



Munich Personal RePEc Archive

# **Economic crisis and its consequences on the living standard and development of the agriculture in Serbia**

Jelocnik Marko and Nastic Lana

17. October 2011

Online at <https://mpra.ub.uni-muenchen.de/35365/>

MPRA Paper No. 35365, posted 12. December 2011 15:15 UTC

---

## CHAPTER VI

### **Economic crisis and its consequences on the living standard and development of the agriculture in Serbia<sup>1</sup>**

---

*Marko Jelocnik<sup>2</sup>, Lana Nastic<sup>3</sup>*

**Abstract:** The economic crisis had transferred to Serbia at the end of 2008, causing the economic growth slowdown and macroeconomic stability endangerment. Agriculture, the strategic branch of national economy was affected as well, and despite favourable climatic, natural, human and technical-technological potentials, it had influenced reduction of agricultural development far below the real possibilities. Prior to the crisis potentials for agricultural development in Serbia were unused. Comprehensive and more intensive institutional support lacked, along with growing necessity for the concept based on profitability, market orientation and competitiveness of national agriculture. All segments of agriculture would have to be harmonized with the policies of agrarian and rural development of EU, mainly in terms of agri-food safety, and economic, social and ecological efficiency of agriculture. Due to decrease in living standard in most of the households in Serbia various survival strategies models have been created, in which the great part of personal consumption is being used for purchase of agri-food products. Changes in local population's daily food consumption are reflected not as much in the reduction of quantities used as in the quality of used nutrients. That leads to a conclusion that to food production in Serbia should be paid greater attention, especially during the period of economic crisis.

**Keywords:** *Republic of Serbia, agriculture, food security, economic crisis, employment*

**JEL classification:** J43, Q11, E21

---

<sup>1</sup> Paper is a part of research project III 46006 - *Sustainable agriculture and rural development in the function of strategic goals achievement within Danube region*, financed by the Ministry of Education and Science of Republic of Serbia, project period 2011-2014.

This chapter is a draft part of a forthcoming Research monograph called „The role of labour markets and human capital in the unstable environment“, which will be edited by Jean Andrei, Drago Cvijanović, and Jovan Zubović.

<sup>2</sup> PhDC, Research Associate, Institute of Agricultural Economics, Volgina Str. 65, Belgrade, Serbia, [marko\\_j@mail.iep.bg.ac.rs](mailto:marko_j@mail.iep.bg.ac.rs)

<sup>3</sup> PhDC, Research Associate, Institute of Agricultural Economics, Volgina Str. 65, Belgrade, Serbia, [lana\\_i@mail.iep.bg.ac.rs](mailto:lana_i@mail.iep.bg.ac.rs)

## INTRODUCTION

Agriculture takes an important place in the economic system of the Republic of Serbia. As all world countries pay great attention to agriculture, at the current level of socio-economic development of Serbia, with due right it can be assigned the title of strategic branch of economy. Rather, if it is known that even countries which do not have adequate conditions for agricultural production development are trying to provide to themselves a certain level of self-sufficiency in elementary agricultural products (Subić, 2010).

Compliance of Serbia with EU accession requirements considers the realization of the National Program for Economic Recovery goals, as well as redefining of the Strategy for long-term development of national agriculture<sup>4</sup>. This approach inevitably perceives both external and internal conditions that impact agricultural and rural development, and according to the aforementioned, there is a need for model which would promote new concept of agriculture and rural development sustainability which would in short time, eliminate all effects of economic crisis in Serbia.

Agricultural production is the branch of the economy characterized by some specificities that largely impact the forming of product prices, such production seasonality, non-harmonized production and demand, as well as variation of achieved yields due to weather conditions. In Serbia on prices forming the largest influence have weather conditions, or yield height, considering that small amounts of agricultural products are stored in modern way.

Influence of prices on living standard is expressed both in producers, as in consumers. Achieving for his product certain price, producer also accomplished a certain income that is intended for personal consumption and which affects his standard of living. However, from the consumers' point of view, increase of prices means a decrease of their living standards. So it could be said that the price of agricultural product on market is a factor that affects both the living standards of producers and consumers (Hodžić et al, 2009).

In relation to EU enlargement and implied perspectives for Serbia, it is evident that future development of domestic agriculture will be focused on production factors. Unfortunately,

---

<sup>4</sup> Global goals of agrarian and rural development in EU are *food security, economic, social and ecological effectiveness*.

current level of national agriculture development is below actual possibilities given by the climate, land fund, human resources, science, etc.

## **MATERIALS AND RESEARCH METHOD**

Research is based on all available data sources: statistical publications of National Statistical Office and FAO<sup>5</sup>, scientific papers and electronic data basis.

Impact of world economic crisis and life standard decline in Serbia on situation in agro-complex are analysed through the following criteria:

1. food security and level of agro-food products consumption;
2. agro-food products price level;
3. employment rate and salary level in agriculture.

According to research goal and available data sources, research was based on desk top research and comparative analysis method, which enables real perceiving of situation regarding selected parameters within serbian agriculture (with short retrospective view on former sfry republics, some EU countries, USA and Japan). Research included both, period prior to global economic crisis and period from its start until current date. Analysed parameters are presented by tables, in absolute and relative numbers.

## **RESULTS AND DISSCUSION**

### **Food Security and Agro-Food Products Consumption**

Main function of agriculture, in any place on Earth, is food production and food safety, and precisely because of alimentation needs of all people, there is a need for sustainable development and modernization of entire agriculture.

---

<sup>5</sup> It is important to note that national and FAO statistical publications often are not adequately updated, nor methodologically and valuably harmonized with other relevant data sources. That might be the reason of some potential valuable data variation.

Some economists consider that agriculture is the backbone of one nation, a vital sector, or framework for rural areas development, while in France it is considered as a green oil of the nation (Zahiu, 2009).

The concept of food security was established after World War II and then formulated within the framework of FAO discussions. Over the years, this concept was developed and promoted in order to find adequate solutions that would be acceptable at the national, regional and global level, in order to fight against poverty and food shortage. Accordingly, FAO defines food security as "direct accesses to needed food for all population" (Zahiu and Dachin, 2001).

Presentation of actual situation regarding food security in Serbia required food consumption analysis both in national and in regional level (countries within region, some EU countries, USA and Japan). Wherever it was possible, five years period prior to economy crisis (2003-2007), was used which reflected food consumption characteristics in Serbia and mentioned countries.

