farms, is moderately positive. In Bosnia and Herzegovina, the influence of attitudes on the intention is positive, but weaker in intensity. The correlation between the intention and the attitude towards public benefits (the development of infrastructure, implementation of EU standards, increased networking, stronger development of rural tourism, protection of local breeds and varieties) is most accentuated in Serbia.

Table 15: Attitudes towards RD support (mean ± standard deviation, median)

	MK	RS	BA
RD leads to improvement of the infrastructure in rural areas.[MK, RS, BA]	3.45*±0.86; 3	3.69*±0.90; 4	3.81±0.63; 4
RD leads to protection of environment, local breeds and varieties.[MK, RS, BA]	3.35*±0.81; 3	3.72*±0.88; 4	3.75*±0.60; 4
RD leads to higher implementation of EU standards.[MK, RS, BA]	3.31*±0.94; 3	3.67*±0.84; 4	3.58*±0.60; 4
RD leads to higher networking of rural population.[MK, RS, BA]	3.40*±0.90; 3	3.58*±1.02; 4	3.69*±0.61; 4
RD leads to stronger development of rural tourism.[MK, RS, BA]	3.13*±1.01; 3	3.76*±0.84; 4	3.75*±0.60; 4
RD supports the survival of small family farms.[MK, RS, BA]	4.03±0.92; 4	3.65*±1.06; 4	3.90*±0.55; 4
RD increases the income of the farms and rural households.[MK, RS, BA]	3.98±0.91; 4	3.65*±1.03; 4	3.95±0.60; 4
The principle of co-finance in RD projects is good motivator for farmers.[MK]	3.73*±1.10; 4	3.48*±0.92; 4	3.46*±0.63; 3
In general, I think it is good that the state has a RD.[MK]	4.56*±0.60; 5	4.36*±0.67; 4	4.17±0.93; 4

Note: Scale (1-strongly disagree; 5-strongly agree); [MK, RS, BA] superscript denotes if the statement remained in PCA final solution of respective country; *p<0.05 significance level, i.e. ENO and NNO regions considered as non identical populations.

Subjective norms towards RD support

Farmers value the opinion of their family and other people they respect. Farmers acknowledge the approval from family and important others to apply for RD support, with positive evaluation (CMS ranging from 3.3 in MK up to 3.8 in BA).

The question whether the farmer decides independently to apply for RD support is included to measure the degree of influences from people they respect on the decision-making (although not being a straight-forward formulation of subjective norm). In Serbia and Bosnia and Herzegovina, it is mostly the farm manager that makes decisions individually on whether to apply for RD support (mean 4.1 and 4.4, respectively).The respondents in Macedonia usually make such decisions in consultation with the family and with other people they respect, especially in the NNO region (mean 2.6), as compared to the ENO region (mean 3.6). Farmers in all three countries assess that people they respect provide greater support for the use of RD support for personal benefit, rather than for public benefit. This shows that in rural areas, social norms have an impact on decision-making, and therefore can have an effect on RD policy success.

Social norms vs. intentions. The impact of social norms on intentions to use RD support (short-term, mid-term, and for common projects) is stronger in Serbia than in the other two countries. In Serbia, the correlation is moderate to weak, whereas in Bosnia and Herzegovina, the relationship is weak. In Macedonia, the situation is somewhat different given that the intention is mostly affected by family support.

Table 16: Subjective norms towards RD support (mean ± standard deviation, median)

	MK	RS	BA
The decision whether to apply for RDP is totally up to me. [MK, BA]	3.11*±1.43; 2	4.14±0.92; 4	4.38*±0.80; 5
My family approves the application for the RDP. [MK, RS, BA]	4.12*±0.92; 4	3.97±0.96; 4	4.27*±0.83; 4
Other people I respect approve the application for the RDP. [MK, RS, BA]	3.59*±0.99; 4	3.72±1.00; 4	3.77*±0.74; 4
Many people I know pursues me to apply for the RDP call. [MK, RS]	3.18*±1.15; 3	2.73±1.13; 2	3.12*±0.73; 3

Note: Scale (1-strongly disagree; 5-strongly agree); [MK, RS, BA] superscript denotes if the statement remained in PCA final solution of respective country; * $p<0.05$ significance level, i.e. ENO and NNO regions considered as non identical populations.

Perceived behavioural control towards RD support

The personal ability of the farmer (perceived control over information, knowledge and experience to independently prepare the RD application and ability to finance RD investments) is generally assessed as an obstacle. The access and cost of the RD support application (i.e., information, procedure, and documents) are perceived as an additional external barrier. Applications in Macedonia are evaluated as accessible and not expensive (mean 3.2 to 3.3), which in practice are supported by the extension services and free of charge. Those attributes are evaluated as less positive in Serbia and Bosnia and Herzegovina (means from 2.5 in BA to 2.9 in RS). Regarding personal abilities, the Macedonian farmers are the least self-confident (mean 2.1), whereas Bosnian and Serbian are more neutral (means from 2.8 in RS to 3.1 in BA). Macedonian farmers' perception of their lack of experience and knowledge to independently prepare the application has been confirmed in previous research (Kotevska et al., 2013). In addition, Macedonian farmers have less own means to co-finance such investments (mean 2.6 compared to 2.9 in RS and 3.1 in BA), but better access to finances (3.2 compared to 3.1 in BA and 3.0 in RS).

In this context, it is imperative to develop mechanisms to support farmers in overcoming these observed barriers. Assistance and support are necessary in terms of the preparation and administration of RD applications and access to finances. In addition, the policy measures need to become accessible and applicable by providing continuous simplification of the application procedures. The extension support needs to be intensified (for example, with setting up "one-

stop-shops" for documentation issuing). Free and easy access to beneficiary databases needs to be developed, as well as mechanisms to prevent corruption, which was also recognised as an issue. In addition, the farmer's self-confidence should be continuously strengthened by well-defined trainings and education through "lessons learned campaigns".

Behavioural control vs. intentions. The intention of farmers to use RD support for farm and village development is in positive correlation with the possibilities for co-financing in all three countries. In Macedonia, the intention is significantly affected by the costs and preparation of documents, as well as by the possibilities for getting the necessary information. Among the various aspects of the control of Serbian and Bosnian farmers, their abilities to independently prepare application and obtain information are positively with weak intensity correlating with the intention. The confidence of farmers to meet the requirements outlined in the RD measure applications significantly correlates with the intention for farmers to apply in the future in all three samples.

Table 17: Perceived behavioural control (mean ± standard deviation, median)

	MK	RS	BA
I have enough information to independently apply (procedure and documents). [MK, RS, BA]	2.18*±1.02; 2	2.79*±1.12; 3	3.07*±1.09; 3
My knowledge and experience is enough to independently prepare the application (procedure and documents). [MK, RS, BA]	2.07*±1.04; 2	2.91±1.11; 3	3.10±1.08; 3
I have enough own means to co-finance an RDP investment. [MK, RS, BA]	2.62*±1.27; 2	2.89±1.09; 3	3.13±1.07; 3
I am able to get bank credit to co-finance an RDP investment. [MK, RS, BA]	3.20±1.23; 4	3.07±1.01; 3	2.97±0.97; 3
I can easily get credit. [MK, RS]	3.45*±1.11; 4	2.60*±1.07; 3	2.67±0.83; 3
The RDP application (procedure and documents) is easy. [MK, RS, BA]	3.24*±0.91; 3	2.61*±1.07; 3	2.46*±1.01; 2
The preparation of the RDP application is not expensive. [MK, BA]	3.17*±0.85; 3	2.92*±1.00; 3	2.57*±1.01; 2
The information regarding the RD program is easy to get. [MK, RS, BA]	3.30±1.01; 4	2.92±1.15; 3	2.76±1.06; 3

Note: Scale (1-strongly disagree; 5-strongly agree); [MK, RS, BA] superscript denotes if the statement remained in PCA final solution of respective country; * $p<0.05$ significance level, i.e. ENO and NNO regions considered as non identical populations.

Additional aspects

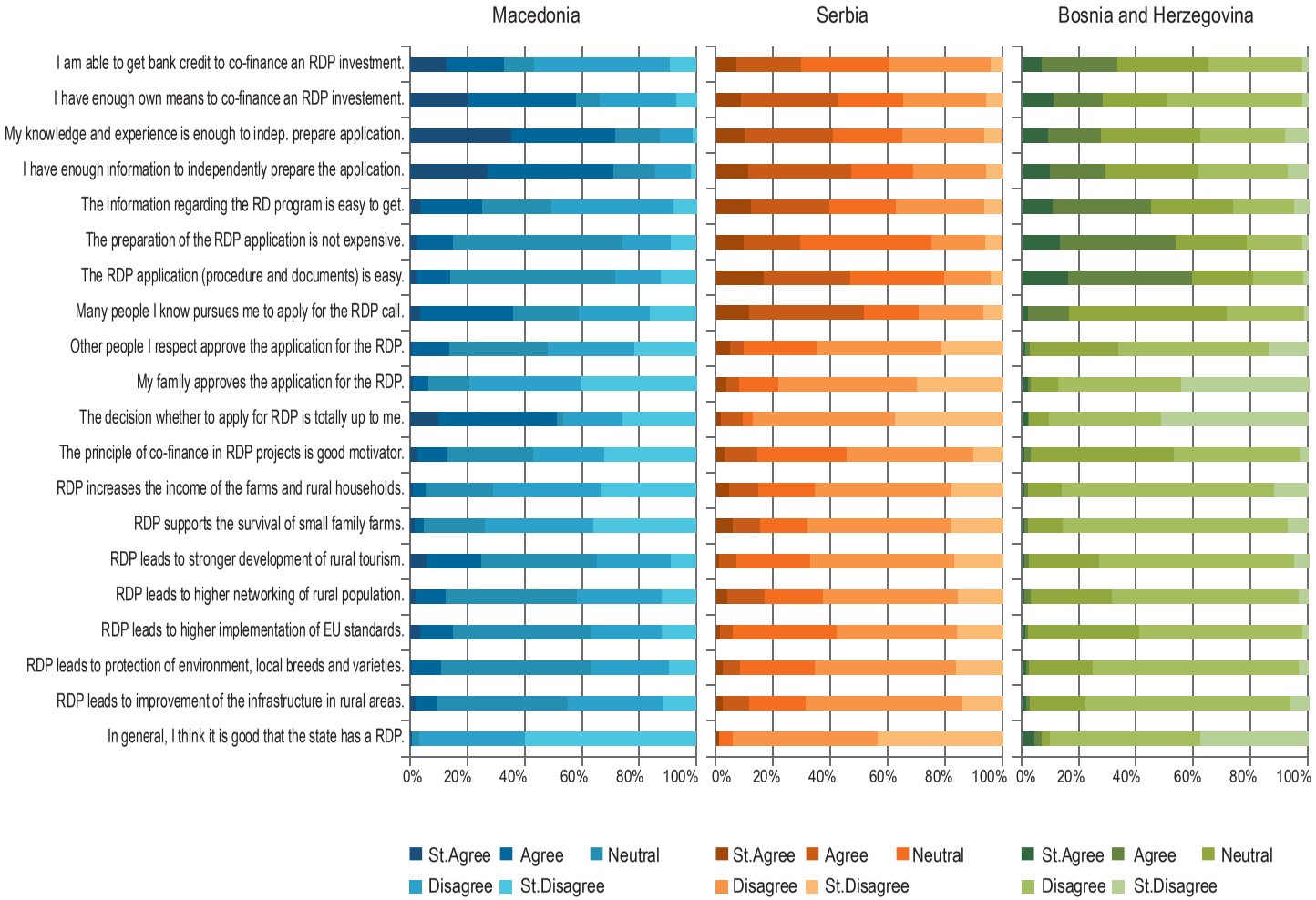
Farmers from all three countries agree that the use of RD support increases the administrative work for the household owners. Compared to the farmers from Bosnia and Herzegovina, farmers from Serbia and Macedonia have greater confidence to succeed in their next application.

Support from sources containing help and advice related to RD issues contributes to the success of RD policy. In the farmers' assessment of the importance of those sources, for most, there were significant differences between the regions. The role of formal networks, such as local government units and local municipalities, private consultants, and international development projects, are evaluated as weak sources of help and advice, with the exception of the Macedonian NNO region where the evaluation is neutral to affirmative. The extension agents are positively evaluated in Serbia (both regions) and especially in the Macedonian NNO region. The lack of information from these institutions seems to be compensated from other farmer-driven forms of formal organisations. Access to information through NGOs, cooperatives and professional organisations significantly differs between the sub-regions in Bosnia and Herzegovina and Macedonia. In both countries, farmers from ENO regions receive more help and advice on the RD support from these formal sources, as opposed to the NNO region. This is likely, given that in ENO regions, there are organisations that are well functioning. Media, including newspapers, television, radio, and internet, seems to be an important source of information, evaluated positively by farmers in Serbia and Macedonia (MK mean 3.5, RS mean 3.1).

Table 18: Farmer's sources of help and advice about RD support, mean per country and sub-region

	MK		RS		BA	
	ENO	NNO	ENO	NNO	ENO	NNO
Family members	1.95	3.23	2.70	2.92	2.82	2.64
Other people	2.41	2.72	2.24	2.79	2.68	2.83
NGO	2.22	1.93	1.17	1.15	2.00	1.54
Cooperative	3.97	1.56	1.21	1.19	2.50	1.56
Prof. organisations	3.29	2.07	1.43	1.56	1.57	1.36
National extension	2.83	3.67	3.36	3.36	1.21	1.36
Local ministry staff	1.97	3.17	1.56	1.15	1.43	1.54
Local government	1.73	3.37	1.95	1.67	1.82	2.47
Private consultants	1.75	2.38	1.25	1.05	1.41	1.55
Media	3.56	3.49	3.08	3.21	2.15	2.89
International projects	2.04	1.26	1.24	1.06	1.34	1.44

Figure 12: Structure of responses, per country



Conclusion

The intention of farmers to apply for RD support is shaped by the farmers' plans to invest on farms and continue to make a living from agriculture. In addition, farmers' intentions are influenced by the previous experience, as well as the existing moderately positive attitudes and anticipated social pressures. There is a strong relationship between the intention and the controlling factors related to co-financing (chance to get a loan, as well as the level of their own funds), a lack of information, the ability to prepare applications on their own, and complicated documentation.

Farmers from all three countries positively assess the use of RD support to develop farms and villages, showing more enthusiasm when it comes to improving their own farms. This finding should be used when planning RD measures for common projects to be preceded with awareness campaigns and complementary training programs.

The intention of farmers to use RD support depends strongly on the support granted from people they respect. Farmers who positively evaluate the significance of the RD support and who have more support from other people have a stronger intention to use the RD support, both for on-farm investments and for common interests of the village. National extension services and the media are recognised as the most important sources of help and advice in Serbia and Macedonia, and informal networks in Bosnia and Herzegovina. These findings can be used as a supplementary promotional strategy contributing to the RD success. The identification of persons through the SNA that are of a central role to the farmers' village environment can act as "agents of change" or "village leaders". Such persons, widely respected by their peers, can facilitate the promotion of the program to motivate and support the others to apply for RD support.

The necessity to take out loans, as farmers often lack funds for co-financing RD investments, is recognised as a challenge in all three countries. Other problems are associated with the demanding procedure and documentation, lack of knowledge, and lack of experience to independently prepare applications. These findings clearly indicate that the application process must be made simpler and that access to information and credits should be further improved.

All these findings confirm the importance and the need of RD support for farmers. What is even more important is the recognition of their readiness to use these funds once the obstacles are mitigated. This should encourage further development of the agricultural and rural development policy and informative campaigns.

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8. FARMERS MEMBERSHIP STRUCTURE – A TOOL TO SUPPORT EFFICIENT DEPLOYEMENT OF RURAL DEVELOPMENT POLICIES

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The discussion about current farmers' membership rates, factors which affect personal decisions to become an active part of official socio-economic interactions (run by networking driven by official institutions, organisations) can shed more light on issues which have an indirect but decisive influence on the efficiency of development on household, but also rural community level. That is why the difference in membership rate and among members and non-members that occur across countries is the focus of this chapter.

Introduction

Current membership rates in rural areas as a reflection of farmers' social embeddedness affect farmers' capabilities to increase levels of socio-economic interactions to ensure otherwise inaccessible resources from external environments, such as information, ideas, knowledge, markets, funds, and technology. It became clear that development, and therefore the success of public territorial policies, is shaped to a large extent by the personal behaviours of local actors because they start and enhance both business and common (community) actions, which raise the quality of life at any level and segment of society. These directed the attention of policy makers and researchers to the role of local actors (Markey et al., 2008), which socio-economic behaviour is embedded and mediated by a complex web of social relations (Moody and White, 2003; Hinrichs, 2000; Obach and Tobin, 2013, Nikolić et al., 2015).

The status, power, role, and capability of local actors, especially farmers, are very complex issues influenced by a wide range of interplaying social and economic factors (Mikalucka et al., 2015). Therefore, different methods and approaches are used to bring attention to this issue to provide more understanding as to what the tools are and what mechanisms can be used by public policy to efficiently address this issue and decrease the risk of declining rural areas. The starting point to get insight into such complex phenomena is to understand structure of social connections which is shaped by farmers' memberships in different organisations, their opinions on organisations, and the type of knowledge exchange they prefer. The structural relationships are the basis for the creation of bridging and relational social ties, which enable faster, efficient exchange of information and access to the resources otherwise unobtainable.

To understand the personal motivational factors and barriers of the rural population to take part in informal and formal organisations, all respondents in all countries are grouped by its membership types: non-members (N), members of cooperatives (C), and members of other types of organisations, such as professional associations, NGOs of all kinds, and projects (O). The membership rate and profile difference across countries and regions are discussed to outline the quality of structure of socio-economic interactions which reflects the level of

farmers' embeddedness and rural areas capability to strengthen bridging and linking social ties. The reasons behind the personal decision not to join any organisation are discussed within the second part of this research. Differences among the views of non-members and members regarding an organisation's usefulness, benefits, and opinions about RDP are discussed, aiming to discover and assess the influence of the general personal attitude towards organisations and the influence of membership experience. Partly hidden and influencing issues in our countries will be outlined as factors that shape the rural development policy success, in addition to personal and community development. Accordingly, any successful public development or cohesion-like policies have to be sensitive to those outlined issues.

