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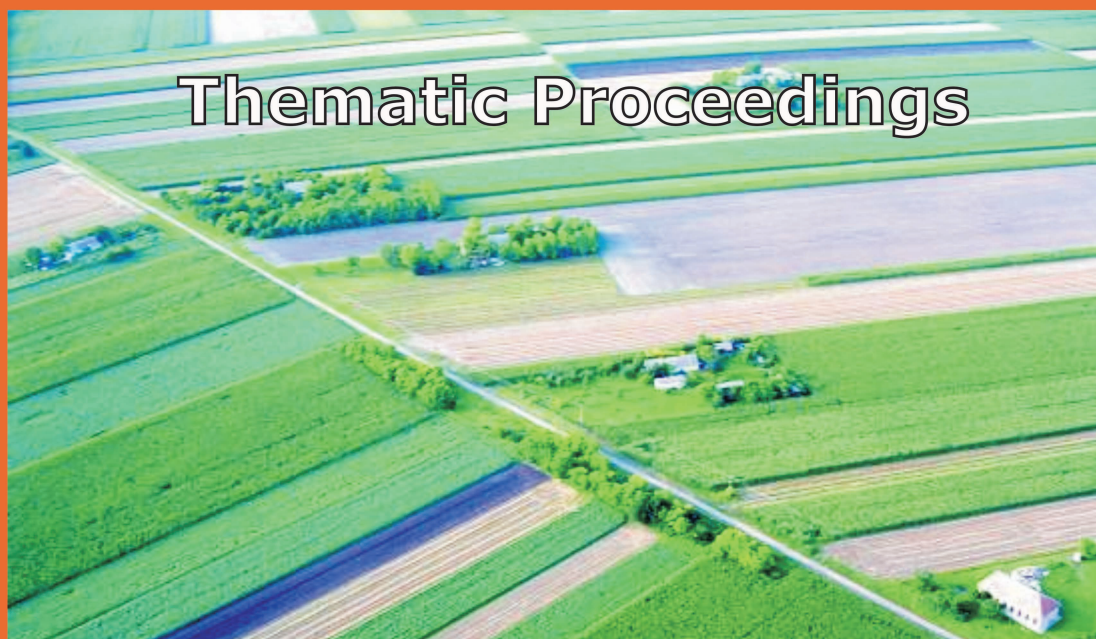
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European Association
of Agricultural Economists

100th Seminar of the EAAE

DEVELOPMENT OF AGRICULTURE AND RURAL AREAS IN CENTRAL AND EASTERN EUROPE



Edited by
Danilo Tomić
Miladin M. Ševarlić



21st – 23rd June 2007
Novi Sad, Serbia



Serbian Association
of Agricultural Economists

FAMILY FARMS – THE FACTORS OF AGRICULTURAL DEVELOPMENT IN SERBIA

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INTRODUCTION

Family farms are of major importance but also the most numerous entities involved in the organization of agricultural production in Serbia. Due to the development of the economy on the whole, including agriculture, family farms have been effected by dynamic and complex socio-economic as well as demographic changes of which the process of differentiation according to various criteria (income earning, size and distribution, number of total and active household members on the farm, farm size, production resources at disposal, production output and structure, etc.) played the key role.

The data of the Statistical Office of the Republic of Serbia based on the 2002 census on the population, households, lodgings and farms, statistical bulletins, reports and internal documentation were used in order to analyze the importance of family farms which are of crucial importance in the development of the Serbian agriculture.

NUMBER AND SOCIO-ECONOMIC STRUCTURE OF FAMILY FARMS IN SERBIA

The number and socio-economic structure of family farms, the principal mode of producer organization in the agriculture of Serbia has been an important indicator on the state and development of potential resources in the agri-sector. The period of transition in Serbia has been characterized by significant changes in the number and socio-economic structure of farms and this may be attributed to the natural reproduction processes including social and economic reforms.

The number of family farms declined from 997235 in 1991 to 778891 in 2002, i.e. by approx. 22% (Table 1). On the other hand the share of non-agricultural farm increased to over 62% of the total number of farms in Serbia, whereas the share of agricultural (17.8%) and mixed farms (16.4%) was nearly the same.