Within observed period, the average consumption of basic food products in Serbia relatively differs from consumption in certain EU countries. The biggest differences are in terms of consumption of cereals, grape, milk, eggs and animal fats, while the smallest differences are at the consumption of meat, vegetables and vegetable oils (*Table 1*).

*Table 1 - Average consumption of basic food products in Serbia and selected EU countries (in kg/capita/year)*

Product	Year	Country				
		Serbia <sup>1</sup>	France	Germany	Poland	Romania
Cereals (total)*	2003	81,50	116,90	108,60	151,30	185,60
	2004	80,60	118,80	110,60	148,60	190,10
	2005	80,60	119,60	114,80	151,40	186,30
	2006	77,60	123,20	115,50	148,60	182,10
	2007	69,60	118,50	114,30	150,30	180,60
Potatoes	2003	38,00	64,70	71,70	128,60	98,30
	2004	47,90	66,90	79,90	128,20	98,70
	2005	48,00	64,10	76,30	126,20	99,00
	2006	44,40	62,70	68,80	132,30	99,00
	2007	36,40	64,90	69,50	122,90	98,00
Vegetables (total)	2003	106,00	108,00	90,80	107,40	195,30
	2004	128,10	113,40	93,10	119,90	199,70
	2005	123,20	104,40	87,90	114,90	185,30
	2006	124,50	97,90	89,60	113,00	193,10

Product	Year	Country				
		Serbia <sup>1</sup>	France	Germany	Poland	Romania
	2007	103,70	98,20	94,50	130,30	151,40
Fruits (total)**	2003	115,60	96,00	98,80	47,40	69,70
	2004	118,40	106,20	90,50	49,30	71,50
	2005	71,20	114,30	99,10	51,20	75,90
	2006	100,70	111,40	85,50	51,70	70,10
	2007	108,50	116,80	88,00	50,00	58,80
Grapes	2003	20,90	2,40	12,30	3,20	5,30
	2004	21,20	2,30	7,00	3,40	5,80
	2005	13,30	2,60	11,20	4,00	2,10
	2006	18,20	1,90	9,70	3,90	3,40
	2007	15,70	3,90	10,70	3,90	4,50
Meat (total)	2003	82,20	98,10	84,50	74,50	60,50
	2004	79,20	93,30	84,30	72,90	54,30
	2005	82,00	90,90	83,80	72,90	63,90
	2006	74,10	86,10	84,10	76,20	63,10
	2007	82,30	88,80	87,90	76,60	63,20
Fish (total)***	2003	2,90	34,00	14,30	8,70	3,90
	2004	4,80	33,40	13,80	9,60	4,20
	2005	4,50	35,20	14,80	9,50	5,20
	2006	-	35,00	14,80	9,50	5,20
	2007	-	34,80	14,80	9,50	5,30
Milk (total)****	2003	160,50	272,20	255,10	195,20	229,80
	2004	159,30	266,50	240,90	180,10	246,60
	2005	162,00	261,90	247,20	176,10	248,80
	2006	151,50	260,00	242,30	188,80	259,40
	2007	154,90	260,50	247,20	198,50	266,20
Eggs (total)	2003	7,00	15,20	12,10	11,60	13,50
	2004	7,50	14,50	12,10	11,60	14,30
	2005	7,10	14,40	11,80	11,70	14,30
	2006	7,00	14,00	12,30	11,30	14,90
	2007	6,70	14,70	12,00	11,60	12,80
Honey	2003	0,30	0,50	1,20	0,10	0,40
	2004	0,40	0,50	1,10	0,10	0,50
	2005	0,40	0,50	1,10	0,10	0,60
	2006	0,40	0,50	1,10	0,10	0,40
	2007	0,30	0,60	1,10	0,10	0,50
Vegetable oils (total)	2003	12,10	18,00	16,70	11,60	13,00
	2004	10,70	17,40	17,00	12,00	11,90
	2005	13,10	19,50	16,30	12,50	14,00
	2006	14,50	21,20	17,40	11,90	14,80
	2007	12,00	20,30	17,30	11,20	13,30
Animal fats (total)	2003	10,40	17,30	21,90	14,50	3,90
	2004	10,40	17,20	20,10	14,50	3,10
	2005	10,90	16,20	20,60	14,30	3,80
	2006	8,80	17,40	21,30	14,30	3,90
	2007	9,80	18,80	20,30	14,60	3,70
Sugar (total)*****	2003	30,70	40,70	49,20	45,60	27,40
	2004	29,10	41,60	50,20	44,50	28,60
	2005	33,80	42,10	51,80	43,60	30,70
	2006	31,30	38,30	50,10	44,50	32,20
	2007	33,30	37,40	51,20	43,70	28,70
Alcoholic beverages	2003	73,10	90,90	140,50	87,10	86,90
	2004	69,50	93,00	136,20	91,30	94,90
	2005	61,00	92,80	133,40	96,20	91,20
	2006	78,90	92,20	140,40	102,70	106,00
	2007	80,20	91,30	136,60	105,80	119,80

\*without brewer's barley; \*\*without wine grape; \*\*\*including seafood;\*\*\*\*without butter; \*\*\*\*\*including sweeteners; <sup>1</sup> data from period 2003-2005 refer to Serbia and Montenegro.

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

Average food consumption in Serbia is uneven, with significant oscillations caused by present situation at domestic market and in foreign trade. National consumer basket is generally characterised by: low consumption level of cereals, potato, milk, eggs, honey, animal fat, plant oils and alcoholic beverages; high consumption level of fruits and vegetables; and satisfying situation regarding meat and sugar consumption.

Current alimentation condition of local population is in greatly reflected by production parameters of agricultural and food products (quantity, quality and continuity), as well as relation between supply and demand in domestic market, so purchasing power often does not meet basic nutritional needs.

In regard to the former republics of Yugoslavia, the consumption of basic agro-food products in Serbia reflects the visible differences in terms of average consumption of potatoes, fruits, eggs, honey, vegetable oils and animal fats. In particular the differences are noticeable in average consumption of cereals, vegetables, meat, milk and alcoholic beverages (*table 2*). Presented deviations are mostly supported by tradition and culture of nutrition, confessional norms, as well as by different levels of living standard of the population within observed region.