Farmers' memberships and factors affecting their willingness to join organisation

In all three countries, the majority of respondents are not a part of any organization (Figure 13). In Macedonia, generally speaking, only a small number (around 10%) of farmers who are members of an organization are a part of cooperatives, whereas in Serbia, farmers who are members (around 84%) prefer NGOs and professional organisations. In Serbia, cooperatives still bear old socialistic heritage (e.g., image and management); therefore, farmers are proactive by looking for alternative solutions, which outline the underlining need and motivation to join an organisation. In Bosnia and Herzegovina, farmers prefer to be part of agricultural cooperatives (72% of members), but membership in the NGOs and project is also attractive. The observed popularity of cooperatives, most likely, reflects strong activity of international donor community, implementing numerous development projects in rural areas of Bosnia and Herzegovina. After the project's end, most of such cooperatives, which development reflects external efforts, face the risk of becoming inactive because of the lack of capability to lead businesses without external help (UNDP, 2012).

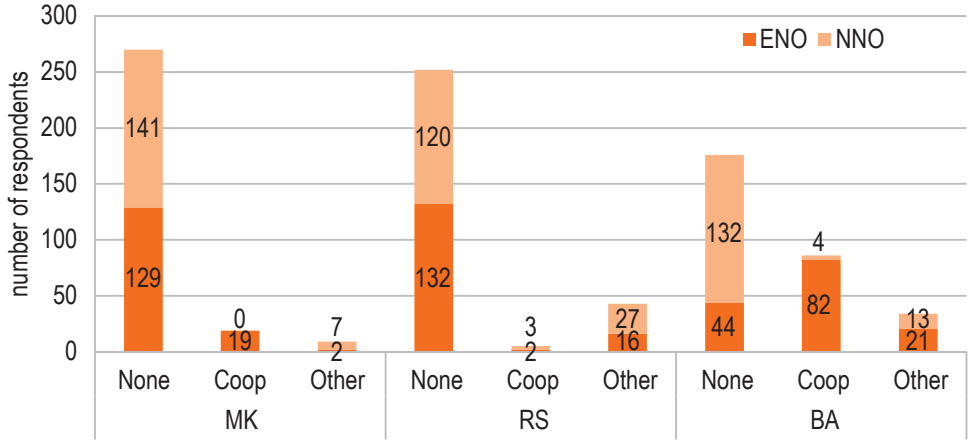

Figure 13: Respondents' participation in different organisations

Generally low participation in organisations indicates a poor structure of official social interactions/networks that fuels farmers' perceptions of risk to start/revive business activity, and therefore affects its willingness and motivation to use both private (bank) and public funds to contribute to the development on household and community levels.

Only in the ENO region of Bosnia and Herzegovina, 70% of respondents are members of some organisations (mostly agricultural cooperatives – figure 12). Most likely an active, socially well embedded intermediate organisation (part of entrepreneurs and businessman association), such as an existing agribusiness incubator, is behind the observed high level of networking activity of respondents in the ENO region of Bosnia and Herzegovina. It is due to agribusiness incubator capabilites to ensure external funds to support the costs of communication/ cooperation management that allows the retention of acquired knowledge within the network. Previous research regarding the development and efficiency of rural networks, as channels for information and knowledge exchange, also pointed out that such capable intermediate organisations play an important role in developing diversified social interactions based on bonding, bridging, and relational ties (Iturrioz et al., 2014).

In comparison with non-members, farmers who are members are a little bit younger and have been engaged for shorter periods of time in agriculture (except in the case of Serbian members of cooperatives). It seems that farmers—members of the organization—are more committed to agriculture in all three countries. They rely more on income from agriculture and slightly higher portions of production they sell on the market. This is especially true for members of cooperatives in all three countries. This suggests that decision to join a cooperative is driven by the need to solve some business problems and to easily access the market. The decision to join other types of organisations is most likely driven by the socially embedded needs of others.

Table 19: Respondent profile according to membership in organisations

	MK			RS			BA		
	N	C	O	N	C	O	N	C	O
Age	46.97*	38.21	43.22	53.03	56.40	50.70	50.49	49.22	48.26
Years in agriculture	25.68	19.00	26.43	27.38	31.67	27.27	20.09	14.56	17.13
Primary occupation (agricultural, %)	94.46	94.74	88.89	74.60	100.00	86.05	48.30*	67.44	58.82
Commitment to agriculture as a business orientation									
Self-evaluation of business success[a]	3.03	3.00	3.22	3.14*	3.40	3.35	3.02*	3.22	3.29
Products sold on market (%)	96.25	98.32	93.89	55.23*	83.00	78.84	62.64*	79.43	82.21
Household income from farming (%)	90.84	93.42	69.44	54.58*	85.00	74.65	60.42*	73.26	68.53
Farm future									
Likeliness to keep farming (1–no;5-likely)	4.54	4.84	4.78	4.35*	4.80	4.88	4.42*	4.60	4.79
Likeliness to invest on farm (1–no;5-likely)	3.48	3.95	2.78	3.99	3.20	4.23	3.30	3.56	3.44
RDP attractiveness									
Applied for RDP (yes, %)	22.88*	63.16	55.56	8.33	20.00	18.60	43.18	48.84	38.24
Intention to apply for RDP	3.39*	4.26	3.22	3.77	3.00	4.12	3.16	3.27	3.50

Note: N: Non-members; C: Cooperative members: O: Other organisations members; * statistically significant difference (at the 5% level) Mann-Whitney test; [a] 1–not successful; 5-successful

In all three countries, respondents report a high likeliness to keep farming in the future (3–5 years), whereas the level of likelihood to invest in a farm and the intention to apply for RDP support is significantly lower, slightly above neutral position. Such an attitude towards business is very similar across all groups, but members do exhibit higher intentions to continue with farming and to apply for RDP. The data show that farmers are not sure whether they are successful or not (self-evaluation of success is around neutral position – 3).In all three countries, members of an organisation exhibit slightly higher self-confidence (except cooperatives in Macedonia, but without statistical significance). Accordingly, with the exception of farmers' perceptions that doing business is risky, low levels of self-confidence drives poor farmers' motivation to invest and apply for RDP which, in turn, affect the farmers' willingness to become actively engaged in socio-economic interaction (lack of formal networks). This cycle is, most likely, the reason behind the observed difference between behaviour (actual membership rates) and very positive attitudes towards organisation usefulness (Table 20).

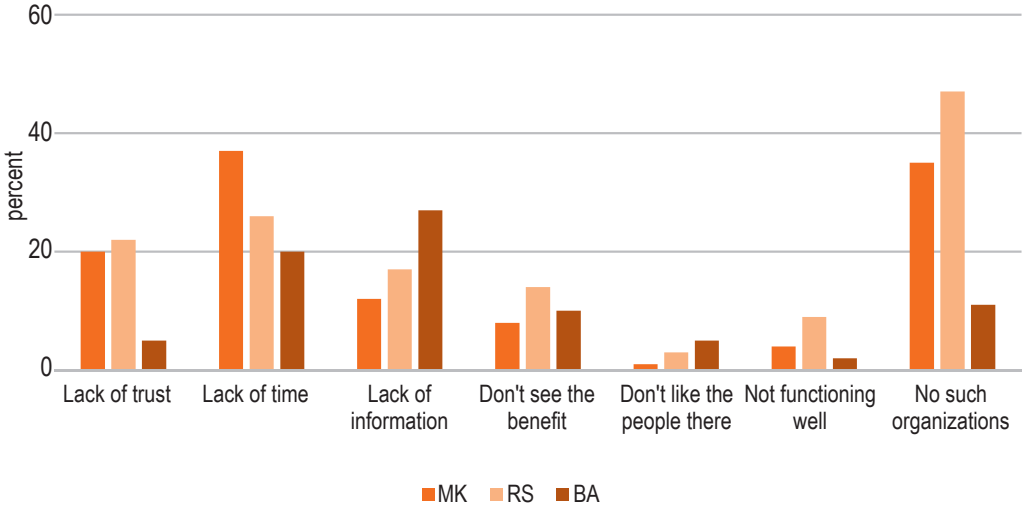

Figure 14: Reasons behind respondents' low participation in organisations

The lack of active organisation, lack of time, and information are considered the most prominent reasons behind low respondents' membership rates in all three countries. Because of the activity of agribusiness incubator facilitating development of official networks in the ENO region, in Bosnia and Herzegovina, the factors importance rating is slightly different (i.e., the lack of organisation is not so important); however, there is a lack of information on organisations which suggests that the number and activity rates of organisations are low in Bosnia and Herzegovina, as well. It seems that the lack of organisations is both the cause and result of a poor structure of social interaction and poorly developed social capital (UNDP, 2009).

The lack of trust according to the respondents' opinions affects the farmers' willingness to join organisations in Serbia and Macedonia, but not in Bosnia and Herzegovina. Personal affection, cooperation benefits, and the overall functioning of the organisations' management are not

perceived as barriers by farmers to become members. Such findings raise optimism regarding the possibility to predict in the near future change in farmers' behaviours in ways to see their more prominent activities within existing and new organisations in the rural areas of respected countries.

Farmers' perception of membership benefits

The very low farmers' participation in organisations suggest that farmers share negative opinions on organisations' usefulness and benefits that could be yielded from the membership. However, farmers reported different attitudes towards organisations, which are quite positive (Table 20.). Respondents believe that organization memberships are useful. The usefulness of organisations is evaluated slightly higher in all countries by members of organisations. This difference between member and non-members' perception is statistically significant at the level of each country, but there are no significant differences across regions (groups). The difference between attitude and behaviour is observed and must be considered when creating any kind of public policies. The farmers' positive attitude is built on their belief that organisations are able to contribute to the development of a village. In all three countries, non-members of organisations evaluated slightly lower organization's capabilities to contribute to village development. In Macedonia and Bosnia and Herzegovina, this difference between member and non-members' opinions varies statistically. Such results suggest a high level of non-member skepticism towards organisations, which can be an important factor behind the farmers' low willingness to become members of organisations.

Table 20: Respondents perceptions of benefits raised by participations in different organisations

Benefits	MK			RS			BA		
	N	C	O	N	C	O	N	C	O
In general, membership in an organisation is useful	3.86*	4.89	4.44	3.94*	4.40	4.40	3.78*	4.37	4.53
Organizations provide assistance when preparing for RDP application***	3.16*	4.58	3.22	3.13	3.00	3.23	3.40*	3.73	3.97
Members of organisations get bank credit more easily***	3.10	3.11	2.22	3.21*	2.60	2.53	3.38*	3.45	3.38
Organizations contribute to the development of the village	3.71*	4.79	4.67	3.81	4.20	3.98	3.68*	4.13	4.35

Note: N: Non-members; C: Cooperative members: O: Other organisations members; Scale (1- definitely disagree, to 5- definitely agree); *** the statistically significant differences among groups at the 5% level (Kruskal-Wallis test);*statistically significant difference between non-members and member on the country level at the 5% level(Mann Whitney test)

With some variation across the countries, farmers have an almost neutral position when assessing organisations' capabilities to increase the accessibility of credits. In Serbia and Macedonia, members of organisations (especially those other than cooperatives) have slightly negative attitudes regarding this issue. In Bosnia and Herzegovina, the situation is slightly

different, but it is expected because of the existence of active EU projects implemented by agribusiness incubator. Farmers in Serbia are not sure whether organisations can provide support when preparing RDP applications. In Macedonia (members of cooperatives) and in Bosnia and Herzegovina (members of other organisations), they believe that organisations can provide support and make the process of RDP application easier. Statistically, it seems that personal experience shapes a significant difference of opinion in that there is a positive attitude towards organisation capability (highest share of cooperative members in both countries applied on RDP – Table 20). Successful rural policy has to address this issue and to find away to support organisational capacity to support farmers and to provide practical examples of how organisations can also support RDP application.

In general, all respondents believe that memberships in organisations yield different benefits and contribute to village development. Such positive opinions on memberships in organisations are supported by the approval of family and local peers (authority figures). Non-members receive less pronounced support from family and people they respect (see Figure 14). This outlines the importance of informal personal networks on the farmers' motivation to join an organisation and to become more engaged in official socio-economic interactions. The informal personal networks have to play a significant role in promoting and facilitating communication and cooperation that are basic preconditions for rural development policies to succeed. In situations when official organisations are missing, it is expected to see that farmers turn to close personal relationships to procure needed support and information (Koutsou et al., 2014; Stam et al., 2014; Gong et al., 2010) affecting farm/farmers adsorptive capacity that shape farmers' capabilities to explore and use external knowledge (Ebers and Maurer, 2014) which in turn affect public policy implementation (Iturrioz et al., 2014).

Figure 15: Opinion of close peers and family regarding respondents' involvement in organisation

Note: Scale (1- definitely disagree, to 5- definitely agree); In all countries, differences between non-members and member are statistically significant on the country level (Mann Whitney test)

It seems that membership experience contributes to more pronounced positive attitudes from members towards the quality of relationships within organisations. In all three countries, members of organisations do not believe that organisations are formed only to attract money from public funds or that people in organisations think only about themselves. Non-members in all three countries have a neutral standpoint regarding this issue. This is due to lack of information on organisations, which is recognised as an important factor affecting the decision to join an organisation.

Table 21: Perceived quality of relations between members within different organisations

	MK			RS			BA		
	N	C	O	N	C	O	N	C	O
People in organisations only think of themselves and their interest	3.06	1.79	2.00	3.15	3.00	2.63	3.10	2.69	2.12
Organizations are formed only to use money from funds	3.03	1.47	2.33	3.02	2.60	2.35	3.07	2.49	2.15
I believe that members in organisations respect joint agreements	3.21	4.58	4.00	3.15	3.40	3.58	3.18	3.45	3.97
Being a member in an organisation does not stop me to freely decide for my farm	3.71	4.68	4.89	3.60	4.40	4.19	3.83	4.29	4.24
The process of joint decision-making works well	3.03	4.74	4.22	3.12	3.60	3.14	3.32	3.86	4.00

Note: Scale (1- definitely disagree, to 5- definitely agree); In all countries, differences between non-members and member are statistically significant on the country level, (except in Serbia for the last statement) (Mann Whitney test)

Despite some variation across the countries, members believe that organisations are managed well enough to ensure the efficiency of the joint decision-making process and to allow members to keep their freedom to make decisions, while respecting joint agreement. Non-members in all three countries are not sure how they feel about this issue. To strengthen the structure of official social interactions, positive attitudes and experiences of members have to be more actively promoted and disseminated within the community of non-members.

Table 22: Respondent opinion about RDP usefulness according to membership types

	MK			RS			BA		
	N	C	O	N	C	O	N	C	O
In general, I think it is good that state has RDP	4.53*	4.89	4.67	4.34	3.40	4.58	4.09*	4.23	4.44
RDP supports the survival of small farms	3.98*	4.58	4.44	3.71*	2.80	3.40	3.88	3.90	4.06
RDP increases the income of the farms and rural households.	3.94*	4.32	4.44	3.69	2.40	3.53	3.94	3.94	4.06
RDP leads to higher networking of rural population.	3.31*	4.32	4.00	3.62	2.60	3.47	3.60*	3.80	3.85

Note: sign * means that there is statistical difference between non-members and member on the country level - Man Whitney test

In all three countries, regardless of membership types, respondents believe that it is good to have RDP types of policies. In Macedonia and Bosnia and Herzegovina, the members of organisations are statistically higher in assessing the usefulness of RDP measures. In Macedonia (statistically significant) and Bosnia and Herzegovina, members of organisations rated RDP for the survival of small farms and for the increase of income for rural households to be of higher importance, whereas in Serbia they were sceptical about those issues. The contribution of RDP to networking of the rural population is better recognised in Macedonia and Bosnia and Herzegovina and by members of organisations as well (statistically significant). Farmers in Serbia, especially members of cooperatives, remain to be more sceptical about this issue.

Conclusions

The research findings revealed that in all three countries, farmers' membership rates are very low, which reflects a poor structure of official social interactions (networks) built on strong personal bonding ties with limited capabilities to support the development of bridging and linking social ties that facilitate knowledge exchange and drives restructuring, flexibility, and modernisation of rural economies. The most prominent factors of low membership rates are: (1) a lack of active organisations that support social interactions, and accordingly, a lack of membership experience and clear opinions on the benefits of being members of an organisation; (2) personal perception that memberships require high inputs of time; (3) a lack of information on organisations in general; (4) a lack of self-confidence; and (5) high perceptions of risk regarding business undertaking (low intention to invest). Reasons which are connected with personal affection, negative perception of benefits, and organisation management are much less pronounced with smaller variations across all three countries.

Even the farmers who lack the willingness to join organisations find them useful, and a lack of organizations is perceived as a main obstacle to becoming a member. To increase farmers' socio-economic interactions contributing to the development of rural areas, it is necessary to create public policies to promote cooperation, networking, and the development of formal rural organisations. The low willingness of farmers to become members of organisations suggests that there is high risk of such policies to fail and to see newly developed organisations disappear after the policy intervention. Such policies, like other rural, territorial policies, have to be supported by an elaborated strategy to ensure efficient information campaigns that rely on competent "agent of change" able to raise trust and provide support.

The strategies to promote facilitate cooperation and to raise farmers' personal motivation to become more engaged in socio-economic interactions have to build on positive membership experience, in general, positive attitudes towards organisation usefulness, their contribution to public interest, and their capabilities to ensure good and fair relationships among members, while providing enough autonomy for everybody. In addition, such strategies have to clearly address and outline what roles can be played by the organisations in solving the most pressing business problems of farmers. Such strategies have to consider an observed mismatch between clearly stated positive attitudes towards organisations and the farmers' actual behaviour.

To ensure the high likelihood of rural policy success, the lack of information must be addressed. The lack of information and the lack of membership experience reinforces the lack of understanding of a civil cooperative organisation (e.g., requirements, functions, and benefits), which in turn reflects on farmers, especially non-members' willingness to cooperate and to become part of joint initiatives which are in the core of rural areas' capabilities to find adequate responses to global challenges (Nikolić et al., 2015, Bogdanov and Nikolić, 2013).