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Table 1 Family farms according to income sources in Serbia
(1991 and 2002 census)

Year	F a r m s								
	Total	Agricultural		Mixed		Non-agricultural		Without income	
		No.	%	No.	%	No.	%	No.	%
Serbia									
1991	997235	258336	25.9	259274	26.0	465675	46.7	13950	1.4
2002	778891	138738	17.8	127990	16.4	484961	62.3	27202	3.5
Central Serbia									
1991	704249	190971	27.1	218169	31.0	285417	40.5	9692	1.4
2002	577416	100720	17.4	104643	18.1	350719	60.7	21334	3.7
Vojvodina Province									
1991	259129	64473	24.9	35022	13.5	156136	60.3	3498	1.3
2002	201475	38018	18.9	23347	11.6	134242	66.6	5868	2.9

Source: Authors' computation based on the 1991 and 2002 Census on the population, households, lodgings and farms, Statistical Office of the Republic of Serbia, Belgrade

Based on the data of the last Census, 67% of the Serbian farms are devoid of individual (active) farmer (72% in Vojvodina) and about 10% farms are run by individual farmers over 60 years of age (Table 2). Farms having one or two individual farmers make up 28% of the total number of farms in Serbia (in Vojvodina only 24.6%).

The conclusion which tends to emerge is the inability to initiate self-reproduction of manpower on farms in some of the regions of Serbia. These indicators are of major importance from the standpoint of agricultural policy measure development. They present the framework for creating land policy, policy measures encouraging production and rural development but also social policy of land, employment policy, etc.

Table 2 Family farms according to the number of individual farmers* in Serbia
(2002 Census)

Farms	Serbia – total		Central Serbia		Vojvodina Province	
	No.	%	No.	%	No.	%
Total	778891	100.0	577416	100.0	201475	100.0
Farmerless	522103	67.0	376061	65.1	146042	72.5
1 farmer						
Total	119216	15.3	89776	15.6	29440	14.6
< 60 yrs. of age	72678	9.3	52553	9.1	20125	10.0
60 yrs of age and over	46538	6.0	37223	6.5	9315	4.6
2 farmers						
Total	94795	12.2	74631	12.9	20164	10.0
Both < 60 yrs. of age	50738	6.5	40150	7.0	10588	5.3
1 < and one > 60 yrs of age	18738	2.4	15230	2.6	3508	1.7
Both 60 yrs of age and over	25319	3.3	19251	3.3	6068	3.0
3 farmers						
Total	29030	3.7	24517	4.2	4513	2.2
All < 60 yrs of age	15360	2.0	12820	2.2	2540	1.3
One 60 and over, two < 60 yrs of age	8196	1.1	7174	1.2	1022	0.5
Two 60 and over, one < 60 yrs of age	5154	0.7	4234	0.7	920	0.4
All 60 yrs of age and over	320	0.0	289	0.1	31	0.0
4 and more farmers						
Total	13747	1.8	12431	2.2	1316	0.7
All 60 yrs of age and over	25	0.0	25	0.0	-	-

* **Individual farmers:** active agricultural population involved in agriculture on its own farm or the farm of its family.

SOCIO-DEMOGRAPHIC STRUCTURE OF FAMILY FARM HOUSEHOLD MEMBERS IN SERBIA

The essential characteristic of family farms in Serbia is the impoverishment by the agricultural active household members and the lack of work capable remaining household members (Tables 3 and 4). The total number of family farm household members in Serbia amounted to 2.536.378 in 2002, i.e. on average 3.3 household members per family farm. The greatest number of family farm household members in Serbia was registered on non-agricultural farms, 58.6% of the total number of household members. In both regions non-agricultural farms are categories with the greatest number of household members.

Table 3 Members of different categories of family farms according to income sources in Serbia (2002 Census)

Farms according to income source	Serbia-total		Central Serbia		Vojvodina Province	
	No.	%	No.	%	No.	%
Total	2536378	100.0	1915757	100.0	620621	100.0
Agricultural	427307	16.8	316784	16.5	110523	17.8
Mixed	575008	22.7	480188	25.1	94820	15.3
Non-agricultural	1486500	58.6	1082507	56.5	403993	65.1
Without income	47563	1.9	36278	1.9	11285	1.8

Sources: Authors' computation based on the 2002 Census on the population, households, lodgings and farms, Statistical Office of the Republic of Serbia, Belgrade

The number of individual farmers making up the active agricultural population amounted to 454732 household members in 2002, i.e. 0.6 per farm. The share of individual farmers in the total number of household members in 2002 amounted to 17.9% on average for Serbia, i.e. 19.1% in the region of Central Serbia and 14.3% in Vojvodina (Table 4).