*Table 2 - Average consumption of basic food products in countries – former republics of Yugoslavia (in kg/capita/year)*

Product	Year	Country				
		Slovenia	Croatia	B & H	Montenegro*	Macedonia
Cereals (total)**	2003	137,50	117,70	188,50	81,50	131,30
	2004	130,00	122,10	178,90	80,60	136,30
	2005	138,20	123,40	174,70	80,60	138,80
	2006	136,70	125,40	170,80	67,00	135,30
	2007	141,00	119,40	169,30	67,40	135,20
Potatoes	2003	55,90	105,90	82,40	38,00	48,40
	2004	62,00	77,50	93,60	47,90	58,00
	2005	61,60	68,60	91,00	48,00	57,50
	2006	62,20	65,30	80,40	191,60	51,90
	2007	64,20	68,60	77,40	178,20	53,50
Vegetables (total)	2003	77,20	104,70	179,50	106,00	159,50
	2004	83,80	80,20	206,30	128,10	149,20
	2005	87,30	72,50	204,50	123,20	141,70

Product	Year	Country				
		Slovenia	Croatia	B & H	Montenegro*	Macedonia
	2006	87,80	88,50	212,30	173,80	143,20
	2007	77,40	92,30	197,30	163,10	157,50
Fruits (total)***	2003	140,80	90,40	60,50	115,60	92,40
	2004	163,10	69,20	111,40	118,40	102,50
	2005	155,50	73,80	105,70	71,20	96,80
	2006	135,60	95,20	92,40	70,00	107,60
	2007	120,50	101,50	92,40	71,70	99,70
Grapes	2003	38,40	18,50	3,20	20,90	36,70
	2004	45,00	9,50	5,30	21,20	28,80
	2005	44,40	19,70	6,70	13,30	29,90
	2006	36,00	19,40	7,00	20,40	5,30
	2007	34,00	22,90	5,70	15,10	8,20
Meat (total)	2003	92,70	41,90	19,60	82,20	37,80
	2004	88,40	44,30	19,70	79,20	40,20
	2005	90,60	39,90	21,70	82,00	37,90
	2006	86,30	47,30	20,10	32,10	38,00
	2007	83,90	50,10	21,30	46,50	50,60
Fish (total)****	2003	8,30	14,40	5,80	2,90	5,00
	2004	9,50	13,50	6,80	4,80	5,40
	2005	9,40	15,30	7,50	4,50	4,80
	2006	9,40	15,30	6,80	-	4,80
	2007	9,40	15,30	6,80	-	4,80
Milk (total)*****	2003	233,60	179,50	161,50	160,50	111,00
	2004	248,70	189,30	171,30	159,30	122,40
	2005	242,80	201,50	183,50	162,00	119,90
	2006	241,40	216,30	183,20	304,90	128,40
	2007	246,40	217,50	196,70	305,90	137,10
Eggs (total)	2003	6,90	11,00	4,50	7,00	7,40
	2004	5,50	10,20	4,20	7,50	9,20
	2005	6,00	10,50	5,10	7,10	8,90
	2006	6,50	10,80	4,60	3,60	9,10
	2007	8,90	10,80	5,30	5,80	8,40
Honey	2003	0,90	0,10	0,40	0,30	0,50
	2004	1,20	0,50	0,70	0,40	0,40
	2005	1,00	0,60	0,70	0,40	0,50
	2006	1,40	0,40	0,90	0,80	0,40
	2007	0,90	0,40	0,80	0,80	0,50
Vegetable oils (total)	2003	13,30	15,50	7,40	12,10	14,10
	2004	14,10	15,20	7,70	10,70	16,30
	2005	12,80	16,60	8,80	13,10	15,70
	2006	12,80	17,10	9,00	1,60	17,80
	2007	12,70	15,90	6,60	2,20	18,10
Animal fats (total)	2003	15,20	3,20	1,70	10,40	7,00
	2004	17,90	5,00	2,10	10,40	7,20
	2005	16,10	4,40	2,00	10,90	7,60
	2006	16,30	5,40	1,80	0,80	9,70
	2007	16,70	6,40	1,70	0,80	10,90
Sugar (total)*****	2003	20,30	62,40	15,40	30,70	37,30
	2004	22,70	64,20	16,60	29,10	38,90
	2005	23,80	69,00	17,40	33,80	35,10
	2006	23,00	55,70	19,60	41,70	36,00
	2007	24,10	43,30	25,60	36,20	36,40
Alcoholic beverages	2003	81,50	127,50	57,90	73,10	43,10
	2004	96,90	125,60	63,50	69,50	45,10
	2005	103,60	111,20	66,40	61,00	43,10
	2006	97,40	103,10	78,60	45,20	38,40



Product	Year	Country				
		Slovenia	Croatia	B & H	Montenegro*	Macedonia
	2007	103,80	113,50	81,30	34,30	37,10

\*Data from period 2003-2005 refer to Serbia and Montenegro; \*\*without brewer's barley; \*\*\* without wine grape; \*\*\*\*including sea fruits; \*\*\*\*\*without butter; \*\*\*\*\*including sweeteners;

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

As developed countries pay great attention to ensuring food security, allocating accordingly significant budgetary assets for supporting the development and promotion of agriculture, is presented also food consumption in the EU, USA and Japan (table 3.).

Table 3 - Average consumption of basic food products in EU, USA and Japan (in kg/capita/year)

Product	Year	Country		
		EU	USA	Japan
Cereals (total)*	2003	125,30	109,90	117,80
	2004	125,50	108,40	117,10
	2005	126,30	109,00	117,60
	2006	125,80	110,50	115,40
	2007	125,10	111,60	115,10
Potatoes	2003	80,20	65,20	22,10
	2004	81,50	63,60	22,50
	2005	78,90	58,30	22,00
	2006	76,60	56,10	21,10
	2007	76,50	55,60	22,60
Vegetables (total)	2003	121,50	121,00	107,50
	2004	128,20	124,70	105,30
	2005	121,30	117,60	107,80
	2006	116,90	122,30	106,20
	2007	117,30	127,60	106,20
Fruits (total)**	2003	101,80	112,80	55,40
	2004	104,90	114,50	57,80
	2005	108,70	110,00	60,60
	2006	108,50	108,10	55,60
	2007	104,40	111,00	58,20
Grapes	2003	9,30	7,20	2,30
	2004	8,00	6,10	2,30
	2005	8,50	8,90	2,30
	2006	8,60	8,20	2,30
	2007	9,50	8,50	2,40
Meat (total)	2003	86,20	121,50	44,70
	2004	85,20	124,10	44,10
	2005	84,80	123,60	46,50
	2006	84,60	123,90	45,70
	2007	86,20	122,80	46,10
Fish (total)***	2003	21,80	23,70	65,20
	2004	21,60	24,30	62,10
	2005	22,20	23,80	60,80
	2006	22,10	24,60	60,80
	2007	22,00	24,10	60,80
Milk (total)****	2003	240,00	257,40	78,70
	2004	235,90	253,50	78,80
	2005	239,90	254,00	77,70