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9. FARMERS SOCIAL NETWORK STRUCTURE AND INFORMATION FLOW

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Introduction

Social capital is an important aspect for rural development, networking, and decision-making in rural areas. In rural areas, it is activated and exploited through social networks, especially in the informal networks which present an efficient channel for information sharing and access to resources. The new institutional economics theory classifies networks as hybrid governance structures that originate from certain market failures. They are "spontaneous mechanism" based on human interactions, their personal attributes, and motivations to establish relationships with others (Williamson, 2005; Kadushin, 2012). Based on individual interaction, networks typically arise as informal coordinating mechanisms which are restricted to limited groups with related interests (Thompson 2003). Social networks, as a form of informal institutions, describe norms and other types of societal embaddedness and often reflect the level of economic development of the society (Williamson, 2000).

The cultural, historical, and local contexts shape the structure of social capital and the levels of trust (Granovetter, 1985). The distrust in institutionalized and governmentally stimulated forms of socio-economic cooperation, often present in the post-socialist countries, largely impedes the development of rural areas. Therefore, to represent the social context and general trust structure, the common attitudes and reasons behind the informal cooperation are presented. Social capital in countries with such backgrounds is presumed to be retained mostly in the informal networks (Murray, 2006). This is especially important in the transition countries which experience problems on an institutional level. The aim of this chapter is to reveal the informal social networks' structures in rural areas and how they function through the main features of social capital. The data collection and analytical approaches used for the SNA are presented in Chapter 5.

Reasons and frequency of informal cooperation

Most farmers frequently cooperate with other farmers (Table 23). There are no significant differences between the sub-regions in Serbia and Macedonia, but there is slight difference between the sub-regions in Bosnia and Herzegovina (91% in the ENO region and 79% in the NNO region). Farmers occasionally use their informal networks for information sharing, with "sometimes" as the most common response in all three countries. The most noticeable difference among the countries is that the response "always" is higher in Serbia. Bosnia and Herzegovina had the largest number of those who never cooperate with others. Observing each country individually, there is more regular cooperation among the respondents in the ENO regions in Macedonia and Bosnia and Herzegovina and the NNO region in Serbia (Table 1).

Table 23: Informal cooperation (%) and frequency of cooperation among farmers

	Yes (%)	No (%)	Never	Rarely	Not sure	Sometimes	Always
MK	94	6	8	39	27	144	77
ENO	95	5	3	22	4	77	44
NNO	93	7	5	17	23	67	33
RS	94	6	6	26	4	134	130
ENO	92	8	3	17	3	79	48
NNO	95	5	3	9	1	55	82
BA	85	15	26	34	4	157	75
ENO	91	9	8	12	3	76	48
NNO	79	21	18	22	1	81	27

“Common problems” is the most widespread reason for informal cooperation, followed by “informal socialising” (Table 23). In Macedonia, the farmers in the ENO region most frequently cooperate for joint problem solving (57%), in contrast to the NNO region where farmers’ opinions are not as definite and “other reasons for cooperation” are cited most frequently (62%). In Bosnia and Herzegovina and in Serbia, the farmers in both regions use their informal networks for socialising and to solve common problems. Information exchange is an important reason for cooperation in the Serbian NNO region, where the substantial cooperation is noted for seeking solutions to common problems (78%) and informal socialising (45%). In the ENO region, the majority of the respondents (73%) cooperate ininformation sharing.

Table 24: Main reasons for cooperation with other agricultural producers (%)

	Information change	Technical support	Common problems	Informal socialization	Other
MK	20	15	45	36	32
ENO	33	25	57	41	3
NNO	6	4	34	32	62
RS	33	6	76	41	7
ENO	19	3	73	38	9
NNO	47	9	78	45	5
BA	6	6	52	65	1
ENO	6	6	60	75	1
NNO	7	6	44	54	1

In regions with a higher number of members in organisations, there is a higher incidence of those who know others who are members of formal organisations. According to the obtained results, 66% of respondents in Bosnia and Herzegovina know several members of an organisation, whereas a lower percentage is evident in Serbia (21%) and in Macedonia (15%). In Serbia, there is no significant difference between the sub-regions; in the ENO region, 20% of respondents know others who are members of an organisation, compared to 23% in the NNO region. A slightly bigger difference is observed in Macedonia, where 23% of respondents in the ENO region know other producers who are members of an organisation, compared to only 7%

in the NNO region. In Bosnia and Herzegovina, the ENO region has 86% of respondents who know a considerable number of producers who are members of formal organisations, compared to 46% of respondents in the NNO regions.

Table 25: Many people I know are members of an organisation (%)

	MK	RS	BA
Yes	15	21	66
No	85	79	34

Social capital structure

SNA reveals the network structure through various network cohesion measures and visual presentation. The first look at the networks reveals that there are large differences not only in their structures, but also in the number of actors in the networks. These differences derive not only from the different structure of social capital, but also from the data collection process which results in different types of networks. In Macedonia, due to the availability of a partial list of farmers, a whole network approach is applied with approximately 20 additionally nominated farmers (from the existing list of farmers used in the data collection). This is a common way for data collection in the SNA, producing networks that are more bonded and contain fewer actors (nodes) (Hanneman and Riddle, 2005). Conversely, in Serbia and Bosnia and Herzegovina, a list of farmers was unobtainable and instead, an open network approach was applied. This approach provides additional richness of the data by including and identifying more nodes (actors) in the networks with which farmers discuss issues related to rural development support (Table 26). The reverse of this approach is the higher fragmentation and number of components, larger diameter, and less closure of the network (Borgatti et al., 2013).

Table 26: Number of actors in networks

	MK		RS		BA	
	ENO	NNO	ENO	NNO	ENO	NNO
Respondents	150	149	150	150	146	149
Additionally nominated	21	22	322	538	498	501
Total actors	171	171	472	688	644	650

If actors are positioned geographically closer to each other, they are more likely to have more connections (Kadushin, 2012). The networks in Macedonia are geographically closer, and the ENO region includes only one village. However, this did not significantly influence and differentiate the results of the cohesion measures on the network level, as compared to the other two countries. In Serbia and Bosnia and Herzegovina, the surveyed regions are constituted for a large number of geographically distant villages, yet the farmers have similar or even larger values on average.

Density measures are an indication of higher levels of trust. These measures in all the countries

are low, indicating a complete network disconnection (values close to 0) and poorly connected and sparse networks. This requires cautious interpretation as complete enumeration of all actors was not available in the sampling. The average degree of network relationships in all three countries is very low (2 relationships per farmer); however, the average in-degree, as a more valuable measure of social capital, is six relationships (ties) per person in all three countries. The reciprocity measure indicates the degree of cohesion and social capital as a measure of trust and information exchange. In Serbia, over 80% of ties are reciprocated in both regions, whereas these measures are lower in Macedonia (20% in the ENO region and 37% in the NNO region) and significantly lower in Bosnia and Herzegovina (2% in ENO and 4% in NNO region).

Table 27: Network cohesion measures

	MK		RS		BA	
	ENO	NNO	ENO	NNO	ENO	NNO
Average Degree	1.018	2.023	1.098	1.126	2.153	1.980
In degree (H-Index)	4	6	5	5	7	7
Degree Centralization	0.018	0.041	0.020	0.018	0.017	0.004
Out-Central	0.018	0.041	0.020	0.018	0.017	0.004
In-Central	1.131	0.041	0.009	0.010	0.021	0.009
Density	0.006	0.012	0.002	0.002	0.005	0.003
Components	140	76	436	477	60	73
Component Ratio	0.822	0.434	0.973	0.952	0.125	0.105
Connectedness	0.029	0.080	0.007	0.007	0.180	0.115
Fragmentation	0.971	0.920	0.993	0.993	0.820	0.885
Closure	0.032	0.201	0.084	0.196	0.154	0.053
Average Distance	2.966	3.745	2.444	2.633	8.459	9.726
SD Distance	1.581	2.221	1.442	1.597	4.206	5.302
Diameter	8	13	7	8	23	26
Breadth	0.987	0.968	0.996	0.996	0.968	0.981
Compactness	0.013	0.032	0.004	0.004	0.032	0.019
Reciprocity	0.335	0.540	0.045	0.082	0.890	0.940
Dyad Reciprocity	0.201	0.370	0.023	0.043	0.801	0.886

The connectedness measures in all six networks are very low (values closer to 0) which indicates to the share of nodes that belong to the same component. Conversely, the component ratio measure shows a high segmentation or a large number of components in all sub-regions. The sociograms display that the networks are constituted of one major and many smaller components. The average distance looks beyond direct relationships and denotes the time or steps needed for the information to diffuse among the network population. Besides the large number of components, this distance is relatively low in Macedonia and Bosnia and Herzegovina and much higher in Serbia (8.459 in the ENO region and 9.726 in the NNO region). Serbia is different when it comes to the network diameter, which is quite high or 23 and

26 steps between any pair of actors in the network. It takes considerably less or about 8 (7) steps in the ENO region and 13 (8) steps in the NNO region to reach the most remote actor in the Macedonian and Bosnian networks, respectively.

The visual presentation of the networks gives an additional perspective on the social capital structures (Kadushin, 2012). The sociograms of the ENO and NNO regions are the initial display of existing network structures regarding the dissemination of information related to RD support (Figures 1–6).

The information networks in Macedonia have quite different structures, with evident concentration of informational flow in the ENO region where a successful agricultural cooperative exists and operates. Two dominant nodes, which are largest in size (largest degree), constitute the k-core or the maximal induced subgraph. They participate in the management structure of the existing agricultural cooperative in the region (Figure 1). These farmers have a large number of ties (degree of 24) and high eigenvector values measuring their direct and indirect connections with others. They also have very high values of betweeness, meaning they act as information brokers between many other nodes in this network. The network structure in the NNO region in Macedonia contains nine components which is close to the number of villages (12) included in the survey. This is one of the dissimilarity from the ENO region, which comes out from the different data sampling. Another aspect is the equal position of actors throughout the network, which might be result of the absence of farmer-driven organisations. In that regard, only two nodes have a degree of 9 and 10, and both are not members of any type of organisation. These nodes also have relatively lower eigenvector and betweeness values in relation to the network in the ENO region.

Both sub-regions in Serbia are constituted by a great number of components, but the majority of nodes belongs to one larger component (a group of 292 red nodes in Figure 5, and a group of 360 purple nodes in Figure 6).The highest degree levels in the ENO region span from 8–12 relationships. The node with the highest degree value (12) and betweeness (11807.575) is not a member in any organisation. However, regardless of these high measures, its eigenvector centrality value (0.003) points that the node is connected to alters which are not well-connected themselves. Three other nodes in this network have a degree value of 10, with relatively high betweeness (6456, 59515, and 10495, respectively) and a higher eigenvector value for the node 2005 (not a member of any organisation). This means that these actors are nominated the most frequently and lie on the path of the informational flow in this network. It suggests that an “agent of change”, a person facilitating the exchange of information, can be likely identified. The network in the NNO region in Serbia is constituted as one larger component and many smaller ego networks. It also includes more actors, most of which are members of a professional organisation, with similar and smaller average degrees (8-9 ties), with smaller betweeness values.

In Bosnia and Herzegovina, the networks’ structures are very similar, with many peripheral and unconnected nodes, as well as many farmers (nodes) who did not report any relationships with other farmers on an informal level. Most of the farmers’ relationships in the ENO region are situated in the major component (357 nodes). There are four nodes which have a degree of 10 to 15 and all are members of formal organisations. In the NNO region, the majority of nodes

belong to one component composed of 303 nodes. Three of these nodes have a degree of over 10, and only one is a member of a formal organisation. It seems that formal organisations support development of informal networks; however, the research findings suggest that networks are relatively closed, without strong bridging ties and without “a network hub” which can facilitate and improve information flow. Such results were expected due to sparse and poorly connected networks and the low level of trust exhibited by respondents.

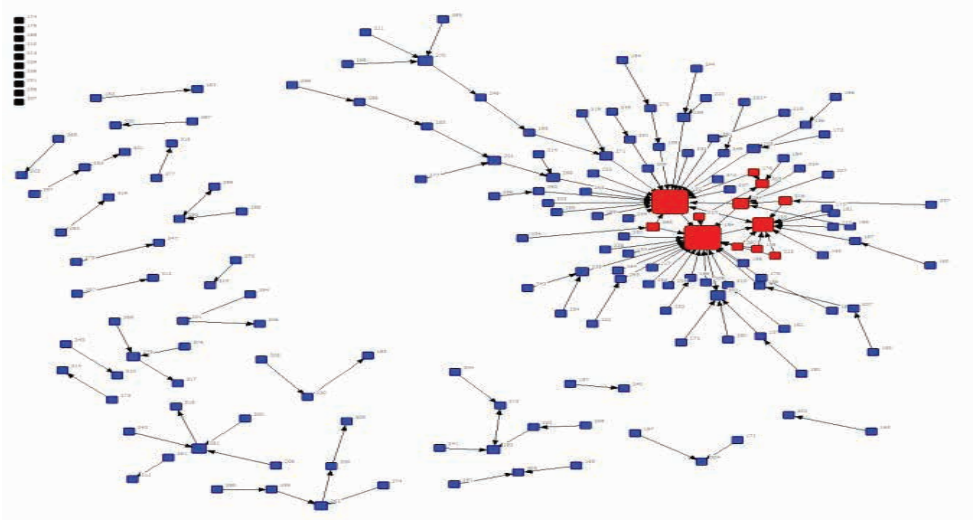

Figure 16: Macedonia: Region with an existing network organisation (ENO)

Note: Node size represents the degree of each actor; Red nodes represent the k-core of the major component.

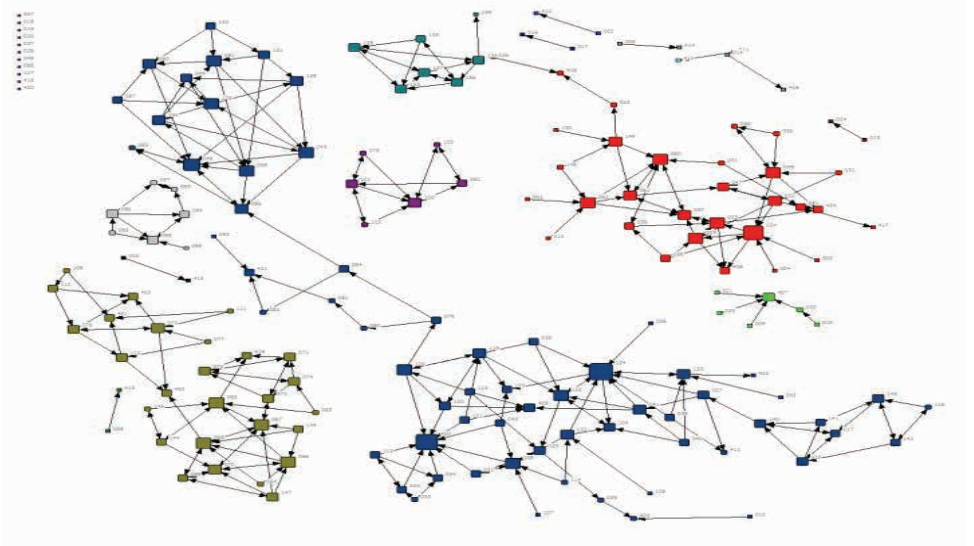

Figure 17: Macedonia: Region without an existing network organisation (NNO)

Note: Node size represents the degree of each actor; Different colours represent different components.

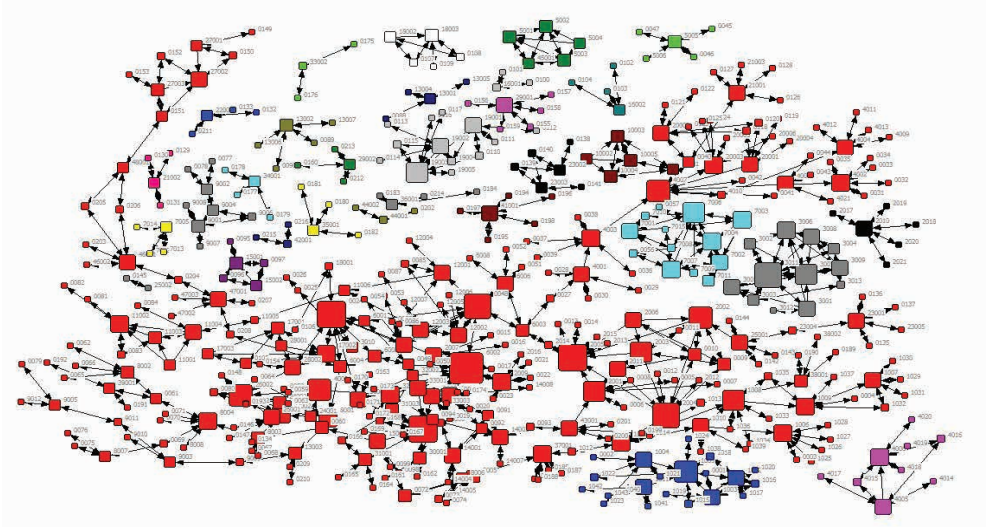

Figure 18: Serbia: Region with existing an existing network organisation (ENO)

Note: Node size represents the degree of each actor; Different colours represent different components.

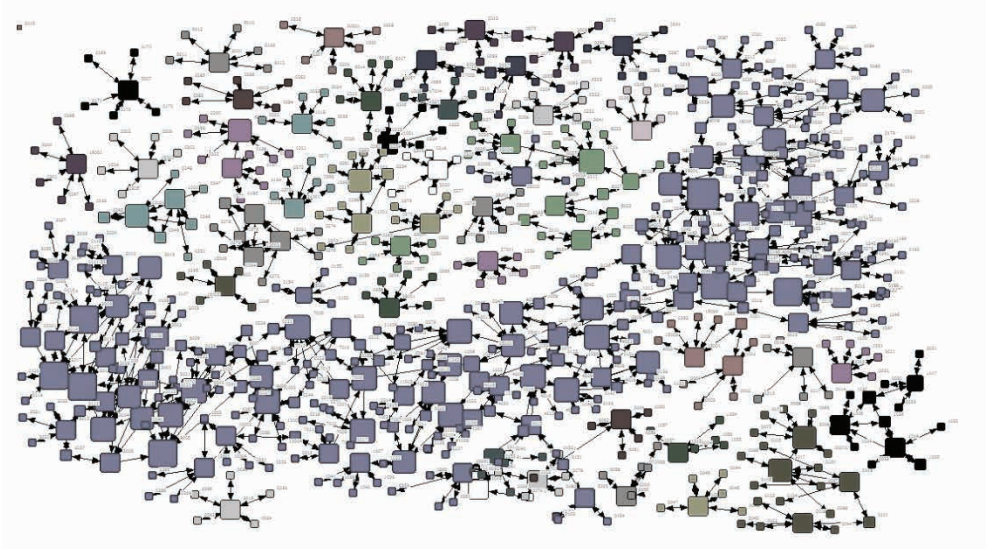

Figure 19: Serbia: Region without an existing network organisation (NNO)

Note: Node size represents the degree of each actor; Different colours represent different components.