Table 4 Family farm household members according to activities in Serbia (2002 Census)

Year	Members total	Individual farmers		Off-farm members		With own income		Supported	
		No.	%	No.	%	No.	%	No.	%
Serbia									
2002	2536378	454732	17.9	705070	27.8	526232	20.7	845238	33.3
Central Serbia									
2002	1915757	365914	19.1	505455	26.4	411198	21.5	628848	32.8
Serbia – total =100	75.5	80.5	-	71.7	-	78.1	-	74.4	-
Vojvodina Province									
2002	620621	88818	14.3	199615	32.2	115034	18.5	216390	34.9
Serbia – total =100	24.5	19.5	-	28.3	-	21.8	-	25.6	-

Note: The difference up to 100.0% of the total number of household members for some regions presents the share of the household members abroad up to a year.

OWNERSHIP STRUCTURE OF FAMILY FARMS IN SERBIA

Family farms in Serbia are on average small-sized with an unfavourable ownership structure. In 2002 the average farm size in Serbia was 2.42 ha and 2.49 ha of own and rented cultivable land respectively. Small farms were noted to predominate in the ownership structure (Table 5). The share of farms up to 3 ha accounted for

60.2% (even 65.5% in Vojvodina) with 23.9% of arable land at their disposal. Farms over 10 ha accounted for only 5.6% of the total number of farms in Serbia (7.4% in Vojvodina) having 23.7% of cultivable land at their disposal (36.9% in Vojvodina).

Table 5 Ownership structure of family farms in Serbia according to regions
(2002 census)

Farm size (ha)	Serbia – total				Central Serbia				Vojvodina Province			
	Farm no.		Area		Farm no.		Area		Farm no.		Area	
	No.	%	ha	%	No.	%	ha	%	No.	%	ha	%
Landless	6288	0.8	0.0	0.0	2828	0.5	0	0.0	3460	1.7	0	0.0
Up to 1	208100	26.7	90038	4.7	139296	24.1	59137	4.9	68804	34.2	30903	4.3
1.01-3.0	254832	32.7	367548	19.2	195228	33.8	259504	21.5	59604	29.6	108044	15.3
3.01-6.0	177505	22.8	536601	28.0	143967	24.9	393129	32.5	33538	16.6	143473	20.3
6.01-10.0	89094	11.4	468694	24.4	67867	11.7	304675	25.2	21227	10.5	164019	23.2
10.01-15.0	27731	3.5	219622	11.5	19084	3.3	117625	9.7	8647	4.4	101997	14.4
15.01-20.00	9041	1.3	96232	5.0	5954	1.1	43714	3.6	3087	1.5	52518	7.4
Over 20.00	6300	0.8	138644	7.2	3192	0.6	31431	2.6	3108	1.5	107213	15.1
T o t a l	778891	100	1917380	100	577416	100	1209215	100	201475	100	708167	100

Source: Computed by the authors based on the 2002 Census on the population, households, lodgings and farms, Statistical Office of the Republic of Serbia, Belgrade

In addition to the small farm size, Serbian agriculture is characterized by the fragmentation of holdings, i.e. considerable number of strips of land of various sizes (Table 6). According to the 2002 Census family farms in Serbia were fragmented to 3472809 strips of land (in Central Serbia 2885101 and in Vojvodina 587708). In Serbia there were on average 4, in Central Serbia 5 and in Vojvodina 3 strips of land. The average size of the fragmented strip of land was 83 ares in Serbia, 74 ares in Central Serbia and 125 ares in Vojvodina.

Table 6 Number of strips of land-fragments of family farms in Serbia
(2002 Census)

Region	Farms according to the number of strips of used land						Strips of used land		
	Total	1	2-3	4-5	6-9	10 and more	Total no. of strips	Average no. of strips per farm	Average strip size (ares)
Serbia - total	772603	201697	223118	144999	121224	81565	3472809	4	83
C. Serbia	574588	130676	149469	115936	103504	75003	2885101	5	74
Vojvodina Province	198015	71021	73649	29063	17720	6562	587708	3	125

Source: Authors' computation based on the 2002 Census, Statistical Office of Serbia

It takes a considerable time period to increase farm size and the process seems to be effected by numerous factors. The lack of legal and institutional regulations for the issue to be solved adequately has contributed to the inefficient utilization of the major family farm resource. Small farms split into 3-5 fragments present no doubt the limiting factor in the employment of modern agricultural practices, rational management, restricting thereby competitiveness of Serbian family farms. Therefore, it is necessary to develop and implement efficient land policy measures which would enable rational utilization of agricultural land mostly owned by family farms.