Product	Year	Country		
		EU	USA	Japan
	2006	239,00	249,70	75,30
	2007	241,40	253,80	76,40
Eggs (total)	2003	12,30	14,50	19,20
	2004	12,70	14,60	18,90
	2005	12,20	14,50	19,10
	2006	12,30	14,50	19,00
	2007	12,40	14,30	19,60
Honey	2003	0,60	0,60	0,40
	2004	0,60	0,50	0,40
	2005	0,70	0,60	0,40
	2006	0,70	0,60	0,30
	2007	0,60	0,50	0,30
Vegetable oils (total)	2003	18,20	26,20	14,90
	2004	18,60	26,80	15,80
	2005	18,80	29,70	15,80
	2006	19,80	29,50	15,80
	2007	19,40	29,10	15,60
Animal fats (total)	2003	13,30	5,60	1,80
	2004	12,80	5,50	1,70
	2005	12,90	5,80	1,80
	2006	13,10	5,70	1,80
	2007	13,30	5,70	1,80
Sugar (total)****	2003	40,80	69,10	29,90
	2004	41,30	69,80	29,90
	2005	40,80	69,30	28,60
	2006	38,10	68,80	27,80
	2007	39,20	67,60	30,10
Alcoholic beverages	2003	109,30	99,80	47,50
	2004	109,10	100,00	46,70
	2005	108,40	99,90	43,90
	2006	110,10	99,90	44,20
	2007	109,10	98,30	47,10

\*without brewer's barley; \*\*without wine grape; \*\*\*including seafood; \*\*\*\*without butter; \*\*\*\*\*including sweeteners.

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

In previous case, the criterion is not living standard and purchasing power of the local population, as consumer habits, geographical distribution, food tradition and culture. It could be seen that the consumption of basic agro-food products in Serbia is significantly lower than in the EU (cereals, grape, milk, eggs and animal fats) and USA (cereals, meat, milk, eggs, vegetable oils and sugar). On the other hand, Japan is traditionally great consumer of fish and seafood.

Table 4 - Energetic value of average food consumption in Serbia and selected EU countries

Element	Year	Country				
		Serbia	France	Germany	Poland	Romania
Food supply (kcal*/capita/day)	2003	2.694*	3.599	3.495	3.384	3.425
	2004	2.700*	3.569	3.496	3.354	3.419
	2005	2.703*	3.586	3.524	3.377	3.514
	2006	2.748	3.541	3.519	3.394	3.562

Element	Year	Country				
		Serbia	France	Germany	Poland	Romania
	2007	2.710	3.532	3.547	3.421	3.455
Protein supply (g/capita/day)	2003	74,40*	117,20	100,10	100,00	108,20
	2004	77,50*	115,10	98,60	99,10	108,50
	2005	75,90*	113,80	98,70	99,70	111,20
	2006	74,40	112,30	98,60	101,20	111,50
	2007	74,70	112,90	101,00	102,70	109,90
Fat supply (g/capita/day)	2003	118,00*	168,40	143,70	112,90	103,70
	2004	111,90*	161,80	142,00	111,80	97,30
	2005	121,50*	163,90	140,60	113,30	107,70
	2006	119,80	163,20	143,50	113,70	112,10
	2007	119,50	164,70	144,30	113,90	107,60

\*1kcal = 4.184 j; \*\* data for Serbia and Montenegro;

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

In today's circumstances, provoked by effects of the global economic crisis, consumption of basic agro-food products in Serbia is below the EU average. Decline in living standard significantly contributed to the decrease in trade and consumption of agricultural and food products, which could be best seen through the current meat consumption (per capita). Serbian average is 43,3 kg (from which beef 4 kg, pork 16 kg, lamb 1,3 kg, poultry 17,4 kg and other types of meat 4,6 kg). The annual consumption of cow's milk (without processed products) in average is 56,50 l/capita, while the average consumption of fruits is on the level of 62,1 kg/capita and vegetables, 136,1 kg/capita.

It is certain that the future of humanity is closely linked to the food security, where its basic elements are contained in the provision of necessary food per capita (expressed in calories and proteins), as to the financial strength of the population for obtaining it. That induces necessity of nutrition and agricultural policies harmonization (the main goal would be in covering quantitative and qualitative nutritional needs of all population, by food that is accessible to all social categories).

Table 5 - Energy value of average food intake in former SFRY republics

Element	Year	Country				
		Slovenia	Croatia	Bosnia and Herzegovina	Montenegro	Macedonia
Food supply (kcal*/capita/day)	2003	3.106	2.885	2.944	2.694**	2.823
	2004	3.182	2.970	3.076	2.700**	2.971
	2005	3.226	2.992	3.091	2.703**	2.869
	2006	3.212	2.978	3.082	2.443	2.974
	2007	3.223	2.990	3.078	2.447	3.105

Protein supply (g/capita/day)	2003	99,70	75,50	83,90	74,40**	72,90
	2004	98,80	75,30	88,10	77,50**	76,60
	2005	101,80	75,90	88,60	75,90**	73,70
	2006	101,20	79,50	87,40	70,20	74,70
	2007	101,30	80,10	88,20	74,40	79,00
Fat supply (g/capita/day)	2003	120,00	94,30	62,70	118,00**	96,20
	2004	123,80	100,30	70,00	111,90**	105,30
	2005	120,00	103,10	75,10	121,50**	103,10
	2006	121,60	108,50	75,00	63,7	114,40
	2007	121,60	110,50	70,20	70,3	125,50

\*1kcal = 4.184 j; \*\* data for Serbia and Montenegro;

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

According to FAO, the needed energy for average adult person is, at least 2.200 kcal/day, while the critical point of hunger is in the range of 1.460-1.620 kcal/day. During the last decade, energy value of daily meal on the world level was 2.699 kcal/day (3.236 kcal/capita/day in developed countries, or 2.412 kcal/capita/day in developing countries). Following table shows the average (daily) energy value of food consumed in Serbia and some EU countries.

Serbia significantly lags behind certain eu member states in daily consumption of calories and proteins, while at fat consumption it somewhat follows their standards (Poland and Romania).

Compared to former Yugoslav republics, except Slovenia, Serbia is below Croatia, Bosnia and Herzegovina and Macedonia, while the average energy level of daily meal is higher than in Montenegro (*table5*).

The complete picture could be seen by an overview of energy and nutritional value of average (daily) meal in some developed world economies (*table 6*).