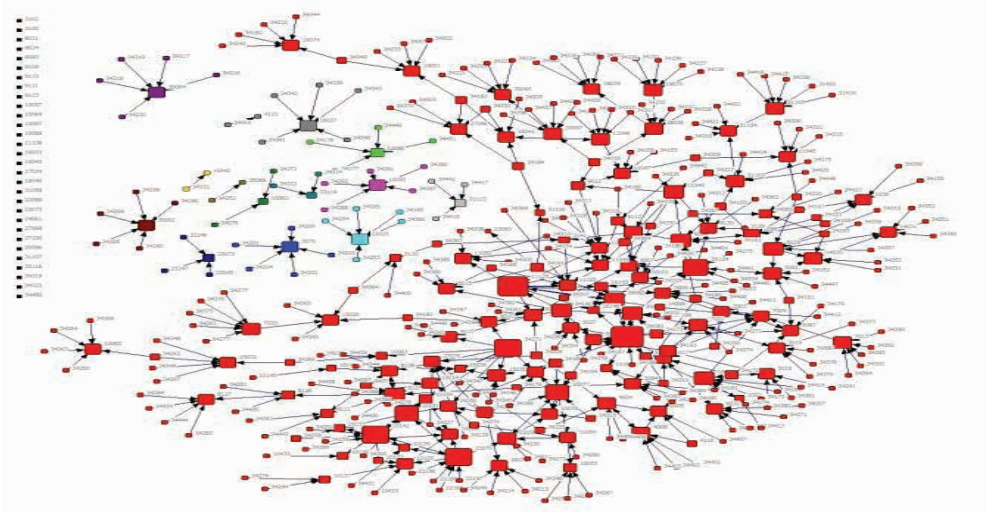

Figure 20: Bosnia and Herzegovina: Region with an existing network organisation (ENO)

Note: Node size represents the degree of each actor; Different colours represent different components.

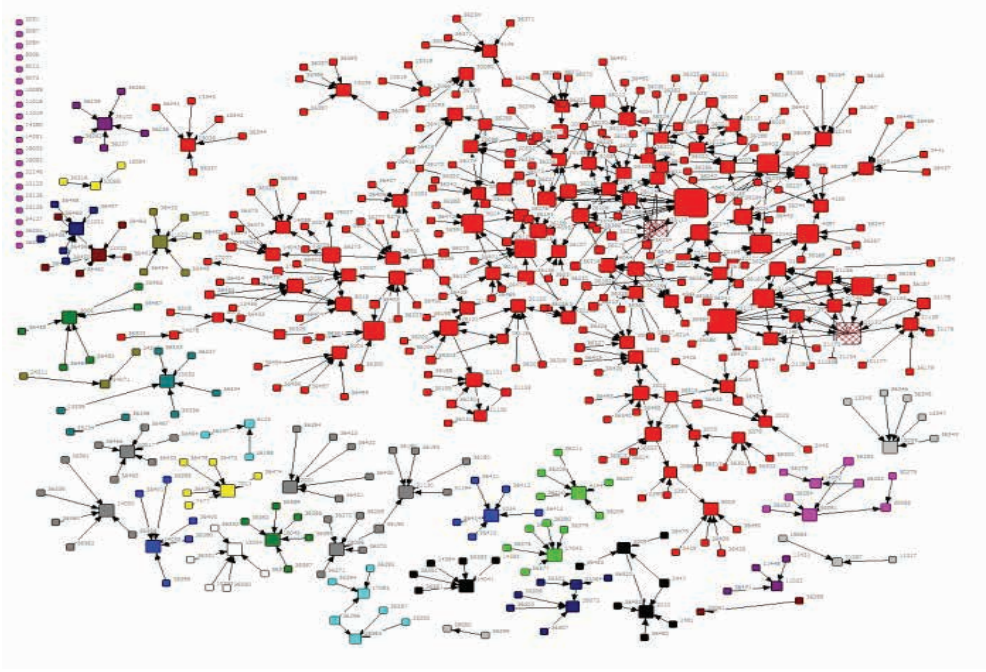

Figure 21: Bosnia and Herzegovina: Region without an existing network organisation (NNO)

Note: Node size represents the degree of each actor; Different colours represent different components.

Conclusions

This part of the research presented the informal patterns of the cooperation among the farmers in three Balkan countries: Macedonia, Serbia, and Bosnia and Herzegovina. SNA and illustration gave a novel and micro perspective supplementary to farmers' general attitudes towards cooperation. Farmers' networks represent a governance structure in which farmers gain access to information and common resources through their individual and accumulated (network) social capital.

This research confirmed the presence of partially functional farmers' informal networks in all six countries. All six countries generated networks that are characterised with low levels of social capital and trust at the network level, with no significant differences between the sub-regions. Regardless the large dispersion of the networks, the mutual trust and cooperation are on a very high level in Serbia, a medium level in Macedonia, and a very low level in Bosnia and Herzegovina. The research revealed that in the ENO regions, information is more concentrated in a smaller number of actors (which constitute the network k-cores) that are members of an organisation. In contrast, the NNO regions have a more equal dispersion of social capital on an ego level, and no individuals considerably stand out.

It was found that memberships in organisations provide better access to information. This was particularly evident in Macedonia, where being a member of the agricultural cooperative, or being connected to someone who is a member of the cooperative gave better access to information and the application for RD support. There are several actors in each of the presented networks which could influence the flow of resources in the network. In absence of trust and low interest in institutionally organised cooperation, individual actors (in most instances members of some organisation or agricultural cooperatives) hold influential positions in the network and may act as the central focus for social capital generation. The actors' position in the network enables them to regulate the flow of information and access to resources. This could result in positive effects in the network and the rural development by sharing information, but could also have negative effects in the network if acting in their own interest. Understanding social networks can help rural development by designing strategies for managing the access to information, as well as the process for application and utilization of RD support. They can be used for providing awareness about RD opportunities because they provide mechanisms to construct better formal information networks (Lubell et al., 2014).

Repeated interaction among the farmers in the rural areas may develop into more organised systems. Therefore, information on the social structure and influential actors in the network can be used to enforce models of cooperation instead of the western cooperative models which are often inapplicable for countries with complex background and social capital relationships (Kadushin, 2012; Tuna et al., 2014).Policies need to be adapted and fitted to the specific social capital structure and institutional environment of the Balkan countries.

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PART FOUR: CONCLUSIONS AND RECOMMENDATIONS

10. CONCLUSIONS AND RECOMMENDATIONS

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This project analysed the impact of the socio-economic structure of the rural population on the success of rural development policy in Macedonia, Serbia, and Bosnia and Herzegovina. The overall goal of the project was to support the socio-economic development in rural areas by increasing the effectiveness of the rural development policy support through better absorption of the rural development funds and economic networking of farmers. In that regard, the project defined the following objectives: (1) to understand the socio-economic characteristics of rural areas, (2) the motivational factors and barriers of farmers, as a major part of the rural population, to apply for RD support or (3) to take part in formal organisations, and (4) to understand the informal networks organisation and structure.

Conclusions

Rural areas and rural development policy

Prior to the analysis, a comprehensive research on the available literature and national statistical sources gave an overall background of the rural areas' socio-economic characteristics of the rural population and the current RD policy. This part of the analysis established an understanding for the environment in which the farm system operates.

- The research faced a lack of data concerning rural areas; those available are often not comparable, nor compatible. This is partly due to the different definitions of rural area and rurality among and even within the countries, as well as the not fully harmonised national statistics with Eurostat.
- Rural areas of Macedonia, Serbia, and Bosnia and Herzegovina face common problems typical to the transition countries, such as intensive depopulation, low activity on the labour market, slow process of farm restructuring, and a high share of small and semi-subsistent farms with mixed income. However, the analysis confirms the existence of large differences in the socio-economic structure of rural areas between and within the countries, as well as among surveyed farmers and their farm households.
- Agriculture is the main source of income in the rural areas, but because it is characterised with small farms with low levels of productivity, many excluded from the commercial agro-food chain, it does not ensure sustainable livelihoods for farm households.
- The agrarian policy is undergoing a process of reforms and is largely driven by a pragmatic approach, ad-hoc solutions, and traditional structures in policy creation and implementation. The low and instable level of rural development support, which also varies in terms of scope and measures applied, does not address enough of the problems in the rural areas. It slows

down the ability to solve some of the key problems of structural reforming of rural areas, including poverty, environmental degradation, and generation of new jobs.

- The government structures and supporting institutions are not built or fully reformed; therefore, the lack of effective legislation and institutional constraints hinder faster restructuring of the sector.

Socio-economic characteristics of surveyed farmers

The social and economic identities of farms influence the development and the specific characteristics of rural areas in Macedonia, Serbia, and Bosnia and Herzegovina. Therefore, understanding their nature should go beyond the narrow framework of agriculture and should contribute in defining target groups for rural development policy enforcement.

- The typical farmer is male and in average 50 years age, though with high variation in age. The research findings show notable differences among and within countries regarding the contribution of agriculture to the household income. Income from agriculture is dominant in the Macedonian sample (agriculture is a primary occupation of head of household in 95% of the cases, and 90% of income is generated from agriculture). Income from farming is less important for Serbian and Bosnian households (58% and 65%, respectively).
- A large number of farmers see their future in agriculture. More than half of the farmers plan to invest in the next 3–5 years (50% in Bosnia and Herzegovina, 57% in Macedonia, and 77% in Serbia). The planned investments are mainly in the purchase of equipment and the extension of the current production, whereas only few farmers plan to invest in rural tourism and diversification.
- Generally, factors that are related with farmer and household characteristics similarly affect Macedonian and Serbian farmers' decisions to apply for RD support, whereas Bosnian farmers are influenced by slightly different social factors. Education, farm profitability, likelihood to continue farming, and the willingness to invest positively correlate with the past application for RD support in Macedonia and Serbia. In Bosnia and Herzegovina, the characteristics that are linked to past applications are the likelihood to continue farming, household size, primary education of farm holder, and household income from farming.

Incentives and barriers to apply for RD support

Farmers' intentions to apply for RD support are influenced by their attitude, the importance of social approval, the ability to prepare applications, and limitation factors related to co-financing and accessing information.

- The farmers in all countries generally intend to apply and use RD support in short-term and mid-term prospects. Farmers expressed a willingness to invest and to co-finance RD projects in accordance with their determination to stay in the agricultural sector, which further verifies the need for RD policy and strengthens its importance; however, they

perceive the access to credits as risky which needs to be considered.

- Over 90% of surveyed farmers in all countries have positive attitudes towards rural development policy, declaring that it is good to have RD support. Most farmers in all three countries positively assess the RD support for personal benefit (improvements to their own farms), but are less aware of the opportunities that RD brings for public benefit. The contribution of RD program for sustainability of family farms and the increase of their income are perceived as the biggest advantages of RD support. The benefits of RDP to the wider rural community, such as to improvement of infrastructure, protection of environment, and acceleration of development of rural areas, are more valued among respondents in Serbia and Bosnia and Herzegovina.
- Family and peers are important to farmers, presumably even to a greater extent than declared in the survey, because farmers as a specific population highly value their independence and reluctantly admit their need to listen to others. Farmers who positively evaluate the significance of the RD support and have more support from other people have a stronger intention to use the RD support.
- Farmers' personal abilities (e.g., knowledge, experience, preparedness, own financial capacity), as well as the access and cost of the RD support application (information, procedure and documents) are perceived as barriers.
- The national extension service and media are recognised as the most important providers of information and services. Extension agents are especially appreciated in Serbia and Macedonia, whereas farmers evaluate government and formal organisations as weak sources of help and advice for RD support. Access to information through NGOs, cooperatives, and professional organisations is better in the regions with existing functional organisations.

Membership in formal organisations

Understanding of the actual farmers' membership participation and the reasons which influence the decision to become an active part of an organisation can support efficient employment of RD policy, particularly the policy measure supporting cooperating of farmers.

- Farmers find that membership in formal organisations (e.g., cooperative or professional associations) is very useful. This opinion is especially pronounced among those who are members of an organisation, which indicates that these institutions succeeded to justify the trust of their members. However, the difference between attitude and current behaviour is observed and actual farmers' participation in such organisations is very low.
- There are several major reasons behind low membership rates. The most important obstacle that hinders farmers' involvement in organisations is the lack of active organisations and the lack of information about organisations that support social interactions. Accordingly, the lack of membership experience results in not recognising the benefits of being members of an organisation. In addition, many farmers believe that membership is time consuming, whereas some distrust such organisations.

- Personal affection, cooperation benefits, and the overall functioning of the organisations' management are not perceived as barriers by farmers to become members. Such findings raise optimism regarding the possibility to see a change in farmers' behaviours in the near future through their involvement within existing and new organisations in rural areas of the respected countries.

Social network structure

The RD policy rate of success is connected with low and inadequate access to resources (especially information, knowledge, and finance) and the inability to obtain and share resources embedded in socio-economic network, which do exist, but are poorly developed.

- The research confirms the presence of partially functional farmers' informal networks in all countries, usually built on strong personal bonding ties. The generated networks are characterised with low levels of social capital and trust.
- In regions with an existing functional organisation, information is more concentrated between fewer actors. In contrast, the regions without existing organisations have more equal dispersion on an ego level, and no individuals considerably stand out.
- Memberships in organisations provide better access to information. In absence of trust in the whole society and low interest in institutionally organised cooperation, the individual actors who hold influential positions in the network can regulate the flow of information and access to resources. This authority can be used to a positive effect on the network by sharing information, but it can also be contentious and have a negative effect if this influence is used for their own interest instead.

Recommendations

The recommendations are based on the research results, conclusions, and the extended experience of the authors. They are organised according to the level of suggested intervention: through farmers, institutional settings, or policy development. The combined approach should give the maximum outcome.

Farmer driven approach

- There is substantial room for improving farmers' understanding of RD policy, its general framework, procedures, and required operational rules (e.g., co-financing and acquiring minimum standards). In this respect, the self-initiative of farmers, their entrepreneurial spirit, and their commitment to improve their operations are main preconditions for overcoming the vulnerability of family farms, hence reaching competitiveness and sustainability. The adoption to the new entrepreneurial mentality is a challenge for the farmers in Balkan countries, accustomed to the state controlled regimes and systems of support. These

processes take long temporal dimension and require efforts of the wider society to facilitate farmers' adaptations to the values of resilience and sustainability.

- Adjustments in attitudes towards the agricultural occupation are needed. The slow process of changing ownership structure suggests that the farm is seen as a family asset, rather than a workplace and economic system that persist on market principles. The transfer of property rights to young farmers could contribute to their inclusion in agricultural activities at an earlier age, stimulating greater commitment, readiness for strengthening skills, and long-term investments, hence raising competitiveness.
- The European rural policy has a more holistic framework with a strong focus on the farmers' welfare as providers of public goods and broader interests of society. Farmers in the Western Balkan countries are still at a stage where economic motives are underlying drivers of their activities. Apart from their own personal benefit, it is necessary to raise the awareness of the public benefits for enhancing the quality of life in rural areas and subsequently to increase the willingness to participate in such projects. The issue remains that such sophisticated support measures are not yet available.
- Because of the importance of informal social networks, it is valuable to identify the potential "agents of change", "village leaders", or "information brokers" to encourage the desired behaviour. Such persons, widely respected by their peers, can facilitate the promotion of the program and motivate and support others to apply for RD support. Strong awareness/information campaigns can supplement the development and use of such new innovative information channels.
- The use of RD support can be enhanced by sharing the experience, lessons learnt, and success stories between farmers and among cooperatives at the regional and national levels. Considering their common background, similar mentality, and local culture, farmers can exchange experiences even between their peers in the other Western Balkan countries.

Institutional driven approach

- Special emphasis should be put on developing and strengthening the statistical systems in providing nationally and internationally consistent, cohesive, and comparable indicators that reveal the real situation in rural areas and the impact of the applied public policies, including the rural development policy. The national statistical offices should provide more information on diverse aspects of rural areas as a key element supporting the process of rural development policy making. The definition of rural area should be harmonized within the national legislative and appropriately transferred in the national statistics.
- Horizontal and vertical linkages in the agri-food chain need to be reformed and reinforced to meet the needs of producers. It is further required to intensify the efforts on strengthening institutional structures for logistic support and various services needed. It includes the development of an appropriate legal framework, establishing the missing segments of the system, as well as strengthening human, technical, and organisational capacities, including extension service providers (public and private).
- The lack of knowledge and information of farmers as the target population should be overcome

with a well-structured agricultural knowledge transfer system (AKIS), built on functional and efficient linkages between knowledge generation institutions, extension service providers, and farmers. The AKIS should include private and public institutions, both those that operate on a commercial basis and those funded by the state. The training modules and modalities of knowledge transfer should be tailor-made according to the needs of the producers.

