

Economics of agriculture
SI – 2
UDK: 551.4.032/.035 (497.6)

SIMILARITIES AND DIFFERENCES BETWEEN LOWLAND AND MOUNTAIN REGIONS IN THE REPUBLIC OF SRPSKA

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Summary

Having taken the pre-war zoning in BiH as a starting point, in the Strategic Rural Development Plan of the Republic of Srpska its municipalities have been reclassified into the same regions. Based on the survey conducted in 802 rural households from 9 mountain and 3 lowland municipalities, analysis and comparison of the collected data between mountain and lowland regions have been done. The research has confirmed unequal development between rural households in mountain and lowland regions in reference to most of the considered characteristics. In comparison to lowland households, the ones in mountain regions dispose with more meadows and pastures, but fewer ploughed fields, have less capital equipment, generate lower income with non-agricultural activities making a major part. Moreover they are oriented towards livestock breeding, mountain villages have fewer communal infrastructure facilities and less access to health, education and other services. Due to all of these, additional effort should be invested in the future to reduce those differences by introducing special and differentiating already existing measures in order to direct them at faster and intensified development of mountain region.

Key words: mountain region, lowland region, unequal development.

Introduction

720 million people or 12% of world population lives in mountain regions (SARD, 2007). Mountain and non-mountain regions are neither even precisely defined at the world scale. In a WHO report (*Human Health Impact, 2005*) all regions with altitude

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higher than 300 meters are mountain regions, and could be said by analogy that more than 50% of the territory of the Republic of Srpska is mountainous area. No document has officially established a division of the RS territory defining it as mountain, lowland or other regions, not even the Spatial Plan of the RS (*Rokvic et al., 2009*). The Republic of Srpska has a heterogeneous topography with the lowest altitude of 80 and the highest altitude of 2,368 meters. Terrains below 500 m altitude amount to 48%, whereas terrains above 1,000 m amount to around 20% its area (*Prostorni plan RS, 2008*).

The division of BiH to six types of regions (lowland, hill, hill-mountain, mountain, mediterranean-mountain and mediterranean) that had been done prior to the last war (*Dugorocni program razvoja agrarne privrede u Bosni i Hercegovini, 1986*) has been taken as a starting point due to the lack of a more recent division. Therefore, establishing demographic, economic, social and other characteristics of mountain region and comparison to the same ones referring to the lowland region seemed interesting for research.

Apart from classification in terms of natural-geographic regions, it is necessary to determine and mark off less favourable areas for agricultural production in order to define development goals more precisely, as it was predicted by one of the measures in the Strategic Rural Development Plan of the RS (*Mirjanic et al., 2010*).

Research material and methods

For the needs of drafting The Strategic Rural Development Plan of the RS from 2009-2015 (*Strateski plan ruralnog razvoja Republike Srpske, 2009*), within a socio-economic analysis, 1,390 rural households from 21 municipalities have been interviewed. In accordance to the said division to 6 regions, stratification of data for 9 mountain municipalities (Gacko, Nevesinje, Foca, Rogatica, Han Pijesak, Sekovici, Knezevo, Sipovo and Ribnik) and 3 lowland municipalities (Bijeljina, Modrica and Gradiska) has been done for the needs of this survey. Out of the collected data for all rural households, data for 492 households from 9 mountain and 310 households from 3 lowland municipalities were selected (in total 802 households). They were grouped based on monitoring variations between mountain and lowland region as well as statistically and mathematically processed. Data were systematised following 19 characteristics and compared between mountain and lowland regions (showed in tables which are following). Main scientific-research methods that were used include interview, structure analysis, comparison, induction and deduction.

Results and discussion

The following groups of socio-economic characteristics of mountain and lowland rural households and farms in the Republic of Srpska have been researched and compared in terms of their:

1. Demographic structure,
2. Employment and income structure,
3. Property (capital) structure and
4. Rural population's access to services.

Questionnaire data have been systematised into five tables and explained after table delineation.

Demographic structure

The following demographic characteristics were the subject of the survey: type of rural household, number of household members, age structure, education level of household members. There are more agricultural households in the lowlands (1/2) than in mountain region (1/3). However, there is a high percentage of non-agricultural households in the rural lowlands (43.8%), meaning generate income is generated outside agriculture whereas there are only 10% of such households in the mountain region. Mixed households prevail in the mountain region (even 60%) while there are ten times fewer of these in the lowlands (6%). The structure of rural households according to number of their members is not significantly different between mountain and lowland regions although mountain households have 0.4 less members than the lowland ones (4.2 to 4.6). Rural mountain households are not older than the lowland ones since their age structure distribution is even. Mountain households are more educated than the lowland ones (they have higher percentage of high school graduates and university students), which can be explained by greater motivation to educate the children from these areas. This is further confirmed by data saying that a number of children from mountain region who moved to towns or abroad are two times higher in comparison to those from the lowlands.