*Table 6 - Energetic value of average food consumption in EU, USA and Japan*

Element	Year	Country		
		EU	USA	Japan
Food supply (kcal*/capita/day)	2003	3.455	3.751	2.827
	2004	3.465	3.785	2.831
	2005	3.466	3.796	2.821
	2006	3.455	3.766	2.786
	2007	3.466	3.748	2.812
Protein supply (g/capita/day)	2003	105,60	113,60	93,70

	2004	105,20	114,70	91,50
	2005	105,10	114,30	92,10
	2006	104,90	113,70	91,40
	2007	105,60	113,60	91,80
Fat supply (g/capita/day)	2003	140,40	157,10	87,80
	2004	139,90	160,20	89,80
	2005	141,00	162,90	90,50
	2006	143,60	160,20	89,80
	2007	143,70	160,20	89,60

\*1kcal = 4.184 j;

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

Apart from presented, it would be good to give a short overview of the structure (origin) of consumed calories and proteins daily in observed countries. In fact, despite some deviations from the standpoint of tradition, food culture and religion, rule of the thumb is that the daily meal in more developed economies is richer in energy and proteins from animal products (*Table 7*). Also, it is expected that with decrease in living standard, structure of consumed calories and proteins daily will generally shift to toward calories and proteins obtained from vegetable products, or from cheaper animal products substitutes. Indisputable determination of Serbia for EU approaching imposes the need for harmonization of national nutritional meal value with the Community average.

*Table 7 - Origin of energy and proteins in daily nutrition (in %, 2007)*

Element	Serbia		Eu		Germany		France	
Energy	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	64,6	35,4	70,4	29,6	69,6	30,4	65,0	35,0
Proteins	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	41,4	58,6	41,2	58,8	39,7	60,3	35,2	64,8
Element	Romania		Slovenia		Croatia		B and h	
Energy	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	74,2	25,8	71,2	28,8	75,3	24,7	83,7	16,3
Proteins	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	49,6	50,4	43,5	56,5	46,9	53,1	65,6	34,4
Element	Montenegro		Macedonia		Usa		Japan	
Energy	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	66,1	33,9	77,0	23,0	72,6	27,3	79,2	20,8

<b>Proteins</b>	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.	Veget.	Anim.
	40,1	59,9	55,7	44,3	35,6	64,4	43,3	56,7

Source: <http://faostat.fao.org/site/368/default.aspx#ancor>

### Agri-food products' price levels

An unwritten rule is that during the crisis period used quantities of basic agro-food products are not subject to greater changes as they meet the basic life needs of the population. The necessity of buying these stresses the importance of their prices trend, as well as their impact on households' budgets. The important elements during the agricultural products price determination are height of input prices and achieved yields. By analysis of average prices of basic agro-food products in 2008, 2009 and 2010, it can be said that the prices in 2010 were at the same, or in some cases slightly below level, compared to the previous years (*Table 8*). On the other hand, if observed is just a trend of average prices during 2010, prices of many products had a growing tendency (sunflower oil, pork meat, refined sugar, semi-white bread, fresh milk, etc.), where the highest price-jump has been seen in vegetable oil. According to producers, processors and retailers further growth of elementary agro-food products prices in following period could be expected.

*Table 8 - Average retail prices (in RSD)*

<b>Products</b>	<b>Year</b>		
	<b>2008</b>	<b>2009</b>	<b>2010</b>
Bread - wheat flour type 850, kg	57,64	57,33	-
Semi-white bread, kg	-	-	54,88
Bread - wheat flour type 500, kg	70,28	70,61	-
Wheat flour type 500, kg	51,97	47,18	42,04
Potato, kg	34,66	31,10	37,53
Beans, kg	187,96	201,81	195,92
Onion, kg	39,91	38,66	60,52
Apples, kg	64,44	57,89	56,18
Beef - boneless, kg	469,56	547,77	419,79
Veal meat - boneless, kg	743,23	853,50	-
Pork meat - boneless, kg	420,57	458,16	366,11
Lamb meat, kg	541,47	599,17	-
Chicken meat, kg	207,81	210,73	198,13
Eggs - chicken, pcs	9,49	10,49	9,47
Milk – fresh, ℓ	56,61	52,57	55,60
Cheese – white – soft, kg	231,19	254,24	260,37
Butter, kg	612,07	615,67	670,34
Seam, kg	92,32	140,18	137,26
Sunflower oil, ℓ	127,03	107,14	104,20

Margarine, kg	187,51	198,59	205,24
Sugar – refined, kg	58,65	61,40	68,37
Coffee, kg	589,80	696,13	728,54
Salt, kg	27,30	30,05	31,35
Milk chocolate, kg	774,19	869,52	770,62

Source: Statistical yearbook 2009, RZS, Belgrade, 2009; Statistical yearbook 2010, RZS, Belgrade, 2010; Monthly statistical review, January - December 2010, RZS, Belgrade, 2010, 2011.

Statistical office of the Republic of Serbia defines the Consumer price index (CPI) as the average change in retail prices of goods and services in personal consumption. According to them, in 2010 retail prices were increased in average for 6.5% in compare to previous year. With January 2011 prices are higher for 1.4% compared to previous month.

*Table 9 - Available assets and personal consumption, monthly average per member of household (in 2008, 2009 and 2010)*

Element	2008		2009		2010	
	RSD	%	RSD	%	RSD	%
<b>All households</b>						
<b>Available assets – total</b>	<b>14.315</b>	<b>100,00</b>	<b>15.880</b>	<b>100,00</b>	<b>16.114</b>	<b>100,00</b>
Households' income in cash	13.562	94,70	15.027	94,60	15.238	94,60
Households' income in kind	753	5,30	853	5,40	876	5,40
<b>Personal consumption – total</b>	<b>13.191</b>	<b>100,00</b>	<b>14.183</b>	<b>100,00</b>	<b>14.438</b>	<b>100,00</b>
Food and non-alcoholic beverages	5.451	41,30	5.856	41,20	5.934	41,10
Alcoholic beverages and tobacco	589	4,50	633	4,50	641	4,40
<b>Urban area</b>						
<b>Available assets – total</b>	<b>15.780</b>	<b>100,00</b>	<b>17.474</b>	<b>100,00</b>	<b>16.730</b>	<b>100,00</b>
Households' income in cash	15.641	99,10	17.306	99,00	16.569	99,00
Households' income in kind	139	0,90	168	1,00	161	1,00
<b>Personal consumption – total</b>	<b>14.263</b>	<b>100,00</b>	<b>15.444</b>	<b>100,00</b>	<b>15.120</b>	<b>100,00</b>
Food and non-alcoholic beverages	5.702	40,00	6.164	39,80	6.023	39,80
Alcoholic beverages and tobacco	592	4,10	626	4,10	600	4,00
<b>Other areas</b>						
<b>Available assets – total</b>	<b>12.280</b>	<b>100,00</b>	<b>13.813</b>	<b>100,00</b>	<b>15.226</b>	<b>100,00</b>
Households' income in cash	10.695	87,10	12.064	87,30	13.325	87,50
Households' income in kind	1.585	12,90	1.749	12,70	1.901	12,50
<b>Personal consumption – total</b>	<b>11.771</b>	<b>100,00</b>	<b>12.549</b>	<b>100,00</b>	<b>13.460</b>	<b>100,00</b>