- Operational extension support and advisory networks are vital in communicating the rural development policy to the target beneficiaries. Additionally, there is a growing need for efficient and competent assistance supporting them in the application process. To ensure the segment is well-functioning, there is continuous need for stable financing, capacity building in terms of human and material assets, and enhanced field work.
- There is obvious need to promote and support networking activities of the local rural population. Development of efficient and diversified social networks in rural areas should be high on the policy agenda. New innovative networking strategies that are sensitive to the social context, especially to individual capacities, motivational, and behavioural determinants, can contribute to that effect.
- The strategies to promote cooperation should consider the observed mismatch between the positive attitude towards organisations and the actual behaviour (low membership rate). They should be based on farmers' personal motivations built on positive membership experiences, positive attitudes towards usefulness of organisations, their contributions to public interest, and their capabilities to ensure good and fair relationships, while preserving personal integrity.
- To overcome the many obstacles in the initial phases of implementation of rural development policy, important partners of both the government and farmers are producers' associations, cooperatives, and NGOs. These institutions, in addition to implementing the transfer of knowledge and information, should take on the role of lobbyists for the interests of farmers and rural communities. Strengthening their capacity, horizontal and vertical networking with other actors and building trust among members and society is a long-term process that requires resources. Local communities must support their activities and these developments as part of the efforts to build social capital.
- Critical factors for well-functioning and sustainability of farmers' organisations, including cooperatives, are the managerial skills of the organisations' executives and their ability to respond to a volatile business conditions and to find new markets and market niches. Additional incentives should attract educated, ambitious, and skilled persons to engage in such positions.
- Local municipalities make an effort to promote the opportunities to rural population, to recognize their needs, and to improve their human and material capacities to employ those opportunities. One way is to use the LEADER approach by formation of Local Action Groups and their capacity building.
- Intermediate organisations that are socially embedded and able to recognise the needs of the local population could support cooperation management and retain knowledge and experience raised by the networks. Such organisations could ensure better targeting of RD policy and be used as platforms from which local accountability may be demanded and guarded, as a prerequisite to increase general trust and culture of cooperation.

Policy driven approach

- Policy decision makers have to create more stable predictable policy frameworks and implement what they already adopted. The present productivistic orientation should be avoided. Although support to agriculture is the key activity and source of livelihood of the rural population, it must be considered that there are other policy objectives of equal importance for the rural population and wider society. This primarily refers to investments in farms, environmental issues, poverty, integration of newcomers, survival, or the transformation of small farms and social structures of rural society. The need for funds for RD support has been recognised, but the share and amount of budgetary transfers for rural development should increase.
- Policy implementation and impact assessment by using comprehensive tools enables evidence-based policy making, but it strongly depends on the institutional capacities and requires continuous strengthening. This applies equally to intensify the analytical capacity of the research community, the application of modern scientific methods, and tools for policy driven applied research.
- The decentralization as a key principle in the creation of rural development policy requires strengthening the capacity of stakeholders to participate in this process. Efforts in this direction must be ongoing and include the widest circle of participants; therefore, a variety of information campaigns, promotional activities, and awareness raising operations are needed to reach critical mass of local actors.
- Action regarding simplification of the application process and documentation could additionally contribute to easier and a more successful realisation of the RD policy. This requires reforms in a number of institutions, both those that assist farmers in preparation and those that handle their applications.
- An appropriate strategy for rural development is needed to keep the rural population in the villages. Joint and coordinated activities of various governmental structures are needed to overcome the heterogeneous and complex issues of rural development. It includes ministries and agencies dealing not just with agriculture, but also with education, infrastructure, economy, social services, and labour. The development problems of rural areas and their backwardness must be positioned on a higher level on the agenda of the national governments and become a cross-cutting issue to stop and prevent their further degradation.
- Improvement of the age structure in rural areas should be high on the priority list of the rural development policy. Measures such as additional support to young farmers or early retirement schemes can encourage a transfer of the farm (which would in turn solve many of the property-right issues and ease the application procedure) and can further contribute to increased entrepreneurship, introduction of innovations, and the modernisation of the farms.
- Strengthening the resilience of smallholder farmers' operations requires coherent policy framework and adaptive coping measures that could compensate the small sized agriculture and increase market exposure. Diversification of economic activities in rural areas should increase the employment opportunities and the source of income, subsequently improving the living standard and the quality of life in rural areas.

- The acceleration of structural reforms is needed to create conditions for faster and more efficient redistribution of resources towards larger and more efficient producers. This can be achieved with support for the activation of land market operations, land management, land consolidation, technology transfer, farm modernisation, strengthening of food chain, and access to the financial market.
- Improved access to diverse sources of finances (bank or informal credit products) is imperative. Governments could support this by developing mechanisms, such as guarantee funds, as well as encourage banks to intensify their involvement in rural crediting and investments in rural areas. Another possibility is a creation of a formal platform group of financial institutions, providing innovative and tailored financial products for all stakeholders (e.g., producers, processors, and buyers).
- Rural development policies logic should rely on capacity building through activation of social capital as a key policy tool aiming to develop a cooperative attitude, a mutual trust, a shared commitment to work on common goals, and a joint power to use the public funds and development opportunities (through projects, such as LEADER).

Contribution and future application

In addition to the focus on the project objectives, this research makes contributions to agricultural economics research and rural development policy cycle.

- To our knowledge, the applied combination of theoretical approaches is novel in the agricultural and rural development contexts in the Western Balkans and fills some of the gaps in the existing literature regarding the motives, constraints, and networking of the rural population aiming to improve social and economic conditions in these regions.
- The project simultaneously analyses few aspects important for the success of the RD support implementation: the motivation of farmers to apply for RD support, their willingness to participate in farmer organisations, their networking patterns, and information flow. The research confirms the need and importance of using an interdisciplinary and cross-country approach that give additional value to the research findings.
- It draws attention to the scientific community and policy makers and the importance of social barriers, individual capacities, and motivations of policy beneficiaries for the success of the national RD policy. Certain aspects of the applied theory and methods within this research proved to be useful and applicative in the process of planning and evaluating new measures complementary to the usually exploited quantitative approaches. Additionally, it could help when designing approaches to communicate the specific measures to farmers.
- The cross-country approach enables comparison with others and higher levels of generalisation of the findings, which can be utilized as a reference for other WB countries.
- Taking into consideration the limited time for the research, many new questions were opened during the process. New research should further address them and even extend the knowledge of some aspects not covered in detail in this project, including the behavioural aspects of networking and the actions for promoting cooperation, a narrower approach, the analysis of a specific RD measure, and a deeper understanding of the personal perceived behavioural controls.

PART FIVE:
ANNEXES

ANNEX A: DESCRIPTION OF THE SAMPLE BASED ON FARMER AND HOUSEHOLD CHARACTERISTICS

Annex 1: Description of the sample based on respondents characteristics

Farmer parameters	Country/ Region	Overall sample (n=894)			
		Number of respondents	Mean	St.dev	Median
Age (years)	MK	298	46.5	12.200	45
	ENO	150	43.3	10.000	41
	NNO	148	49.7	13.400	50.5
	RS	300	52.8	13.223	53
	ENO	150	52.5	13.454	53.5
	NNO	150	53.0	13.029	53
	BA	296	49.9	10.149	50
	ENO	149	50.8	10.060	51
	NNO	147	49.0	10.194	49
Education level ("1"=Primary school (4 yrs); "2"=Primary school (8 yrs); "3"=High school (3-4 yrs); "4"=College (2 yrs); "5"=University (4 yrs))	MK	294	2.6	0.830	3
	ENO	150	2.3	0.715	2
	NNO	144	2.8	0.864	3
	RS	300	2.8	0.835	3
	ENO	150	2.9	0.760	3
	NNO	150	2.7	0.898	3
	BA	296	2.9	0.622	3
	ENO	149	2.9	0.624	3
	NNO	147	3.0	0.623	3
Primary occupation of the head of the household ("1"=agriculture, "2"=other)	MK	295	1.1	0.227	1
	ENO	149	1.0	0.115	1
	NNO	146	1.1	0.295	1
	RS	300	1.2	0.424	1
	ENO	150	1.2	0.396	1
	NNO	150	1.3	0.447	1
	BA	296	1.4	0.498	1
	ENO	149	1.5	0.502	2
	NNO	147	1.4	0.490	1

	MK	292	25.3	11.580	25
	ENO	149	21.9	9.111	20
	NNO	143	28.8	12.789	30
	RS				
Years in farming	ENO	150	25.0	13.292	20
	NNO	150	29.7	15.631	30
	BA	296	18.1	11.163	15
	ENO	149	19.1	11.351	20
	NNO	147	17.1	10.914	15

Annex 2: Description of the sample based on farming experience of the head of the household

Years in farming	N	%	Mean	St.dev	Min	Max
MK	292	100	25.3	11.580	3	60
<= 5	2	0.7	4.0	1.410	3	5
6-15	81	27.7	12.4	2.728	6	15
16-30	134	45.9	24.6	6.560	16	30
31-45	64	21.9	38.6	2.902	33	45
46-60	11	3.8	54.1	4.370	50	60
>60	0	0	-	-	-	-
RS	300	100	27.3	14.672	2	80
<= 5	15	5.0	4.6	0.910	2	5
6-15	60	20.0	11.3	2.522	6	15
16-30	127	42.4	24.1	4.656	17	30
31-45	57	19.0	38.9	2.905	33	45
46-60	40	13.3	52.4	4.235	50	60
>60	1	0.3	80.0	-	80	80
BA	296	100	18.1	11.163	1	50
<= 5	40	13.5	3.9	1.312	1	5
6-15	114	38.5	11.0	2.966	6	15
16-30	103	34.8	23.7	4.140	17	30
31-45	36	12.2	37.4	3.175	35	45
46-60	3	1.01	50.0	0	50	50
>60	0	0	-	-	-	-

Annex 3: Description of the sample based on household characteristics

Household parameters	Country/ Region	Overall sample (n=894)					
		Number of respondents	Mean	St.dev	Min	Max	Median
Number of members of household	MK	297	5.0	1.852	1	12	5
	ENO	150	5.1	1.846	1	12	5
	NNO	147	4.8	1.853	1	11	5
	RS	300	5.3	1.965	1	13	5
	ENO	150	5.2	2.039	1	12	5
	NNO	150	5.5	1.878	1	13	6
	BA	296	4.2	1.326	1	10	4
	ENO	149	4.1	1.430	1	10	4
	NNO	147	4.3	1.214	2	8	4
Number of household members under 18	MK	299	1.1	1.187	0	7	1
	ENO	150	1.3	1.231	0	7	1
	NNO	149	0.9	1.113	0	5	0
	RS	300	1.1	1.245	0	8	1
	ENO	150	1.1	1.242	0	5	1
	NNO	150	1.1	1.252	0	8	1
	BA	296	1.0	1.168	0	8	1
	ENO	149	0.9	1.170	0	8	0
	NNO	147	1.2	1.144	0	5	1
Performance of the household compared to the others in the village ("1"=Much worse; "2"=Worse; "3"=Don't know; "4"=Better; "5"=Much better)	MK	286	3.0	0.515	1	5	3
	ENO	150	3.0	0.293	1	5	3
	NNO	136	3.1	0.674	1	5	3
	RS	300	3.2	0.444	2	5	3
	ENO	150	3.2	0.459	2	5	3
	NNO	150	3.2	0.429	2	5	3
	BA	296	3.1	0.531	2	5	3
	ENO	149	3.0	0.512	2	5	3
	NNO	147	3.2	0.541	2	5	3

Number of household members between 18 and 50	MK	299	2.4	1.165	0	6	2
	ENO	150	2.4	1.107	0	6	2
	NNO	149	2.3	1.221	0	6	2
	RS	300	2.4	1.118	0	6	2
	ENO	150	2.2	1.112	0	5	2
	NNO	150	2.5	1.110	1	6	2
	BA	296	2.5	1.135	0	7	2
	ENO	149	2.4	1.108	0	7	2
	NNO	147	2.5	1.160	0	6	2
Number of household members over 50	MK	299	1.5	0.879	0	4	2
	ENO	150	1.4	0.927	0	4	2
	NNO	149	1.5	0.827	0	4	2
	RS	300	1.8	0.953	0	7	2
	ENO	150	1.8	0.888	0	4	2
	NNO	150	1.9	1.016	0	7	2
	BA	296	0.8	0.923	0	4	0
	ENO	149	0.9	0.954	0	2	0
	NNO	147	0.7	0.881	0	4	0
Likelihood to farm in the next 3-5 years (1"=Definitely won't; "2"=Unlikely; "3"=Not sure; "4"=Very likely; "5"=Definitely yes)	MK	297	4.6	0.803	1	5	5
	ENO	150	4.7	0.660	2	5	5
	NNO	147	4.4	0.915	1	5	5
	RS	300	4.4	0.861	1	5	5
	ENO	150	4.3	0.898	1	5	5
	NNO	150	4.6	0.807	1	5	5
	BA	296	4.5	0.653	2	5	5
	ENO	149	4.5	0.713	2	5	5
	NNO	147	4.6	0.587	2	5	5
Portion of household income from farming	MK	296	90.4	19.995	20	100	100
	ENO	150	91.3	17.010	20	100	100
	NNO	146	89.4	22.678	20	100	100
	RS	300	58.0	34.658	0	100	50
	ENO	150	54.4	37.983	0	100	50
	NNO	150	61.5	30.701	5	100	60
	BA	296	65.1	32.244	0	100	70
	ENO	149	64.0	32.262	0	100	70
	NNO	147	66.2	32.296	0	100	80

Identified successor of the farm (1"=Definitely not; "2"=Unlikely; "3"=Not sure; "4"=Very likely; "5"=Definitely yes)	MK	297	2.9	1.442	1	5	3
	ENO	150	2.4	1.364	1	5	2
	NNO	147	3.5	1.305	1	5	4
	RS	300	3.2	1.582	1	5	3
	ENO	150	2.9	1.699	1	5	3
	NNO	150	3.4	1.402	1	5	4
	BA	296	3.0	1.135	1	5	3
	ENO	149	2.9	1.214	1	5	3
	NNO	147	3.1	1.047	1	5	3

Annex 4: Description of the sample based on farm operation parameters

Farm operation parameters	Country/ Region	Overall sample (n=894)					
		Number of respondents	Mean	St.dev	Min	Max	Median
Portion of agricultural production sold on market by the farmer	MK	296	96.3	9.875	20	100	100
	ENO	150	97.9	5.083	70	100	100
	NNO	146	94.7	12.908	20	100	100
	RS	300	59.1	31.725	0	100	70
	ENO	150	53.6	34.443	0	100	50
	NNO	150	64.6	27.793	2	100	80
	BA	296	69.8	31.496	0	100	80
	ENO	149	67.3	29.905	0	100	80
	NNO	147	72.3	32.945	0	100	90
Farm profitability in the last 3 years ("1"=Very unprofitable; "2"=Moderately unprofitable; "3"=Break-even; "4"= Moderately profitable; "5"=Very profitable)	MK	295	3.3	0.915	1	5	4
	ENO	150	3.1	1.089	1	5	3
	NNO	145	3.5	0.647	2	5	4
	RS	300	3.4	0.706	1	5	4
	ENO	150	3.3	0.692	1	5	3
	NNO	150	3.5	0.712	1	5	4
	BA	296	3.4	0.661	1	5	3
	ENO	149	3.5	0.674	1	5	4
	NNO	147	3.4	0.649	1	5	3
Dependency on subsidies to break-even ("1"=Not dependant; "2"=Slightly dependant; "3"=Very dependant)	MK	294	2.0	0.885	1	3	2
	ENO	150	1.4	0.728	1	3	1
	NNO	144	2.5	0.700	1	3	3
	RS	300	1.9	0.761	1	3	2
	ENO	150	2.1	0.745	1	3	2
	NNO	150	1.7	0.725	1	3	2
	BA	296	1.2	0.504	1	3	1
	ENO	149	1.2	0.549	1	3	1
	NNO	147	1.1	0.453	1	3	1

Plan to invest on the farm in the next 3-5 years (“1”=Definitely not; “2”=Unlikely; “3”=Not sure; “4”=Very likely; “5”=Definitely yes)	MK	297	3.5	1.398	1	5	4
	ENO	150	3.5	1.408	1	5	4
	NNO	147	3.5	1.391	1	5	4
	RS	300	4.0	1.028	1	5	4
	ENO	150	3.9	0.964	1	5	4
	NNO	150	4.2	1.073	1	5	4
	BA	296	3.4	1.106	1	5	4
	ENO	149	3.4	1.193	1	5	4
	NNO	147	3.4	1.013	1	5	3

Annex 5: Type of planned investments between sampled farms

Farm operation parameters	Country/Region	Overall sample (n=894)			
		Number of respondents	Mean	St.dev	Median
Type of investment – buildings ("1"=Yes; "2"=No)	MK	297	1.8	0.419	2
	ENO	150	1.9	0.341	2
	NNO	147	1.7	0.468	2
	RS	300	1.8	0.406	2
	ENO	150	1.8	0.420	2
	NNO	150	1.8	0.391	2
	BA	296	1.9	0.251	2
	ENO	149	2.0	0.162	2
	NNO	147	1.9	0.313	2
Type of investment – equipment ("1"=Yes; "2"=No)	MK	297	1.6	0.498	2
	ENO	150	1.6	0.487	2
	NNO	147	1.5	0.501	1
	RS	300	1.6	0.496	2
	ENO	150	1.6	0.497	2
	NNO	150	1.6	0.497	2
	BA	296	1.8	0.392	2
	ENO	149	1.8	0.407	2
	NNO	147	1.8	0.377	2
Type of investment – land ("1"=Yes; "2"=No)	MK	297	2.0	0.205	2
	ENO	150	2.0	0.197	2
	NNO	147	2.0	0.214	2
	RS	300	1.8	0.390	2
	ENO	150	1.8	0.411	2
	NNO	150	1.8	0.368	2
	BA	296	1.8	0.363	2
	ENO	149	1.9	0.327	2
	NNO	147	1.8	0.394	2

Type of investment - production extension ("1"=Yes; "2"=No)	MK	297	1.5	0.500	2
	ENO	150	1.4	0.480	1
	NNO	147	1.7	0.456	2
	RS	300	1.5	0.500	2
	ENO	150	1.5	0.501	2
	NNO	150	1.5	0.501	2
	BA	296	1.8	0.428	2
	ENO	149	1.8	0.433	2
	NNO	147	1.8	0.423	2
Type of investment – diversification ("1"=Yes; "2"=No)	MK	297	2.0	0.082	2
	ENO	150	2.0	0.082	2
	NNO	147	2.0	0.082	2
	RS	300	1.9	0.225	2
	ENO	150	1.9	0.262	2
	NNO	150	2.0	0.180	2
	BA	296	1.9	0.246	2
	ENO	149	2.0	0.181	2
	NNO	147	1.9	0.295	2