CAPACITIES AND PRODUCTION OF FAMILY FARMS IN SERBIA

Most of the production capacities in the Serbian agriculture are in the possession of family farms. In 2005 family farms owned 79.9% of the agricultural land, 85.5% of the cultivable land and 83.8% of the plough land (Table 7). An insignificant increasing trend was noted over the years except for the last year of study. In addition, family farms are in the possession of the largest land areas constituting orchards (95.8%) and vineyards (92.2%) but also meadows (89.9%) and pastures (53.9%). However, a slight decline in the use of these agricultural land categories (except for meadows) was registered in 2005 compared with 2000.

In the structure of utilized agricultural and cultivable land owned by family farms in Serbia (Table 8) the share of plough land and vegetable-growing land predominated, i.e. 68.3% of agricultural and 76.9% of cultivable land (in Vojvodina even 96.8%). The share of land with intensive crops, e.g. orchards and vineyards enabling high income was relatively small. The share of orchards accounted for 5.6% of agricultural land, i.e. 6.4% of cultivable land. The share of vineyards accounted for only 1.4% of agricultural land, i.e. 1.6% of cultivable land. The share of meadows accounted for 13.4% in the structure of agricultural land, i.e. 15.1% of cultivable land. The share of pastures was relatively high accounting for 11% of agricultural land owned by family farms in Serbia.

The major involvement in animal husbandry may also be attributed to family farms (Table 7), i.e. approx. 94% of the total number of cattle, about 83% of the total number of pigs, approx. 98% of the total number of sheep and about 93% of the total number of poultry production. The results in practice have shown a successful involvement of family farms in animal husbandry management and therefore future agri-policy measures are expected to support the trend with the aim of increasing the number of animals, raising production and economic efficiency.

Of the total number of tractors in Serbia about 97% were registered on family farms which are a predominating share of agricultural machinery and equipment at disposal.

Family farms contribute to a significant share of total and agricultural commodity production in Serbia. Family farms' wheat production was about 73% of the total wheat production, approx. 88% of the total corn production, about 65% of the total sunflower production, approx. 50% of the total sugar beet and soybean production and most of the potato production may also be attributed to family farm potato growing (table 9). Family farms play the key role in the total production of fruits and grapes whereby in case of some fruit productions (raspberries, plums) family farms predominate. The share of family farms in livestock production is also significantly high (over 90% of both milk and egg production).

Table 7 Capacities in the possession of family farms in Serbia

Capacity	Year						Share of family farms in the total capacities (%)					
	2000	2001	2002	2003	2004	2005	2000	2001	2002	2003	2004	2005
Land (000 ha)												
- agricultural	4062	4065	4073	4079	4087	4084	79.5	79.5	79.7	79.7	79.9	79.9
- cultivable	3605	3607	3615	3627	3637	3626	84.8	84.8	84.9	85.2	85.5	85.5
- plough	2772	2778	2782	2789	2799	2790	82.6	82.8	83.0	83.3	83.7	83.8
- orchards	234	233	234	235	234	229	95.5	95.5	95.5	95.5	95.9	95.8
- vineyards	64	63	63	62	60	59	90.1	91.3	90.0	92.5	90.9	92.2
- meadows	534	534	536	541	544	548	90.9	90.8	90.8	91.1	90.9	89.9
- pastures	451	452	452	445	442	449	55.3	55.1	55.3	53.8	53.7	53.9
- Ponds, fish-ponds and reed tracts	6	6	6	7	7	8	17.1	17.1	16.6	19.4	18.4	21.1
No. of fruit bearing trees and vine stocks (000)												
-plums	42893	42385	42180	42243	42290	42372	99.5	99.5	99.5	99.5	99.5	99.5
-apples	9774	9803	10195	10397	10583	10511	68.5	69.2	70.6	70.8	71.1	71.0
-sour cherries	6858	6861	6832	7186	7257	7194	82.3	81.4	81.4	81.5	81.6	80.5
-peaches	2947	3015	3351	3268	3325	3430	82.7	84.5	84.9	84.8	84.2	85.9
-grapes	378226	363774	360441	349862	331372	322065	95.3	95.3	95.2	95.4	95.2	95.5
No. of animals (thousand)												
- cattle	1156	1077	1055	1037	1032	1013	92.8	92.7	93.5	93.3	93.6	93.9
- pigs	3319	2868	2924	2951	2819	2636	81.6	79.3	81.5	81.2	81.9	83.3
- sheep	1577	1458	1417	1484	1558	1549	97.9	97.8	97.8	97.9	98.2	98.3
- poultry	18127	17639	17127	16193	14981	15487	89.0	91.4	91.1	91.6	92.0	93.1
No. of tractors (thousand)	...	394	310*	...	...	-	-	97.4	96.9	...	...	...