Element	2008		2009		2010	
	RSD	%	RSD	%	RSD	%
Food and non-alcoholic beverages	5.114	43,60	5.457	43,50	5.805	43,10
Alcoholic beverages and tobacco	584	5,00	644	5,10	701	5,20

Source: *Statistical yearbook for 2009 and 2010, RZS, Belgrade 2009, 2010. Statement no. 79, Questionnaire of households' consumption, RZS, Belgrade, March 2011;*

Importance and impact of food prices on households' budget is best illustrated by the fact that per average household member, during the period 2008-2010, within the structure of personal consumption, expenditures for food and non-alcoholic beverages dominated with 41% (*Table 9*). Apart from that, in observed period, average household received more than 94% of income in cash.

The share of food and non-alcoholic beverages in personal consumption in urban areas is on slightly lower level (39.8% in 2009 and 2010, or 40,0% in 2008) compared to other areas (share varied in the interval from 43,1% to 43,6%). Also, the available assets per household member are much higher in urban areas, in which household incomes in cash are around 99% in structure.

## EMPLOYMENT AND SALARIES IN AGRICULTURE

Currently, the number of agricultural population and size of labour contingent within national agriculture can only be a result of estimations based on *Census of population, households and residences in 2002*. According to this document, agricultural population is 817.052 inhabitants (around 11% of total population in Serbia), with 529.236 inhabitants being economically active<sup>6</sup>. It should be said that in last few years, influenced by transitional processes and effects of economic crisis, many people looked for additional income in agriculture, or after quitting some economic activities; they have found a primary income in agro complex.

Dominant part of Serbian territory has characteristics of rural areas, where over 40% of total population lives. Most of these areas are either in phase of dying (senility) or demographic evacuation (expressed migratory processes). Based on estimations, currently less than 750.000

---

<sup>6</sup> Among dependants (287.816) most of persons are in different ways involved in accomplishing of agricultural activities within their family husbandries.



agricultural households exist, from which around 490.000 households are with registered husbandry. Unfortunately, small number of them is market oriented (for example, in 2009, approximately 80.000 husbandries have realized a right to use subsidies for agriculture).

General characteristics of present labour contingent in rural areas are: expressed migrations, senility, bad educational structure and insufficient level of professional skills, and they are primary cause to extensive production, aggravating breakthrough of innovations, variable quality of products, low productivity, bad production structure, absence of cooperation, etc.

Strategic orientation of Serbia for agriculture development opens the question of commercial husbandries' position strengthening, considering that they have on disposal the most of production potentials. Mentioned issue, before all, have in focus a necessary support from competent institutions, with main goal to habilitate them to achieve full profitability, as well as in segment of construction of missing rural and market infrastructure.

The effects of the global economic crisis that led to reduction of budgetary assets for the Ministry of Agriculture, certainly didn't contribute to to above. In 2009 and 2010 it was around 25.6 billion RSD (3.4% of total budgetary expenses), while by the Law on budget for 2011 the agriculture is granted around 32.6 milliard RSD. The agrarian budget was characterized as developmentally limited, since agriculture, as strategic economy branch, with significant share in total GDP and positive foreign trade balance deserves much higher assets during the crisis period (current agricultural budget is twice smaller than the budget 2008).

Human resources in agriculture means labour linked to execution of agricultural activities, technical coordination, organization and management of resources in function. Table 10 gives an overview of the municipalities with maximal and minimal participation of active agricultural population in total agricultural population in 2009, in order to perceive areas that use the best available human potential in agriculture.

According to presented indicator, the leadership position has Svrljig municipality, while the last one is Kula municipality. Shown indicators for selected municipalities are either significantly above, or below the republic average. Individual farmers dominate in the structure of active agricultural population.

Table 10 - Municipalities in Serbia with the highest/lowest participation of active agricultural population in total agricultural population (in 2009.)

Territorial unit	Agricult. population	Active agri. Population	Individual agriculturalists	Share of active agri. pop. in total agri. pop.
<b>Serbia</b>	<b>817.052</b>	<b>529.236</b>	<b>487.703</b>	<b>64,8</b>
<i>Municipalities with highest participation</i>				
Svrljig	3.702	3.161	3.122	85,40
Bor	2.098	1.774	1.694	84,60
Trgovište	1.270	1.048	1.028	82,50
Gadžin Han	1.458	1.159	1.148	79,50
Majdanpek	2.112	1.673	1.567	79,20
<i>Municipalities with lowest participation</i>				
Kula	3.429	1.593	1.106	46,40
Preševo	6.223	2.913	2.877	46,80
Srbobran	3.088	1.546	1.159	50,00
Bujanovac	8.267	4.220	4.108	51,00
Vrbas	2.030	1.047	639	51,60

Source: Statistical yearbook – Municipalities in Serbia 2010, RZS, Belgrade, 2010.

It might be interesting to present an overview of employees within agriculture sector in legal entities – enterprises, institutions, cooperative farms, organizations and small companies (up to 50 employees) during the period 2008-2010, selected by territorial units (Table 11).

Table 11 - Territorial units with the highest number of employees in enterprises and collective farms within the sector of agriculture (period 2008–2010.)