Annex 6: Sample description based on farm characteristics (crop production)

Farm parameters	Country/ Region	Overall sample (n=894)					
		Number of respondents	Mean	St.dev	Min	Max	Median
Total farmed area (ha)	MK	296	5.2	13.782	0	200	1.9
	ENO	150	1.2	0.674	0.1	4.2	1
	NNO	146	9.4	18.754	0	200	5
	RS	300	7.0	7.838	0	60.35	4.9
	ENO	150	8.7	9.291	0	60.35	6.2
	NNO	150	5.3	5.583	0.45	53	4
	BA	296	1.7	3.880	0	30	0.5
	ENO	149	0.9	1.487	0	10	0.4
	NNO	147	2.5	5.189	0	30	0.6
Area under cereals (ha)	MK	295	2.2	5.552	0	60	0.5
	ENO	150	0.3	0.336	0	2	0.2
	NNO	145	4.1	7.441	0	60	2
	RS	300	4.0	5.953	0	40	2
	ENO	150	5.2	7.068	0	40	3
	NNO	150	2.8	4.269	0	39	2
	BA	296	0.9	3.310	0	30	0
	ENO	149	0.1	0.446	0	3	0
	NNO	147	1.6	4.566	0	30	0
Area under industrial crops (ha)	MK	295	1.3	4.112	0	50	0
	ENO	150	0.0	0.000	0	0	0
	NNO	145	2.6	5.581	0	50	1
	RS	300	0.0	0.470	0	7	0
	ENO	150	0.0	0.329	0	4	0
	NNO	150	0.1	0.578	0	7	0
	BA	296	0.0	0.121	0	2	0
	ENO	149	0.0	0.171	0	2	0
	NNO	147	0.0	0.000	0	0	0

Area under fodder crops (ha)	MK	295	1.1	5.461	0	90	0
	ENO	150	0.1	0.178	0	1.2	0
	NNO	145	2.1	7.660	0	90	1
	RS	300	1.1	1.953	0	15	0.3
	ENO	150	1.2	2.162	0	15	0
	NNO	150	1.0	1.719	0	15	0.5
	BA	296	0.1	0.614	0	10	0
	ENO	149	0.0	0.257	0	3	0
	NNO	147	0.1	0.833	0	10	0
Area under vegetables (ha)	MK	295	0.5	0.756	0	10	0.5
	ENO	150	0.7	0.380	0	2	0.7
	NNO	145	0.3	0.957	0	10	0
	RS	300	0.1	0.507	0	5	0
	ENO	150	0.1	0.404	0	3	0
	NNO	150	0.1	0.594	0	5	0
	BA	296	0.4	0.972	0	8	0.1
	ENO	149	0.5	1.141	0	8	0.2
	NNO	147	0.2	0.730	0	6	0
Area under orchards (ha)	MK	295	0.0	0.158	0	2.6	0
	ENO	150	0.0	0.050	0	0.6	0
	NNO	145	0.0	0.220	0	2.6	0
	RS	300	0.9	1.916	0	20	0.3
	ENO	150	0.9	2.513	0	20	0.2
	NNO	150	0.8	1.024	0	6	0.5
	BA	296	0.3	1.266	0	20	0
	ENO	149	0.1	0.324	0	2	0
	NNO	147	0.4	1.757	0	20	0
Area under vineyards (ha)	MK	295	0.0	0.140	0	2	0
	ENO	150	0.0	0.108	0	0.8	0
	NNO	145	0.0	0.166	0	2	0
	RS	300	0.3	0.800	0	6	0
	ENO	150	0.0	0.164	0	1.5	0
	NNO	150	0.5	1.064	0	6	0.1
	BA	296	0.0	0.017	0	0.2	0
	ENO	149	0.0	0.016	0	0.2	0
	NNO	147	0.0	0.018	0	0.2	0

Area under other crops (ha)	MK	295	0.0	0.175	0	1.5	0
	ENO	150	0.0	0.000	0	0	0
	NNO	145	0.1	0.244	0	1.5	0
	RS	300	0.6	2.039	0	20	0
	ENO	150	1.2	2.756	0	20	0
	NNO	150	0.0	0.227	0	2.5	0
	BA	296	0.1	0.635	0	10	0
	ENO	149	0.0	0.161	0	1	0
	NNO	147	0.1	0.885	0	10	0

Annex 7: Sample description based on farm characteristics (livestock production)

		Nio	Mean	St.dev	Min	Max	Median
Total livestock units	MK	299	6.2	19.393	0	250	0
	ENO	150	0.3	0.896	0	5.5	0
	NNO	149	12.1	26.195	0	250	6
	RS	300	7.7	24.905	0	400	3
	ENO	150	8.9	13.292	0	100	5
	NNO	150	6.5	32.637	0	400	3
	BA	296	6.2	30.542	0	325	3
	ENO	149	1.6	2.360	0	12	0
	NNO	147	10.9	42.844	0	325	0
Number of cows	MK	297	5.3	19.316	0	250	0
	ENO	150	0.0	0.182	0	2	0
	NNO	147	10.7	26.422	0	250	5
	RS	300	3.4	7.024	0	70	1
	ENO	150	4.8	9.008	0	70	1
	NNO	150	2.0	3.723	0	35	1
	BA	296	3.2	21.330	0	300	0
	ENO	149	1.4	2.258	0	12	0
	NNO	147	5.1	30.119	0	300	0
Number of pigs	MK	297	0.5	1.679	0	23	0
	ENO	150	0.3	0.843	0	5	0
	NNO	147	0.6	2.224	0	23	0
	RS	300	5.3	11.521	0	153	3
	ENO	150	7.4	15.203	0	153	3
	NNO	150	3.2	5.133	0	50	2
	BA	296	1.8	10.730	0	150	0
	ENO	149	0.0	0.000	0	0	0
	NNO	147	3.7	15.025	0	150	0
Number of sheep	MK	297	5.4	27.599	0	250	0
	ENO	150	1.6	7.171	0	40	0
	NNO	147	9.2	38.244	0	250	0
	RS	300	4.0	12.917	0	200	0
	ENO	150	4.4	7.682	0	50	0
	NNO	150	3.7	16.601	0	200	0
	BA	296	1.7	10.436	0	150	0
	ENO	149	1.3	5.259	0	40	0
	NNO	147	2.1	13.845	0	150	0

Number of poultry	MK	297	4.4	23.978	0	250	0
	ENO	150	0.2	1.673	0	15	0
	NNO	147	8.6	33.577	0	250	0
	RS	300	47.1	475.123	0	8000	10
	ENO	150	29.3	163.519	0	2000	10
	NNO	150	64.9	652.400	0	8000	10
	BA	296	45.2	437.297	0	6500	0
	ENO	149	1.9	9.283	0	80	0
	NNO	147	89.1	618.418	0	6500	0
Number of other animals	MK	297	0.8	6.963	0	110	0
	ENO	150	1.3	9.228	0	110	0
	NNO	147	0.3	3.299	0	40	0
	RS	300	0.7	4.337	0	65	0
	ENO	150	0.8	3.035	0	20	0
	NNO	150	0.6	5.340	0	65	0
	BA	296	1.3	8.488	0	120	0
	ENO	149	0.4	3.638	0	40	0
	NNO	147	2.2	11.424	0	120	0

ANNEX B: DESCRIPTION OF THE SAMPLE BASED ON FARMER PERCEPTION ON RD RELATED ISSUES

Annex 8: Past experience with RDP, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
Farmer is aware that there are measures for Rural Development	MK	4.328	0.724	4	296	99%	
	MK ENO	4.360	0.625	4	150	50%	
	MK NNO	4.295	0.812	4	146	49%	0.220
	RS	3.503	1.088	4	300	100%	
	RS ENO	3.293	1.123	4	150	50%	
	RS NNO	3.713	1.006	4	150	50%	0.000
	BA	2.780	1.125	2	296	100%	
	BA ENO	2.952	1.157	2	147	50%	
	BA NNO	2.611	1.066	2	149	50%	0.004
In the last 3 years farmer have applied to the RDP	MK	1.736	0.441	2	299	100%	
	MK ENO	1.887	0.317	2	150	50%	
	MK NNO	1.584	0.493	2	149	50%	0.000
	RS	1.900	0.300	2	300	100%	
	RS ENO	1.900	0.300	2	150	50%	
	RS NNO	1.900	0.299	2	150	50%	0.500
	BA	1.557	0.497	2	296	100%	
	BA ENO	1.578	0.494	2	147	50%	
	BA NNO	1.537	0.499	2	149	50%	0.238
In the last 3 years the household used support from RDP	MK	1.809	0.393	2	299	100%	
	MK ENO	1.887	0.317	2	150	50%	
	MK NNO	1.732	0.443	2	149	50%	0.000
	RS	1.920	0.271	2	300	100%	
	RS ENO	1.927	0.261	2	150	50%	
	RS NNO	1.913	0.281	2	150	50%	0.336
	BA	1.696	0.460	2	296	100%	
	BA ENO	1.735	0.441	2	147	50%	
	BA NNO	1.658	0.474	2	149	50%	0.075

Number of measures the farmer have applied in the last 3 years	MK	0.264	0.441	0	299	100%	
	MK ENO	0.133	0.340	0	150	50%	
	MK NNO	0.396	0.489	0	149	50%	0.000
	RS	0.103	0.391	0	300	100%	
	RS ENO	0.087	0.325	0	150	50%	
	RS NNO	0.120	0.445	0	150	50%	0.231
	BA	0.368	0.489	0	296	100%	
	BA ENO	0.286	0.452	0	147	50%	
	BA NNO	0.450	0.511	0	149	50%	0.002
Total value of the RDP support the farmer have received in the last three years, since 2011	MK	0.947	2.520	0	291	97%	
	MK ENO	0.490	1.925	0	143	48%	
	MK NNO	1.389	2.916	0	148	49%	0.001
	RS	0.176	1.098	0	300	100%	
	RS ENO	0.051	0.257	0	150	50%	
	RS NNO	0.301	1.516	0	150	50%	0.025
	BA	0.250	0.966	0	296	100%	
	BA ENO	0.239	1.275	0	147	50%	
	BA NNO	0.260	0.500	0	149	50%	0.427

Annex 9: Behavioral intentions, by country and sub regions

		Mean	St.dev	Median	N	%	Sign.diff
I intend to apply for the RDP in one of the next calls.	MK	3.438	1.133	3	299	100%	
	MK ENO	3.407	0.833	3	150	50%	
	MK NNO	3.470	1.369	4	149	50%	0.316
	RS	3.803	0.886	4	300	100%	
	RS ENO	3.753	0.739	4	150	50%	
	RS NNO	3.853	1.010	4	150	50%	0.165
	BA	3.233	0.981	3	296	100%	
	BA ENO	3.286	0.948	3	147	50%	
	BA NNO	3.181	1.010	3	149	50%	0.181
How do you assess your intention to use the RDP for your household in the next 3-5 years?	MK	3.455	1.091	3	299	100%	
	MK ENO	3.540	0.830	3	150	50%	
	MK NNO	3.369	1.297	3	149	50%	0.089
	RS	3.327	1.071	3	300	100%	
	RS ENO	3.220	1.082	3	150	50%	
	RS NNO	3.433	1.053	3	150	50%	0.042
	BA	3.568	0.746	4	296	100%	
	BA ENO	3.714	0.628	4	147	50%	
	BA NNO	3.423	0.821	3	149	50%	0.000
How do you assess your intention to participate in RDP common projects in the next 3-5 years?	MK	2.960	1.053	3	299	100%	
	MK ENO	3.427	0.769	3	150	50%	
	MK NNO	2.490	1.091	2	149	50%	0.000
	RS	3.417	1.075	3	300	100%	
	RS ENO	3.533	0.892	3	150	50%	
	RS NNO	3.300	1.224	3	150	50%	0.030
	BA	3.405	0.686	3	296	100%	
	BA ENO	3.469	0.673	3	147	50%	
	BA NNO	3.342	0.693	3	149	50%	0.056

How do you assess your intention to be a member of an organization for your own benefit (e.g. to get information, technical support, advice, experience, etc)?	MK	2.893	1.008	3	298	100%	
	MK ENO	3.208	0.605	3	149	50%	
	MK NNO	2.577	1.211	3	149	50%	0.000
	RS	3.543	1.273	4	300	100%	
	RS ENO	3.553	1.146	4	150	50%	
	RS NNO	3.533	1.389	4	150	50%	0.446
	BA	3.679	0.781	4	296	100%	
	BA ENO	3.932	0.613	4	147	50%	
	BA NNO	3.430	0.845	4	149	50%	0.000
How do you assess your intention to be a member of an organization for common public benefit (e.g. to initiate infrastructural improvements, village renewal, etc)?	MK	2.839	1.010	3	298	100%	
	MK ENO	3.134	0.539	3	149	50%	
	MK NNO	2.544	1.256	3	149	50%	0.000
	RS	3.583	1.210	4	300	100%	
	RS ENO	3.680	1.073	4	150	50%	
	RS NNO	3.487	1.327	4	150	50%	0.084
	BA	3.635	0.772	4	296	100%	
	BA ENO	3.830	0.664	4	147	50%	
	BA NNO	3.443	0.822	4	149	50%	0.000
How likely is that you will be still farming in the next 3-5 years?	MK	4.562	0.802	5	297	99%	
	MK ENO	4.673	0.658	5	150	50%	
	MK NNO	4.449	0.912	5	147	49%	0.008
	RS	4.437	0.860	5	300	100%	
	RS ENO	4.313	0.895	5	150	50%	
	RS NNO	4.560	0.802	5	150	50%	0.006
	BA	4.517	0.652	5	296	100%	
	BA ENO	4.558	0.585	5	147	50%	
	BA NNO	4.477	0.710	5	149	50%	0.142
Do you plan to invest on your farm in the next 3-5 years?	MK	3.485	1.395	4	297	99%	
	MK ENO	3.513	1.404	4	150	50%	
	MK NNO	3.456	1.386	4	147	49%	0.362
	RS	4.013	1.026	4	300	100%	
	RS ENO	3.873	0.961	4	150	50%	
	RS NNO	4.153	1.068	4.5	150	50%	0.009
	BA	3.392	1.104	4	296	100%	
	BA ENO	3.415	1.009	3	147	50%	
	BA NNO	3.369	1.189	4	149	50%	0.361

I intend to get bank credit to co-finance an RDP investment.	MK	2.599	1.272	3	299	100%	
	MK ENO	2.213	1.093	2	150	50%	
	MK NNO	2.987	1.321	3	149	50%	0.000
	RS	2.310	1.068	2	300	100%	
	RS ENO	2.547	0.884	2	150	50%	
	RS NNO	2.073	1.177	2	150	50%	0.000
	BA	2.291	1.005	2	296	100%	
	BA ENO	2.293	1.032	2	147	50%	
	BA NNO	2.289	0.978	2	149	50%	0.487

Annex 10: Assessment of RDP opportunities, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
How do you assess the significance of using RDP for your household (e.g. machinery, equipment etc) in the next 3-5 years?	MK	3.732	1.066	4	298	100%	
	MK ENO	3.927	0.703	4	150	50%	
	MK NNO	3.534	1.307	4	148	49%	0.001
	RS	3.827	1.047	4	300	100%	
	RS ENO	3.707	1.099	4	150	50%	
	RS NNO	3.947	0.979	4	150	50%	0.024
	BA	3.682	0.717	4	296	100%	
	BA ENO	3.721	0.604	4	147	50%	
	BA NNO	3.644	0.812	4	149	50%	0.179
How do you assess the significance of using RDP to participate in projects for common interest (e.g. infrastructure, irrigation systems etc) for development of the village area in the next 3-5 years?	MK	3.284	1.108	4	299	100%	
	MK ENO	3.887	0.638	4	150	50%	
	MK NNO	2.678	1.148	3	149	50%	0.000
	RS	3.807	0.967	4	300	100%	
	RS ENO	3.813	0.905	4	150	50%	
	RS NNO	3.800	1.028	4	150	50%	0.453
	BA	3.507	0.652	4	296	100%	
	BA ENO	3.605	0.612	4	147	50%	
	BA NNO	3.409	0.676	3	149	50%	0.005
How do you assess the support by those you respect the most for your household use of the RDP in the next 3-5 years?	MK	3.057	0.981	3	299	100%	
	MK ENO	3.407	0.784	3	150	50%	
	MK NNO	2.705	1.033	3	149	50%	0.000
	RS	3.177	1.029	3	300	100%	
	RS ENO	3.173	0.998	3	150	50%	
	RS NNO	3.180	1.066	3	150	50%	0.478
	BA	3.514	0.697	4	296	100%	
	BA ENO	3.646	0.626	4	147	50%	
	BA NNO	3.383	0.738	3	149	50%	0.001

How do you assess the support by those you respect the most for you to participate in RDP common projects in the next 3-5 years?	MK	2.749	1.038	3	299	100%	
	MK ENO	3.373	0.717	3	150	50%	
	MK NNO	2.121	0.926	2	149	50%	0.000
	RS	3.297	1.040	3	300	100%	
	RS ENO	3.387	0.937	3	150	50%	
	RS NNO	3.207	1.133	3	150	50%	0.067
	BA	3.274	0.695	3	296	100%	
	BA ENO	3.327	0.730	3	147	50%	
	BA NNO	3.221	0.654	3	149	50%	0.097
How easily can you get credits?	MK	3.448	1.109	4	299	100%	
	MK ENO	3.780	1.019	4	150	50%	
	MK NNO	3.114	1.096	3	149	50%	0.000
	RS	2.593	1.068	3	300	100%	
	RS ENO	2.447	1.105	2	150	50%	
	RS NNO	2.740	1.006	3	150	50%	0.009
	BA	2.669	0.833	3	296	100%	
	BA ENO	2.646	0.887	3	147	50%	
	BA NNO	2.691	0.776	3	149	50%	0.322
How risky is according to you to get credit to co-finance a project?	MK	2.134	1.009	2	299	100%	
	MK ENO	1.807	0.822	2	150	50%	
	MK NNO	2.463	1.071	2	149	50%	0.000
	RS	1.840	0.861	2	300	100%	
	RS ENO	1.833	0.867	2	150	50%	
	RS NNO	1.847	0.854	2	150	50%	0.447
	BA	2.250	0.968	2	296	100%	
	BA ENO	2.361	1.017	2	147	50%	
	BA NNO	2.141	0.905	2	149	50%	0.026