*data from the internal documentation of the Serbian Statistical Office

... no data available

Source: Authors' computation based on the data of statistical yearbooks, bulletins and reports by the Serbian Statistical Office, Belgrade.

Table 8 Output and structure of utilization of agricultural land of Serbian family farms in 2005

Region		Agricultural total	Cultivable land					Pastures	Ponds, fish-ponds and reed tracts
			Total	Plough land and vegetable growing land	Orchards	Vineyards	Meadows		
Serbia-total	Area (ha)	4083549	3626363	2790292	228707	59037	548327	449479	7707
	Utilization structure (%)	100	88.8	68.3	5.6	1.4	13.4	11.0	0.2

Table 9 Production of major commodities on family farms in Serbia

Production (000 t)	Y e a r						Share of family farms in the total production (%)					
	2000	2001	2002	2003	2004	2005	2000	2001	2002	2003	2004	2005
Wheat	1379	1821	1648	990	2040	1481	71.7	72.0	73.6	72.5	74.0	73.8
Corn	2562	5195	4963	3385	5797	6208	87.2	87.9	88.8	88.7	88.2	87.6
Šugar beet	407	705	958	973	1335	1335	38.0	39.0	45.7	56.0	47.4	43.1
Sunflower	129	203	169	217	281	247	59.2	63.8	60.4	61.3	64.3	70.4
Soybean	85	86	108	113	163	188	49.7	41.5	44.3	50.0	51.3	51.1
Potato	598	986	887	653	941	937	96.3	97.1	96.7	96.2	96.5	96.7
Plums	349	331	196	568	559	303	99.4	99.3	99.5	99.5	99.6	99.6
Apples	132	107	83	186	150	152	66.6	79.0	86.5	75.6	81.5	76.7
Sour cherries	52	57	44	77	101	59	89.4	89.3	89.3	89.8	90.0	91.9
Peaches	32	36	39	49	51	47	83.7	87.3	92.9	88.3	88.3	90.9
Raspberries	64	78	94	79	92	84	99.9	99.7	99.9	99.9	99.9	100.0
Grapes	291	342	363	412	390	227	89.1	89.8	91.9	91.6	91.8	94.4
Milk (mill. L)	1441	1468	1451	1448	1462	1476	90.9	92.1	90.9	91.1	91.8	91.4
Eggs (mill.)	1206	1190	1175	1230	1362	1309	90.3	87.6	88.0	86.6	88.7	88.7

Source: ibid Table 7.

During the period 2000-2005 the share of family farms in the total commodity-market production accounted for 40 to 54%. Namely, natural production characterizes a considerable number of family farms especially those with small holdings in the hill and mountain regions. However, with the development of productive power, market expansion, rural infrastructure construction, income increase the number of farms focusing on commodity production has been noted to increase. This may primarily be attributed to economically powerful farms with greater holdings, well equipped with agricultural machinery and in the position to

invest a considerable part of their income in production development (land, livestock and machinery purchase, building construction, etc.).

Thus, it is of major importance to create social and economic conditions for a successful development of those entities of the Serbian agriculture which would have the most important capacities at their disposal and might contribute to the significant share of the total agricultural commodity production in Serbia.

CONCLUSION

Our country needs to make special efforts in undertaking adequate agri-policy measures in order to improve the social and economic as well as demographic structure of family farm household members and enhance the development of agricultural production which would contribute to the integration of our country in the international integration processes. The Strategy for the development of agriculture adopted in 2005 points to the following major aims of development: increasing competitiveness of agriculture, insuring support of the living standard of farmers and sustainable rural development, making preparations for EU integration and harmonizing domestic support with WTO regulations, whereby special attention in the realization of these objectives should be paid to family farms in Serbia.

The agri budget is considered the major source of financial support for the realization of these aims which focus on improving agriculture. Over the past years in the structure of the agri budget there has been a significant diversification of measures and a turn from supporting inputs and income to supporting investments in agriculture. These changes meet the CAP changes and WTO requirements aimed at reducing measures of support provoking market disturbances and focusing on permitted measures for structural and rural development. The reformed agri policy focuses on increasing competitiveness between commercial family farms. Financial support for these purposes has been distributed by programmes for rural support, short-term and long-term credits. The novelty introduced has been the mode of implementation of the state support. Namely, since 2004 the support has been focused on registered farms only. In 2006 there was a significant change in the implementation of the agri policy whereby commercial and non-commercial classification of family farms was introduced leaving the latter without any other mode of budget support except for income support.

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