Territorial unit	Employees	
	Total	Agriculture, forestry, water management and fishery
<b>2008.</b>		
<b>Serbia</b>	<b>1.428.457</b>	<b>49.528</b>
Palilula	45.192	2.672
Novi Sad	102.135	2.365
Sombor	16.713	1.960
Pančevo	26.069	1.857
Bačka Topola	7.064	1.718
<b>2009.</b>		
<b>Serbia</b>	<b>1.396.792</b>	<b>46.429</b>
Palilula	45.074	2.678
Novi Sad	100.080	2.320
Sombor	15.811	1.715
Pančevo	24.136	1.652
Bačka Topola	6.619	1.634
<b>2010.</b>		
<b>Serbia</b>	<b>1.354.637</b>	<b>43.384</b>

Palilula	43.154	2.738
Novi Sad	98.567	2.348
Bačka Topola	5.991	1.637
Sombor	24.679	1.538
Zrenjanin	15.103	1.524

*Source: Statistical yearbook – Municipalities in Serbia 2009 and 2010, RZS, Belgrade, 2009, 2010; employed persons in Republic of Serbia in 2010, RZS, Statement no. 19, January 2011.*

At the republic level, participation of employees from the enterprises within agriculture sector in the total number of employees, in analysed period had ranged from 3.2-3.5%. In all three observed years, the leadership position, with the highest number of employees in agriculture sector, had Palilula municipality (around 2.700 employees, or 6.0% of totally employed persons in companies and cooperatives of national agriculture), as a result of position of PKB concern on mentioned territory.

Among shown municipalities, Bačka Topola is a territorial unit with the highest share of employees from the observed sector within totally employed persons in companies and cooperatives on its territory (in observed period, participation was ranged from 24,3-27,3%). As on the territory of Vojvodina dominant part of high quality agricultural potentials is located, it seems logical that the municipalities from this area have the most of employees in agrarian sector (within business entities).

Also, the observed period is characterized by constant negative trend of employed persons in agricultural enterprises within the territory of Serbia (decrease for over 6 thousand workers, i.e. 14%), the most often as a consequence of unfinished or badly conducted privatization of agricultural enterprises, as well as effect of the global economic crisis (lack of financial and material assets for agriculture and slow development of enterprises). Unfortunately, in following period further decrease of employees in agricultural enterprises and cooperative farms could be expected.

The rural areas of Serbia provide real possibilities for employment of fairly large number of employees, regarding that those are the territories in which maximal employment effects with minimal investments could be achieved (e.g. multi-functionality of current agriculture provisions the use of available resources, not only to food production, but also to energy production, grow of medicinal herbs, hunting, fishery, etc.).

Guided by this, employment would initiate development of certain rural areas, as well as more balanced development of all areas within Serbia, and parallel with development of agriculture development of other economic activities will occur (tourism, transportation, trade, catering, etc.). However, existing limitations of human capital and business entities in agrarian sector require appropriate activities that will support their development, such as: permanent education, scientific-technological transfers, introduction of quality system, standardization, tax exemptions that will encourage the work of SME's in rural areas, etc.

Throughout analysed period gross salary per employee in non-economic activities were at higher level than salaries achieved in economic activities (*Table 12*).

*Table 12 - Average gross salary per employee in Serbia  
(period 2008-2011, in RSD)*

<b>Element</b>	<b>Year</b>	<b>Jan.</b>	<b>Feb.</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>
Total	2008	39.331	43.218	42.873	45.355	44.835	45.608
Economic	2008	38.209	40.680	40.135	42.747	41.915	43.332
Non-economic	2008	41.453	47.985	47.992	50.128	50.233	49.806
Total	2009	40.245	43.353	42.213	45.304	43.183	44.246
Economic	2009	38.153	39.562	38.032	41.526	39.628	40.684
Non-economic	2009	44.844	51.485	51.624	53.295	51.010	51.828
Total	2010	41.651	44.871	46.457	48.525	46.454	47.486
Economic	2010	40.635	41.488	43.337	45.857	43.950	45.033
Non-economic	2010	43.741	51.828	52.731	53.850	51.552	52.355
Total	2011	47.382	49.394	49.633	54.532	49.064	54.616
<b>Element</b>	<b>Year</b>	<b>July</b>	<b>Aug.</b>	<b>Sep.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>
Total	2008	46.115	46.222	46.015	47.883	46.944	53.876
Economic	2008	43.504	43.927	43.837	44.826	44.177	49.191
Non-economic	2008	50.934	50.458	50.007	53.412	51.910	62.232
Total	2009	45.307	43.597	43.577	44.147	43.895	51.115
Economic	2009	42.055	40.074	40.114	40.637	40.400	46.539
Non-economic	2009	52.238	51.265	51.069	51.641	51.256	60.422
Total	2010	48.394	47.190	48.016	47.822	47.877	54.948
Economic	2010	45.965	44.577	45.604	45.448	45.440	51.165
Non-economic	2010	53.169	52.455	52.814	52.552	52.666	62.327
Total	2011	54.164	53.285	-	-	-	-

Source: [www.cekos.rs](http://www.cekos.rs)

For a long time, employees in the sector of financial intermediation, energy production, mining and public administration, generate the highest salaries in the Republic. Employees in agriculture, forestry, water management, fishery, processing industry, trade, construction and hotel management are in much unfavourable situation.

In Table 13, the average salaries per employee in Serbia (after tax deductions – net salaries) are shown, expressed as the average salaries for all economic activities, or achieved in sector of agriculture, forestry and fishery. Much lower level of salaries earned in agriculture compared to the average salary from all economic activities (for 22.7% in 2008, or 15% in 2009) is noticeable. Also, presented is the overview of municipalities with highest and lowest net salary in agriculture, forestry and water management in observed period.

**Table 13 - Municipalities in Serbia where the highest and the lowest net salaries per employee in sector of agriculture are achieved (in 2008 and 2009, in RSD)**

Territorial unit	Net income per employee	
	All activities - average	Agriculture, forestry and water management
<b>2008</b>		
<b>Serbia</b>	<b>32.746</b>	<b>26.696</b>
<i>Highest net salary per employee in the sector of agriculture</i>		
Stara Pazova	31.799	42.796
Despotovac	29.667	40.052
Sremska Mitrovica	32.629	38.456
Užice	31.697	37.938
Palilula	40.971	37.656
<i>Lowest net salary per employee in the sector of agriculture</i>		
Bojnik	15.502	5.015
Vladičin Han	14.945	6.021
Svilajnac	27.983	7.644
Žabari	27.619	7.902
Bosilegrad	22.668	8.730
<b>2009</b>		
<b>Serbia</b>	<b>31.733</b>	<b>27.582</b>
<i>Highest net salary per employee in the sector of agriculture</i>		
Velika Plana	26.958	43.231
Stara Pazova	25.166	40.933
Despotovac	29.981	39.660
Užice	30.542	38.919
Palilula	41.783	38.874
<i>Lowest net salary per employee in the sector of agriculture</i>		
Knjaževac	18.977	5.889
Sjenica	25.104	6.322
Medveđa	24.396	6.506
Ljig	23.282	7.779
Sremski Karlovci	28.832	9.035

Source: Statistical yearbook – Municipalities in Serbia - 2009, 2010; RZS, Belgrade, 2009, 2010.