Annex 11: Attitudes towards RDP, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
In general, I think it is good that the state has a RDP.	MK	4.557	0.595	5	298	100%	
	MK ENO	4.633	0.605	5	150	50%	
	MK NNO	4.480	0.575	5	148	49%	0.013
	RS	4.360	0.666	4	300	100%	
	RS ENO	4.273	0.652	4	150	50%	
	RS NNO	4.447	0.668	5	150	50%	0.012
	BA	4.169	0.933	4	296	100%	
	BA ENO	4.252	0.932	4	147	50%	
	BA NNO	4.087	0.926	4	149	50%	0.065
RDP leads to improvement of the infrastructure in rural areas.	MK	3.448	0.862	3	299	100%	
	MK ENO	3.853	0.706	4	150	50%	
	MK NNO	3.040	0.810	3	149	50%	0.000
	RS	3.690	0.902	4	300	100%	
	RS ENO	3.800	0.775	4	150	50%	
	RS NNO	3.580	1.005	4	150	50%	0.017
	BA	3.807	0.626	4	296	100%	
	BA ENO	3.844	0.625	4	147	50%	
	BA NNO	3.772	0.625	4	149	50%	0.163
RDP leads to protection of environment, local breeds and varieties.	MK	3.348	0.809	3	299	100%	
	MK ENO	3.653	0.774	4	150	50%	
	MK NNO	3.040	0.722	3	149	50%	0.000
	RS	3.717	0.881	4	300	100%	
	RS ENO	3.933	0.772	4	150	50%	
	RS NNO	3.500	0.934	3	150	50%	0.000
	BA	3.750	0.597	4	296	100%	
	BA ENO	3.844	0.531	4	147	50%	
	BA NNO	3.658	0.643	4	149	50%	0.004

RDP leads to higher implementation of EU standards.	MK	3.308	0.943	3	299	100%	
	MK ENO	3.593	0.857	3	150	50%	
	MK NNO	3.020	0.937	3	149	50%	0.000
	RS	3.670	0.841	4	300	100%	
	RS ENO	3.913	0.721	4	150	50%	
	RS NNO	3.427	0.888	3	150	50%	0.000
	BA	3.581	0.604	4	296	100%	
	BA ENO	3.755	0.542	4	147	50%	
	BA NNO	3.409	0.613	3	149	50%	0.000
RDP leads to higher networking of rural population.	MK	3.395	0.899	3	299	100%	
	MK ENO	3.787	0.837	4	150	50%	
	MK NNO	3.000	0.777	3	149	50%	0.000
	RS	3.580	1.018	4	300	100%	
	RS ENO	3.993	0.688	4	150	50%	
	RS NNO	3.167	1.128	3	150	50%	0.000
	BA	3.686	0.609	4	296	100%	
	BA ENO	3.850	0.513	4	147	50%	
	BA NNO	3.523	0.651	4	149	50%	0.000
RDP leads to stronger development of rural tourism.	MK	3.127	1.007	3	299	100%	
	MK ENO	3.507	0.971	4	150	50%	
	MK NNO	2.745	0.891	3	149	50%	0.000
	RS	3.763	0.837	4	300	100%	
	RS ENO	3.973	0.683	4	150	50%	
	RS NNO	3.553	0.925	4	150	50%	0.000
	BA	3.750	0.603	4	296	100%	
	BA ENO	3.830	0.539	4	147	50%	
	BA NNO	3.671	0.650	4	149	50%	0.012
RDP supports the survival of small family farms.	MK	4.030	0.923	4	299	100%	
	MK ENO	4.053	0.823	4	150	50%	
	MK NNO	4.007	1.013	4	149	50%	0.332
	RS	3.650	1.059	4	300	100%	
	RS ENO	4.027	0.721	4	150	50%	
	RS NNO	3.273	1.204	4	150	50%	0.000
	BA	3.902	0.546	4	296	100%	
	BA ENO	3.959	0.465	4	147	50%	
	BA NNO	3.846	0.610	4	149	50%	0.037

RDP increases the income of the farms and rural households.	MK	3.977	0.912	4	299	100%	
	MK ENO	4.047	0.851	4	150	50%	
	MK NNO	3.906	0.965	4	149	50%	0.092
	RS	3.647	1.027	4	300	100%	
	RS ENO	3.947	0.764	4	150	50%	
	RS NNO	3.347	1.164	4	150	50%	0.000
	BA	3.953	0.591	4	296	100%	
	BA ENO	3.966	0.458	4	147	50%	
	BA NNO	3.940	0.697	4	149	50%	0.351
The principle of co-finance in RDP projects is good motivator for farmers.	MK	3.732	1.098	4	299	100%	
	MK ENO	4.047	0.912	4	150	50%	
	MK NNO	3.416	1.176	4	149	50%	0.000
	RS	3.477	0.922	4	300	100%	
	RS ENO	3.593	0.809	4	150	50%	
	RS NNO	3.360	1.006	3	150	50%	0.014
	BA	3.463	0.630	3	296	100%	
	BA ENO	3.701	0.564	4	147	50%	
	BA NNO	3.228	0.603	3	149	50%	0.000

Annex 12: Social norms towards RDP, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
The decision whether to apply for RDP is totally up to me.	MK	3.110	1.428	2	299	100%	
	MK ENO	3.640	1.368	4	150	50%	
	MK NNO	2.577	1.281	2	149	50%	0.000
	RS	4.140	0.920	4	300	100%	
	RS ENO	4.073	0.865	4	150	50%	
	RS NNO	4.207	0.967	4	150	50%	0.105
	BA	4.375	0.800	5	296	100%	
	BA ENO	4.503	0.703	5	147	50%	
	BA NNO	4.248	0.866	4	149	50%	0.003
My family approves the application for the RDP.	MK	4.124	0.915	4	299	100%	
	MK ENO	4.453	0.689	5	150	50%	
	MK NNO	3.792	0.992	4	149	50%	0.000
	RS	3.970	0.960	4	300	100%	
	RS ENO	3.967	0.770	4	150	50%	
	RS NNO	3.973	1.119	4	150	50%	0.476
	BA	4.270	0.831	4	296	100%	
	BA ENO	4.497	0.723	5	147	50%	
	BA NNO	4.047	0.870	4	149	50%	0.000
Other people I respect approve the application for the RDP.	MK	3.592	0.989	4	299	100%	
	MK ENO	4.053	0.885	4	150	50%	
	MK NNO	3.128	0.861	3	149	50%	0.000
	RS	3.720	1.004	4	300	100%	
	RS ENO	3.767	0.743	4	150	50%	
	RS NNO	3.673	1.209	4	150	50%	0.211
	BA	3.767	0.742	4	296	100%	
	BA ENO	3.850	0.722	4	147	50%	
	BA NNO	3.685	0.752	4	149	50%	0.027

Many people I know pursues me to apply for the RDP call.	MK	3.177	1.150	3	299	100%	
	MK ENO	3.533	1.170	4	150	50%	
	MK NNO	2.819	1.010	3	149	50%	0.000
	RS	2.730	1.130	2	300	100%	
	RS ENO	2.660	0.870	2	150	50%	
	RS NNO	2.800	1.336	3	150	50%	0.143
	BA	3.115	0.731	3	296	100%	
	BA ENO	3.238	0.722	3	147	50%	
	BA NNO	2.993	0.719	3	149	50%	0.002

Annex 13: Perceived behavioral control towards RDP, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
The RDP application (procedure and documents) is easy.	MK	3.241	0.905	3	299	100%	
	MK ENO	2.980	0.787	3	150	50%	
	MK NNO	3.503	0.939	3	149	50%	0.000
	RS	2.613	1.073	3	300	100%	
	RS ENO	2.427	0.897	2	150	50%	
	RS NNO	2.800	1.192	3	150	50%	0.001
	BA	2.459	1.009	2	296	100%	
	BA ENO	2.313	1.105	2	147	50%	
	BA NNO	2.604	0.881	2	149	50%	0.007
The preparation of the RDP application is not expensive.	MK	3.167	0.849	3	299	100%	
	MK ENO	2.960	0.711	3	150	50%	
	MK NNO	3.376	0.923	3	149	50%	0.000
	RS	2.923	0.999	3	300	100%	
	RS ENO	2.600	0.938	3	150	50%	
	RS NNO	3.247	0.954	3	150	50%	0.000
	BA	2.568	1.011	2	296	100%	
	BA ENO	2.374	1.077	2	147	50%	
	BA NNO	2.758	0.902	3	149	50%	0.001
The information regarding the RD program is easy to get.	MK	3.298	1.009	4	299	100%	
	MK ENO	3.267	1.056	3	150	50%	
	MK NNO	3.329	0.958	4	149	50%	0.298
	RS	2.920	1.146	3	300	100%	
	RS ENO	2.847	1.025	3	150	50%	
	RS NNO	2.993	1.250	3	150	50%	0.135
	BA	2.760	1.059	3	296	100%	
	BA ENO	2.714	1.195	3	147	50%	
	BA NNO	2.805	0.902	3	149	50%	0.231

I have enough information to independently prepare the application (procedure and documents).	MK	2.177	1.021	2	299	100%	
	MK ENO	2.440	1.029	2	150	50%	
	MK NNO	1.913	0.941	2	149	50%	0.000
	RS	2.787	1.117	3	300	100%	
	RS ENO	2.660	0.951	2	150	50%	
	RS NNO	2.913	1.245	3	150	50%	0.025
	BA	3.068	1.085	3	296	100%	
	BA ENO	3.197	1.281	4	147	50%	
	BA NNO	2.940	0.829	3	149	50%	0.021
My knowledge and experience is enough to independently prepare the application (procedure and documents).	MK	2.070	1.040	2	299	100%	
	MK ENO	2.347	1.058	2	150	50%	
	MK NNO	1.792	0.943	2	149	50%	0.000
	RS	2.907	1.113	3	300	100%	
	RS ENO	2.893	0.994	3	150	50%	
	RS NNO	2.920	1.219	3	150	50%	0.418
	BA	3.095	1.077	3	296	100%	
	BA ENO	3.170	1.285	4	147	50%	
	BA NNO	3.020	0.815	3	149	50%	0.117
I have enough own means to co-finance an RDP investment.	MK	2.622	1.265	2	299	100%	
	MK ENO	3.227	1.228	4	150	50%	
	MK NNO	2.013	0.976	2	149	50%	0.000
	RS	2.890	1.091	3	300	100%	
	RS ENO	2.987	0.938	3	150	50%	
	RS NNO	2.793	1.214	3	150	50%	0.063
	BA	3.128	1.070	3	296	100%	
	BA ENO	3.224	0.974	4	147	50%	
	BA NNO	3.034	1.149	3	149	50%	0.063
I am able to get bank credit to co-finance an RDP investment.	MK	3.201	1.227	4	299	100%	
	MK ENO	3.220	1.326	4	150	50%	
	MK NNO	3.181	1.118	4	149	50%	0.393
	RS	3.073	1.014	3	300	100%	
	RS ENO	3.133	0.978	3	150	50%	
	RS NNO	3.013	1.045	3	150	50%	0.153
	BA	2.973	0.972	3	296	100%	
	BA ENO	2.932	1.048	3	147	50%	
	BA NNO	3.013	0.890	3	149	50%	0.237

Annex 14: Additional statements

		Mean	St.dev	Median	N	%	Sign.diff
RDP measures are more useful measures than subsidies.	MK	3.198	1.451	4	298	100%	
	MK ENO	4.287	0.686	4	150	50%	
	MK NNO	2.095	1.159	2	148	49%	0.000
	RS	3.000	1.149	3	300	100%	
	RS ENO	2.773	0.953	3	150	50%	
	RS NNO	3.227	1.273	3	150	50%	0.000
	BA	3.277	0.567	3	296	100%	
	BA ENO	3.354	0.532	3	147	50%	
	BA NNO	3.201	0.591	3	149	50%	0.010
RDP increases administrative work for the household owners.	MK	3.518	0.923	3	299	100%	
	MK ENO	3.813	0.934	4	150	50%	
	MK NNO	3.221	0.810	3	149	50%	0.000
	RS	3.793	1.015	4	300	100%	
	RS ENO	3.867	0.780	4	150	50%	
	RS NNO	3.720	1.201	4	150	50%	0.106
	BA	3.709	0.572	4	296	100%	
	BA ENO	3.850	0.472	4	147	50%	
	BA NNO	3.570	0.627	4	149	50%	0.000
I am confident, if I apply for RDP in one of the next calls, my application will fulfill the requested criteria.	MK	3.465	1.051	4	299	100%	
	MK ENO	3.640	0.760	4	150	50%	
	MK NNO	3.289	1.255	3	149	50%	0.002
	RS	3.477	0.830	3	300	100%	
	RS ENO	3.380	0.789	3	150	50%	
	RS NNO	3.573	0.857	3	150	50%	0.022
	BA	3.128	0.765	3	296	100%	
	BA ENO	3.259	0.792	3	147	50%	
	BA NNO	3.000	0.714	3	149	50%	0.002

The RDP approval system is not corrupted.	MK	2.910	1.055	3	299	100%	
	MK ENO	2.800	0.841	3	150	50%	
	MK NNO	3.020	1.223	3	149	50%	0.036
	RS	2.960	0.867	3	300	100%	
	RS ENO	2.980	0.707	3	150	50%	
	RS NNO	2.940	0.998	3	150	50%	0.345
	BA	2.696	0.827	3	296	100%	
	BA ENO	2.667	0.811	3	147	50%	
	BA NNO	2.725	0.842	3	149	50%	0.273

Annex 15: Farmers' source of information and advice about RDP, by country and sub-regions

		Mean	St.dev	Median	N	%	Sign.diff
Family members	MK	2.589	1.169	3	299	100%	
	MK ENO	1.953	1.060	2	150	50%	
	MK NNO	3.228	0.891	3	149	50%	0.000
	RS	2.810	1.383	3	300	100%	
	RS ENO	2.700	1.432	2	150	50%	
	RS NNO	2.920	1.323	3	150	50%	0.085
	BA	2.730	1.328	3	296	100%	
	BA ENO	2.816	1.315	3	147	50%	
	BA NNO	2.644	1.336	3	149	50%	0.133
Other people from the village	MK	2.565	0.876	3	299	100%	
	MK ENO	2.413	0.939	3	150	50%	
	MK NNO	2.718	0.778	3	149	50%	0.001
	RS	2.513	1.193	2	300	100%	
	RS ENO	2.240	1.164	2	150	50%	
	RS NNO	2.787	1.154	3	150	50%	0.000
	BA	2.757	1.250	3	296	100%	
	BA ENO	2.680	1.212	3	147	50%	
	BA NNO	2.832	1.282	3	149	50%	0.149
Members from NGO	MK	2.074	1.019	2	299	100%	
	MK ENO	2.220	1.119	2	150	50%	
	MK NNO	1.926	0.883	2	149	50%	0.006
	RS	1.160	0.549	1	300	100%	
	RS ENO	1.173	0.412	1	150	50%	
	RS NNO	1.147	0.655	1	150	50%	0.338
	BA	1.767	1.269	1	296	100%	
	BA ENO	2.000	1.462	1	147	50%	
	BA NNO	1.537	0.993	1	149	50%	0.001
Members from cooperative	MK	2.766	1.465	3	299	100%	
	MK ENO	3.967	0.927	4	150	50%	
	MK NNO	1.557	0.727	1	149	50%	0.000
	RS	1.200	0.616	1	300	100%	
	RS ENO	1.213	0.584	1	150	50%	
	RS NNO	1.187	0.645	1	150	50%	0.355
	BA	2.030	1.417	1	296	100%	
	BA ENO	2.503	1.601	2	147	50%	
	BA NNO	1.564	1.012	1	149	50%	0.000

4.5. Members from professional organizations	MK	2.685	1.275	3	298	100%	
	MK ENO	3.287	1.202	3.5	150	50%	
	MK NNO	2.074	1.034	2	148	49%	0.000
	RS	1.497	0.950	1	300	100%	
	RS ENO	1.433	0.828	1	150	50%	
	RS NNO	1.560	1.052	1	150	50%	0.125
	BA	1.466	0.989	1	296	100%	
	BA ENO	1.571	1.166	1	147	50%	
	BA NNO	1.362	0.762	1	149	50%	0.035
National extension agents	MK	3.248	1.336	4	298	100%	
	MK ENO	2.833	1.383	3	150	50%	
	MK NNO	3.669	1.141	4	148	49%	0.000
	RS	3.360	1.331	3	300	100%	
	RS ENO	3.360	1.313	3	150	50%	
	RS NNO	3.360	1.350	3	150	50%	0.500
	BA	1.284	0.740	1	296	100%	
	BA ENO	1.211	0.682	1	147	50%	
	BA NNO	1.356	0.786	1	149	50%	0.046
Local ministry units staff	MK	2.569	1.245	2	299	100%	
	MK ENO	1.973	0.931	2	150	50%	
	MK NNO	3.168	1.234	3	149	50%	0.000
	RS	1.357	0.810	1	300	100%	
	RS ENO	1.560	0.898	1	150	50%	
	RS NNO	1.153	0.648	1	150	50%	0.000
	BA	1.483	1.000	1	296	100%	
	BA ENO	1.429	1.010	1	147	50%	
	BA NNO	1.537	0.987	1	149	50%	0.177
Local government and municipality staff	MK	2.545	1.321	2	299	100%	
	MK ENO	1.727	0.782	2	150	50%	
	MK NNO	3.369	1.239	3	149	50%	0.000
	RS	1.810	1.087	1	300	100%	
	RS ENO	1.947	1.118	1	150	50%	
	RS NNO	1.673	1.033	1	150	50%	0.015
	BA	2.145	1.295	2	296	100%	
	BA ENO	1.816	1.240	1	147	50%	
	BA NNO	2.470	1.267	2	149	50%	0.000