Employment and income structure

The following economic characteristics of rural households were the subject of the survey: employment status of the rural households' members, the structure of the source of income, amount and structure of income generated through agriculture.

Table 1 - Employment status of the rural households' members in the mountain and lowland regions in the RS

	<i>Employment status</i>	<i>Mountain region</i>	<i>Lowland region</i>
1.	Full-time employment	15,38 %	12,61 %
2.	Part-time employment	2,25 %	0,63 %
3.	Private (their own) business	1,33 %	2,10 %
4.	Seasonal job	2,16 %	0,77 %
5.	Farmer	17,72 %	25,79 %
6.	Unemployed	10,84 %	10,09 %
7.	Pensioner	11,62 %	4,98 %
8.	Housewife	13,82 %	17,8 %
9.	Student	24,43 %	24,88 %
10.	Living abroad	0,46 %	0,35 %

Source: Survey of 802 rural households from 12 municipalities in the RS.

Every fourth member of a household in the lowlands refers to himself as a farmer whereas in the mountain region only 17% of them do so. There are more housewives and self-employed in the lowlands. There are twice as many pensioners in the mountain regions and also more full-time and part-time employed, seasonal jobs and those employed abroad. Both regions share the same number of the unemployed, pupils, and students.

Table 2 - The structure of the source of rural households' income in the mountain and lowland regions in the RS

	Type of income	Mountain region	Lowland region
1.	No income	1,63 %	0,65 %
2.	Selling their own agric. products	77,24 %	91,94 %
3.	Selling wood, stone and gravel	5,28 %	1,94 %
4.	Providing services using agric. mechaniz.	8,33 %	10,65 %
5.	Wages for doing agriculture-related work	8,94 %	0,97 %
6.	Leasing agricultural land	0,61 %	0,65 %
7.	Employment outside agriculture	43,70 %	39,68 %
8.	Private business (craft, trade, etc.)	10,37 %	10,97 %
9.	Tourism income	3,25 %	1,29 %
10.	Pension	41,67 %	18,71 %
11.	Social allowance	1,42 %	0,32 %
12.	Disability allowance	7,11 %	1,61 %
13.	Scholarship	1,42 %	0,32 %
14.	Assisted by relatives living abroad	2,64 %	1,29 %

Source: Survey of 802 rural households from 12 municipalities in the RS.

Property (capital) structure

The next task was to research scope and structure of the property that rural households that is farms dispose with and to determine whether there were substantial differences between mountain and lowland regions.

Table 3 - The structure of farm properties in the mountain and lowland regions in the RS

	Characteristic	Type	Mountain region		Lowland region	
			ha	%	ha	%
1.	Land owned by farmers	Arable land	1,17	20,3%	4,03	71,5%
		Orchards	0,26	4,5%	0,32	5,7%
		Vineyards	0,02	0,4%	0	-
		Meadows	2,42	42,1%	0,42	7,4%
		Pastures	1,17	20,3%	0,11	1,9%
		Fish ponds and wetl.	0,02	0,4%	0,01	0,2%
		Forests	0,69	12,0%	0,75	13,3%
	Total	5,75	100%	5,64	100%	

Source: Survey of 802 rural households from 12 municipalities in the RS.

Farms in the mountain region of the RS have slightly more land (for 0.1 ha) from the lowland ones but there are significant differences in its structure. Every second rural farm in the mountain region has a tractor whereas every lowland household has on an average 1.1 tractor. Regardless such difference, it could be said that mountain region farms are well equipped with drive machines but their average number of connecting tools per tractor is significantly lower (5.3 to 3.3).

In terms of facility availability for keeping particular livestock species, agricultural mechanisation and other agricultural production facilities, both mountain and lowland farms have similar facilities, having in mind that every mountain region farm has a stable whereas a small number of the lowland ones do not have stables at all. Mountain region farms have fewer facilities for storing maize, hay, mechanisation, and greenhouses, which is logical because of their production orientation and poorer mechanisations.

Mountain region in the RS is rather specialised for sheep and goat (there are very few goats) breeding and beekeeping, whereas rearing cattle has an important role both in the mountain and lowland region.

Table 4 - The number of livestock owned by farms in the mountain and lowland regions in the RS

	Characteristic	Type of livestock	Mountain region		Lowland region	
			Aver. no.	Piece/ha a.l.	Aver. no	Piece/ha a.l.
1.	Number of pieces of livestock	Cattle	3,7	0,55	4,36	0,55
		Pigs	5,4	1,08	16,94	3,46
		Sheep	15,2	2,25	4,99	0,63
		Goats	3,5	0,52	0,48	0,06
		Poultry	22,7	-	94,72	-
		Horses	0,4	0,05	0,06	0,01
		Bees (hive)	19,4	-	1,45	-

Source: Survey of 802 rural households from 12 municipalities in the RS.