Net salaries in top five municipalities with the highest salaries in the sector of agriculture are significantly above republican level for this branch of economy<sup>7</sup>. Similarly, net salaries in top five municipalities with the lowest salaries in the sector of agriculture are much lower than the republican average for agriculture. Maximal salaries are usually achieved within the municipalities where larger farmers and enterprises from food processing industry are concentrated. Minimal salaries were earned in municipalities where, in spite of the existence of favourable conditions for the organization of agricultural production, this activity was marginalized. Ratio between maximal and minimal salary achieved in agriculture during 2008 was 1:8.6, and in 2009, 1:7.3.

## CONCLUSION

From the aspect of food security, it can be concluded that the average consumption of basic agro-food products in serbia (per capita) has the decreasing trend and still significantly lags behind, in terms of volume and energy, consumption in developed world economies (EU, USA, Japan).

In spite of the given overview, which does not show the satisfactory image about the average food consumption in serbia, it should not be forgotten that national statistics does not include all realized food and alcoholic beverages consumption at family husbandries (natural consumption), and consequently, there is enough space for excepting unofficial claim that most countries in the region can envy us on the food and beverages consumption.

The impact on the stability and price level of agricultural and agro food products are of special importance during the crisis period. Price analysis of certain agricultural and agro food products, during the period 2008-2010, shows their relative stability. On the other hand, in the observed period in Serbia in the structure of total personal consumption of husbandries, food and beverages expenses participated with 40% in average.

Previous period was characterized by constant decrease of the number of persons included in the realization of agricultural activities (employed in enterprises and cooperatives, and indi-

---

<sup>7</sup> Some Belgrade municipalities, where high average net salary in agriculture is reported, but where small number of employees work, are excluded, as their inclusion would significantly affect the possible conclusions.

vidual producers). Besides that, average salaries achieved in sector of agriculture, forestry, water management and fishery are at lower level compared to salaries earned in most of economic or non-economic branches. Mentioned is mostly the consequence of: unfinished or badly conducted privatisation of agricultural enterprises, obsolete and slow development of material base in agriculture and negative impacts of global economic crisis (lack of investment assets necessary for national agriculture). It is reasonable to expect that in the following period number of involved persons and level of achieved salaries in the sector of agriculture will still decrease.

## REFERENCES

- Bogdanov, N. (2008): *Small rural households in Serbia and rural non-farm economy*. UNDP, DAES, Belgrade, Serbia.
- Census of population, households and residences in 2002 - Agriculture*, book 2. SORS, 2003, Belgrade, Serbia.
- Cvijanović D., Vlahović B., Milić D. (2007): *Zapošljavanje u ruralnim područjima Srbije - činilac povećanja proizvodnje i izvoza hrane*. Economics of Agriculture, no. 1/2007, IAE, Belgrade, Serbia.
- Employed persons in Republic of Serbia in 2010*, Statement no. 19, SORS, January 2011.
- Hodžić K., Čejvanović F., Kapić R., Tatić K. (2009): *Teorija tržišta i cijena*. IAE Belgrade, Serbia, Faculty for business management Mostar, BiH.
- Jeločnik M., Arsić Slavica, Potrebić V. (2008): *Estimation of agricultural situation in a typical municipality of the Kolubara district, Republic of Serbia*. Scientific Papers (Series "Management, Economic Engineering in Agriculture and Rural development"), Vol. 8/2008, Bucharest, Romania.
- Jeločnik M., Cvijanović D., Cicea C. (2007): *Importance of transportation and telecommunications infrastructure for rural development of Serbia in the context of European integrations*, Scientific Papers (Series "Management, Economic Engineering in Agriculture and Rural development"), Vol. 7/2007, Bucharest, Romania.
- Jeločnik M., Ivanović Lana, Subić J. (2011): *How strong is Serbian agriculture – comparative analysis of few agricultural indicators of Serbia and Romania*. Monograph - Serbia and the European Union: economic lessons from the new member states. University of Coimbra, Portugal.
- Jeločnik, M. (2009): *Karakteristike organizacionih oblika subjekata u poljoprivredi*. Master Tesis. Faculty of agriculture Novi Sad, Serbia.
- Macroeconomic analysis and prognosis*. Vol. 1, no. 1-2, 2010, IES, Belgrade, Serbia.
- Monthly statistical overview for period January-December 2010*. SORS, Belgrade, Serbia, 2010, 2011.
- Municipalities in Serbia 2009, 2010*. SORS, 2010, Belgrade, Serbia.
- Novković N. (2007): *Podsticanje unapređenja agrobiznisa i zaposlenosti u ruralnim sredinama*. Economics of Agriculture, no. 1/2007, IAE, Belgrade, Serbia.
- Ševarlić M., Nikolić M. (2007): *Metodološka pitanja posedovne i socio-ekonomske strukture farmerskih domaćinstava u EU*. Monograph – International experiences in transition of agro-sector and rural areas. DAES, Faculty of Agriculture, Belgrade, Serbia.
- Statement no. 79, Questionnaire of households' consumption*. SORS, Belgrade, Serbia, LXI, March 2011.
- Statistical yearbook 2009*. SORS, Serbia, Belgrade, 2009.

*Statistical yearbook 2010*. SORS, Serbia, Belgrade, 2010.

Subić J. (2005): *Radna snaga u poljoprivredi Srbije*. Industrija, no. 3/2005, Economics Institute Belgrade, Serbia.

Subić J. (2010): *Specifičnosti procesa investiranja u poljoprivredi*. Monograph. IAE, Belgrade, Serbia.

Subić J., Jeločnik M., Ivanović L. (2011): *Uticaj krize i pada životnog standarda u Srbiji na poljoprivredu*.

Monograph – Active measures on the labour market and employment issues, IES, Belgrade.

Zahiu L. (2009): *Management agricol*. Ed. Economică, București, Romania.

Zahiu L., Dachin A. (2001): *Politici agroalimentare comparate*. Ed. Economică, București, Romania.

<http://faostat.fao.org/site/368/default.aspx#ancor>

<http://webrzs.stat.gov.rs/WebSite/public/PublicationView.aspx?pKey=41&pLevel=1&pubType=2&pubKey=428>

<http://www.naslovi.net/rd/1696485>

[www.cekos.rs](http://www.cekos.rs)

[www.euractiv.rs](http://www.euractiv.rs)

[www.stips.minpolj.gov.rs/node/951](http://www.stips.minpolj.gov.rs/node/951)