Private consultants	MK	2.067	1.112	2	298	100%	
	MK ENO	1.752	0.750	2	149	50%	
	MK NNO	2.383	1.309	2	149	50%	0.000
	RS	1.150	0.511	1	300	100%	
	RS ENO	1.247	0.577	1	150	50%	
	RS NNO	1.053	0.412	1	150	50%	0.000
	BA	1.483	0.972	1	296	100%	
	BA ENO	1.415	0.975	1	147	50%	
	BA NNO	1.550	0.965	1	149	50%	0.116
Media (TV, radio, internet, newspapers)	MK	3.525	1.262	4	299	100%	
	MK ENO	3.560	1.122	4	150	50%	
	MK NNO	3.490	1.388	4	149	50%	0.316
	RS	3.143	1.133	3	300	100%	
	RS ENO	3.080	0.860	3	150	50%	
	RS NNO	3.207	1.344	3.5	150	50%	0.167
	BA	2.524	1.305	3	296	100%	
	BA ENO	2.150	1.264	2	147	50%	
	BA NNO	2.893	1.238	3	149	50%	0.000
International development projects	MK	1.654	0.933	1	298	100%	
	MK ENO	2.040	1.045	2	150	50%	
	MK NNO	1.264	0.585	1	148	49%	0.000
	RS	1.150	0.463	1	300	100%	
	RS ENO	1.240	0.525	1	150	50%	
	RS NNO	1.060	0.368	1	150	50%	0.000
	BA	1.392	0.772	1	296	100%	
	BA ENO	1.340	0.724	1	147	50%	
	BA NNO	1.443	0.814	1	149	50%	0.127

ANNEX C: PRINCIPLE COMPONENT ANALYSIS ON RD RELATED STATEMENTS

Annex 16: Principal Component Analysis, Macedonia

	Component				
	1	2	3	4	5
RDP leads to protection of environment. local breeds and varieties.	.829				
RDP leads to improvement of the infrastructure in rural areas.	.787				
RDP leads to higher networking of rural population.	.785				
RDP leads to stronger development of rural tourism.	.755				
RDP leads to higher implementation of EU standards.	.751				
RDP increases the income of the farms and rural households.		.816			
RDP supports the survival of small family farms.		.790			
The principle of co-finance in RDP projects is good motivator for farmers.		.770			
In general. I think it is good that the state has a RDP.		.730			
I have enough own means to co-finance an RDP investment.			.811		
I have enough information to independently prepare the application (procedure and documents).			.727		
My knowledge and experience is enough to independently prepare the application (procedure and documents).			.720		
I am able to get bank credit to co-finance an RDP investment.			.683		
How easily can you get credits?			.627		
The decision whether to apply for RDP is totally up to me.				.783	
Other people I respect approve the application for the RDP.				.714	
Many people I know pursues me to apply for the RDP call.				.708	
The preparation of the RDP application is not expensive.					.867
The RDP application (procedure and documents) is easy.					.853
The information regarding the RD program is easy to get.					.653
Cronbach's Alpha	.875	.819	.784	.814	.780
Component mean	3.325	4.074	2.704	3.293	3.235
Standard deviation	.742	.726	.834	1.029	.771
Skewness	.195	-.349	.149	.213	.084
Kurtosis	.190	-.886	-.731	-.840	.252

(n=299, total variance explained 71.147%, Varimax rotation)

Annex 17: Principal Component Analysis, Serbia

	Component			
	1	2	3	4
RDP leads to protection of environment. local breeds and varieties.	.838			
RDP increases the income of the farms and rural households.	.824			
RDP leads to higher networking of rural population.	.821			
RDP supports the survival of small family farms.	.806			
RDP leads to higher implementation of EU standards.	.801			
RDP leads to improvement of the infrastructure in rural areas.	.785			
RDP leads to stronger development of rural tourism.	.743			
I have enough information to independently prepare the application (procedure and documents).		.904		
The information regarding the RD program is easy to get.		.808		
My knowledge and experience is enough to independently prepare the application (procedure and documents).		.768		
The RDP application (procedure and documents) is easy.		.640		
Other people I respect approve the application for the RDP.			.849	
My family approves the application for the RDP.			.782	
Many people I know pursues me to apply for the RDP call.			.698	
I am able to get bank credit to co-finance an RDP investment.				.781
How easily can you get credits?				.744
I have enough own means to co-finance an RDP investment.				.637
Cronbach's Alpha	.916	.748	.805	.562
Component mean	3.674	2.807	3.473	2.852
Standard deviation	.769	.885	.844	.774
Skewness	-.359	.181	-.579	.067
Kurtosis	.076	-.481	.927	-.297

(n=300, total variance explained 65.421%, Varimax rotation)

Annex 18: Principal Component Analysis, Bosnia and Herzegovina

	Component			
	1	2	3	4
RDP leads to protection of environment. local breeds and varieties.	.819			
RDP leads to higher networking of rural population.	.818			
RDP leads to stronger development of rural tourism.	.801			
RDP supports the survival of small family farms.	.800			
RDP leads to improvement of the infrastructure in rural areas.	.777			
RDP leads to higher implementation of EU standards.	.751			
RDP increases the income of the farms and rural households.	.681			
My knowledge and experience is enough to independently prepare the application (procedure and documents).		.835		
I have enough information to independently prepare the application (procedure and documents).		.827		
I am able to get bank credit to co-finance an RDP investment.		.649		
I have enough own means to co-finance an RDP investment.		.571		
The RDP application (procedure and documents) is easy.			.885	
The preparation of the RDP application is not expensive.			.879	
The information regarding the RD program is easy to get.			.789	
My family approves the application for the RDP.				.829
Other people I respect approve the application for the RDP.				.768
The decision whether to apply for RDP is totally up to me.				.740
Cronbach's Alpha	.912	.825	.851	.794
Component mean	3.776	3.066	2.596	4.137
Standard deviation	.483	.828	.903	.683
Skewness	-1.746	-.290	.182	-1.392
Kurtosis	8.108	-.339	-.423	3.773

(n=296, total variance explained 70.306%, Varimax rotation)

ANNEX D: DESCRIPTION OF THE SAMPLE BASED ON FARMER PERCEPTION ON ORGANIZATIONAL MEMBERSHIP

Annex 19: Assesment of memebrship in networks, by country and network membership

		Mean	St.dev	Median	N	%	Sign.diff
In general, membership in an organization is useful	MK cooperative	4.895	0.447	5	19	6%	
	MK other	4.444	0.497	4	9	3%	
	MK none	3.867	1.056	4	270	90%	0.000
	RS cooperative	4.400	0.490	4	5	2%	
	RS other	4.395	0.893	5	43	14%	
	RS none	3.944	0.889	4	252	84%	0.000
	BA cooperative	4.372	0.793	4	86	29%	
	BA other	4.529	0.813	5	34	11%	
	BA none	3.784	0.839	4	176	59%	0.000
My family approves membership in an organization	MK cooperative	4.947	0.223	5	19	6%	
	MK other	4.556	0.497	5	9	3%	
	MK none	3.619	1.128	4	270	90%	0.000
	RS cooperative	4.400	0.490	4	5	2%	
	RS other	4.279	0.816	4	43	14%	
	RS none	3.774	0.960	4	252	84%	0.001
	BA cooperative	4.384	0.668	4	86	29%	
	BA other	4.529	0.652	5	34	11%	
	BA none	3.938	0.820	4	176	59%	0.000
People I respectapprove membership in an organization	MK cooperative	4.105	0.852	4	19	6%	
	MK other	4.444	0.685	5	9	3%	
	MK none	3.404	1.059	3	270	90%	0.000
	RS cooperative	4.400	0.490	4	5	2%	
	RS other	4.302	0.700	4	43	14%	
	RS none	3.663	0.960	4	252	84%	0.000
	BA cooperative	4.128	0.804	4	86	29%	
	BA other	4.382	0.768	5	34	11%	
	BA none	3.756	0.740	4	176	59%	0.000

Organizations contribute to the development of the village	MK cooperative	4.789	0.521	5	19	6%	
	MK other	4.667	0.471	5	9	3%	
	MK none	3.715	0.987	4	270	90%	0.000
	RS cooperative	4.200	0.400	4	5	2%	
	RS other	3.977	1.045	4	43	14%	
	RS none	3.813	0.968	4	252	84%	0.285
	BA cooperative	4.128	0.695	4	86	29%	
	BA other	4.353	0.588	4	34	11%	
	BA none	3.676	0.717	4	176	59%	0.000
6.5. Organizations provide assistance when preparing for RDP application	MK cooperative	4.579	0.674	5	19	6%	
	MK other	3.222	1.618	4	9	3%	
	MK none	3.167	0.980	3	270	90%	0.000
	RS cooperative	3.000	0.894	3	5	2%	
	RS other	3.233	1.075	3	43	14%	
	RS none	3.131	0.914	3	252	84%	0.805
	BA cooperative	3.733	0.970	4	86	29%	
	BA other	3.971	0.664	4	34	11%	
	BA none	3.403	0.732	3	176	59%	0.000
Members of organizations get bank credit more easily	MK cooperative	3.105	1.252	3	19	6%	
	MK other	2.222	1.315	2	9	3%	
	MK none	3.104	0.921	3	270	90%	0.115
Members of organizations get bank credit more easily	RS cooperative	2.600	0.490	3	5	2%	
	RS other	2.535	0.949	2	43	14%	
	RS none	3.214	0.783	3	252	84%	0.000
	BA cooperative	3.453	1.030	4	86	29%	
	BA other	3.382	0.940	3	34	11%	
	BA none	3.381	0.713	3	176	59%	0.706
People in organizations only think of themselves and their interest	MK cooperative	1.789	1.239	1	19	6%	
	MK other	2.000	0.816	2	9	3%	
	MK none	3.056	1.208	3	270	90%	0.000
	RS cooperative	3.000	0.632	3	5	2%	
	RS other	2.628	1.035	2	43	14%	
	RS none	3.147	0.975	3	252	84%	0.004
	BA cooperative	2.686	1.134	2	86	29%	
	BA other	2.118	1.051	2	34	11%	
	BA none	3.097	0.788	3	176	59%	0.000

Organizations are formed only to use money from funds	MK cooperative	1.474	0.678	1	19	6%	
	MK other	2.333	1.054	2	9	3%	
	MK none	3.026	1.227	3	270	90%	0.000
	RS cooperative	2.600	0.800	3	5	2%	
	RS other	2.349	0.832	2	43	14%	
	RS none	3.016	0.976	3	252	84%	0.000
	BA cooperative	2.488	1.031	2	86	29%	
	BA other	2.147	1.004	2	34	11%	
	BA none	3.068	0.758	3	176	59%	0.000
I believe that members in organizations respect joint agreements	MK cooperative	4.579	0.748	5	19	6%	
	MK other	4.000	0.816	4	9	3%	
	MK none	3.207	1.058	3	270	90%	0.000
	RS cooperative	3.400	0.800	4	5	2%	
	RS other	3.581	0.994	4	43	14%	
	RS none	3.147	0.796	3	252	84%	0.003
	BA cooperative	3.453	0.936	4	86	29%	
	BA other	3.971	0.857	4	34	11%	
	BA none	3.182	0.747	3	176	59%	0.000
6.10.Being a member in an organization, does not stop me to freely decide for my farm	MK cooperative	4.684	0.729	5	19	6%	
	MK other	4.889	0.314	5	9	3%	
	MK none	3.707	1.135	4	270	90%	0.000
	RS cooperative	4.400	0.490	4	5	2%	
	RS other	4.186	0.842	4	43	14%	
	RS none	3.603	0.878	4	252	84%	0.000
	BA cooperative	4.291	0.626	4	86	29%	
	BA other	4.235	0.807	4	34	11%	
	BA none	3.830	0.914	4	176	59%	0.000
The process of joint decision making works well	MK cooperative	4.737	0.636	5	19	6%	
	MK other	4.222	0.416	4	9	3%	
	MK none	3.033	1.269	3	270	90%	0.000
	RS cooperative	3.600	0.490	4	5	2%	
	RS other	3.140	1.173	3	43	14%	
	RS none	3.123	0.769	3	252	84%	0.296
	BA cooperative	3.860	0.718	4	86	29%	
	BA other	4.000	0.767	4	34	11%	
	BA none	3.318	0.739	3	176	59%	0.000

Annex 20: Assessment of sources of information, by country and network membership

		Mean	St.dev	Median	N	%	Sign.diff
Family members	MK cooperative	1.526	1.141	1	19	6%	
	MK other	2.000	1.054	2	9	3%	
	MK none	2.678	1.130	3	270	90%	0.000
	RS cooperative	3.200	1.327	3	5	2%	
	RS other	2.930	1.228	3	43	14%	
	RS none	2.782	1.407	3	252	84%	0.576
	BA cooperative	2.826	1.278	3	86	29%	
	BA other	2.265	1.400	2	34	11%	
	BA none	2.773	1.321	3	176	59%	0.083
Other people from the village	MK cooperative	2.474	1.141	3	19	6%	
	MK other	2.556	1.066	3	9	3%	
	MK none	2.574	0.848	3	270	90%	0.796
	RS cooperative	3.000	1.414	3	5	2%	
	RS other	2.535	1.168	2	43	14%	
	RS none	2.500	1.190	2	252	84%	0.728
	BA cooperative	2.779	1.214	3	86	29%	
	BA other	2.618	1.261	2.5	34	11%	
	BA none	2.773	1.263	3	176	59%	0.737
Members from NGO	MK cooperative	2.579	1.632	2	19	6%	
	MK other	1.889	1.100	1	9	3%	
	MK none	2.044	0.950	2	270	90%	0.551
	RS cooperative	1.200	0.400	1	5	2%	
	RS other	1.163	0.479	1	43	14%	
	RS none	1.159	0.562	1	252	84%	0.814
	BA cooperative	2.267	1.558	1	86	29%	
	BA other	2.500	1.558	2	34	11%	
	BA none	1.381	0.824	1	176	59%	0.000

Members from cooperative	MK cooperative	4.737	0.636	5	19	6%	
	MK other	2.222	1.750	1	9	3%	
	MK none	2.648	1.395	2.5	270	90%	0.000
	RS cooperative	2.800	1.166	3	5	2%	
	RS other	1.395	0.811	1	43	14%	
	RS none	1.135	0.502	1	252	84%	0.000
	BA cooperative	2.895	1.533	3	86	29%	
	BA other	2.824	1.774	2	34	11%	
	BA none	1.455	0.897	1	176	59%	0.000
Members from professional organizations	MK cooperative	3.474	1.788	5	19	6%	
	MK other	2.222	1.548	1	9	3%	
	MK none	2.647	1.200	3	269	90%	0.033
	RS cooperative	2.200	0.980	2	5	2%	
	RS other	2.628	1.239	3	43	14%	
	RS none	1.290	0.723	1	252	84%	0.000
	BA cooperative	1.709	1.219	1	86	29%	
	BA other	1.824	1.382	1	34	11%	
	BA none	1.278	0.680	1	176	59%	0.009
National extension agents	MK cooperative	3.000	1.622	3	19	6%	
	MK other	3.111	1.595	4	9	3%	
	MK none	3.268	1.303	4	269	90%	0.842
National extension agents	RS cooperative	2.800	1.470	2	5	2%	
	RS other	3.814	1.281	4	43	14%	
	RS none	3.294	1.319	3	252	84%	0.035
	BA cooperative	1.337	0.857	1	86	29%	
	BA other	1.382	0.971	1	34	11%	
	BA none	1.239	0.612	1	176	59%	0.832
Local ministry units staff	MK cooperative	1.947	1.191	1	19	6%	
	MK other	3.222	1.685	4	9	3%	
	MK none	2.585	1.213	2	270	90%	0.031
	RS cooperative	2.000	1.265	1	5	2%	
	RS other	1.395	0.782	1	43	14%	
	RS none	1.337	0.798	1	252	84%	0.325
	BA cooperative	1.523	1.107	1	86	29%	
	BA other	1.471	0.848	1	34	11%	
	BA none	1.466	0.971	1	176	59%	0.848

Local government and municipality staff	MK cooperative	1.421	0.748	1	19	6%	
	MK other	3.222	1.474	3	9	3%	
	MK none	2.596	1.307	2	270	90%	0.000
	RS cooperative	2.200	1.166	2	5	2%	
	RS other	1.721	0.996	1	43	14%	
	RS none	1.817	1.098	1	252	84%	0.656
	BA cooperative	2.012	1.334	1	86	29%	
	BA other	2.206	1.278	2	34	11%	
	BA none	2.199	1.275	2	176	59%	0.270
Private consultants	MK cooperative	1.556	0.762	1	18	6%	
	MK other	2.556	1.499	2	9	3%	
	MK none	2.089	1.105	2	270	90%	0.098
	RS cooperative	1.200	0.400	1	5	2%	
	RS other	1.047	0.211	1	43	14%	
	RS none	1.167	0.546	1	252	84%	0.317
	BA cooperative	1.442	1.030	1	86	29%	
	BA other	1.765	1.113	1	34	11%	
	BA none	1.449	0.903	1	176	59%	0.098
Media (TV, radio, internet, newspapers)	MK cooperative	3.368	1.494	4	19	6%	
	MK other	3.000	1.491	3	9	3%	
	MK none	3.548	1.231	4	270	90%	0.574
	RS cooperative	3.800	0.980	3	5	2%	
	RS other	3.698	0.764	4	43	14%	
	RS none	3.036	1.156	3	252	84%	0.001
	BA cooperative	2.279	1.264	2	86	29%	
	BA other	2.059	1.187	2	34	11%	
	BA none	2.733	1.302	3	176	59%	0.004
International development projects	MK cooperative	2.474	1.313	2	19	6%	
	MK other	1.667	1.247	1	9	3%	
	MK none	1.599	0.859	1	269	90%	0.005
	RS cooperative	1.200	0.400	1	5	2%	
	RS other	1.233	0.521	1	43	14%	
	RS none	1.135	0.452	1	252	84%	0.253
	BA cooperative	1.349	0.743	1	86	29%	
	BA other	1.735	1.038	1	34	11%	
	BA none	1.347	0.707	1	176	59%	0.047

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