Rural households in the mountain region in the RS on an average have more cherries, sour cherries, strawberries, raspberries, while those in the lowlands have more plums, apples, and pears. Number of trees per hectare that refer to previously declared fruit-growing land (orchards) suggests that fruit-growing is more extensive in the mountain than in the lowland region (around 265 of fruit trees per hectare against 826).

Access to rural services

Unequal development between the mountain region and the lowlands is often explained by unequal presence and access to public infrastructure, facilities and services that people who live there find necessary. Focusing on rural areas only, 20 facilities and 11 services, that rural population deems important for their life and work in these areas, have been researched.

Access to services that rural population in the mountain regions needs is not satisfactory. Every fourth village has a health facility, every third that is fourth (5 or 9 grades) has a school, and every fifth has a post office, collection point and playground. Every tenth village has a veterinary station, cultural centre and butcher's shop, whereas not even every tenth has a pharmacy, agricultural pharmacy, bank, kindergarten, electrical appliances' service or cattle market. The best situation is with shops that 59% of the villages have and restaurants/pubs that are present in every third village in the mountain region. However, even though there are quite a few shops, the closest one is on an average 3.7 km away while restaurants/pubs are 5.4 km away. All other services are even farther from rural households such as a school, from 5-7 km, or a health facility, 8-9 km. Rural communities' handicap in the mountain region in the Republic of Srpska is even more pronounced when it is compared with availability of services in the lowlands. Rural households in the lowlands have an advantage in everything, whether it is the existence of particular facility or its average distance from the beneficiary.

Comparing the situation in the mountain and lowland regions, rural households in the mountain region mainly lag behind when it comes to availability of basic infrastructural services.

Table 5 - Availability of particular services to rural population in the mountain and lowland regions in the RS

	<i>Characteristic</i>	<i>Type</i>	<i>Mountain region</i>	<i>Lowland region</i>
1.	Availability of the service in the village	Water supply	69,72%	39,35%
		Asphalt road	57,93%	79,35%
		Power supply	99,59%	99,68%
		Public transportation (bus)	57,52%	87,10%
		Landline	66,67%	96,77%
		Mobile phone	95,73%	99,03%
		TV signal (regular)	83,33%	98,39%
		TV signal (satellite)	10,57%	4,52%
		Sewage system	16,87%	2,90%
		Waste collection	14,43%	65,81%
		Street lights	13,82%	45,16%
2.	Availability of the service in the household	Electrical power	99,8%	99,03%
		Running water	80,28%	94,19%
		Phone	73,78%	95,81%

Source: Survey of 802 rural households from 12 municipalities in the RS.

Conclusion

The mountain region has more mixed and fewer agricultural and non-agricultural households. In terms of the number of members, households in the lowlands have more members. In regards with age structure of household members there is no significant difference between the two regions.

The mountain households are relatively poorer because even $\frac{2}{3}$ of them generate annual income that amounts to less than BAM 10,000. Agriculture plays lesser role in their income generation, whereas income generated through employment outside agriculture or pension is more important. In terms of income generated through agriculture, selling livestock and milk prevail.

The average land size is not even. In the mountain region, meadows and pastures (62%) dominate, whereas arable land makes most of the land in the lowlands (71%). On an average every lowland farm has a tractor while in the mountain region only every second. Mountain region farms keep more sheep, goats and bees, but fewer pigs and cattle. Mountain region farms grow three times less fruit.

In general, rural mountain population has fewer public facilities available in their villages that meet their needs in comparison to population in the lowlands including the greater average distance from all existing facilities in the mountain region.

Bearing in mind natural differences between mountain and lowland regions (relief, climate, biodiversity, etc) in the Republic of Srpska and by confirming the obvious inequality in development between rural households/farms through research, additional effort should be invested in the future to reduce these economic, social and communal differences by introducing special and differentiating already existing measures so they could lead to this goal and ensure higher financial funds to support development of mountain region.

First of all, need to carry out the identification and classifications of the less favorable areas for dealing with agriculture in the RS, in which will be classified the most of mountainous areas in RS. Mountainous areas should be given special legal privileges (for employment, taxation, lending, entrepreneurship development, etc), additional incentives (higher premium for products produced in mountain areas, specific subsidies and other fees for agricultural production and other activities in mountain areas), intensively invest in construction of rural infrastructure and improving access to public services in these areas. This can largely be achieved through implementation or the adopted the Republic of Srpska Strategic Rural Development Plan for the period 2009-15.

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