

Competitive Potential of Romania's High-Value Agrifood Products in External Trade

Mirela-Adriana RUSALI¹⁾

¹⁾ Institute of Agricultural Economics – National Institute of Economic Researches, Romanian Academy, Calea 13 Septembrie no. 13 sector 5, Bucharest; m.rusali@yahoo.com.

Abstract. High-natural value zones provide high-value agrifood products, typically produced in small-size farms; consequently, their production and marketing are important, both, as a catalyzer to maintain and develop rural communities and as a source of multiple sustainable benefits incumbent on local economies and rural socio-economic development. The demand for these products in countries with different developing status is rapidly increasing along with income growth and diverse food and life styles adopted by the consumers. The scientific endeavor of investigation the domestic potential and evolution on the high-value agricultural market is useful to develop the strategy for increasing incomes of small-scale farmers to help them diversify from low-value unstable food into higher-value sustainable supplies on long-term. Among such commodities are livestock, dairy products, horticulture products including fruit and vegetables, berries and spices, mushrooms, wine. The present study focuses on the Romania's agricultural trade pattern and subsequent changes of the EU accession impact, analyzing dynamics and ranks in agrifood products sizes and values of the trade flows, by comparing accession trends to the previous period. The main results provide assessments of the competitive potential on external markets expressed by Romania's high-value agricultural products.

Keywords: agriculture, competitiveness, foreign trade, high-value products

INTRODUCTION

“High-value agricultural product” (HVP) is a relatively new concept, not only in Romania. The term high nature value farmland hectare been introduced at the beginning of nineties, when the general characteristics of low-input farming systems were described in terms of biodiversity and management practices (JRC, 2008). Previous studies define the high-value agricultural products as agricultural goods with a high economic value per kilogram, per hectare, or per calorie (Gulati *et al*, 2005). They may include a crop, fish, livestock or non-timber forest product that returns a higher gross margin per unit of available resources (land, labor, capital, human capacities) than other products within a given location and context [...] and have a smaller market share than commodities (GFAR, 2006). Given these features, such goods usually consist in livestock, meat, dairy products, horticulture products including fruit and vegetables, berries and medicinal plants, spices, mushrooms, natural juices, wine, fresh and processed goods. The category may include other products with high economic or natural value according to zones' resources specificity and biodiversity.

HVP are typically produced in small-size farms, sold through specialized markets that imply vertical integration as in the form of cooperation or contract and the prices are highly sensitive to quality variations (IFAPRI, 2012). HNV farmland results from a combination of land use and farming systems. Some "natural values", related to high levels of biodiversity or the presence of certain species and habitats, depend on certain types of farming activity. The dominant feature of HNV farming is low-intensity management, with a significant existence of semi-natural vegetation, in particular extensive grassland (EC, 2011). A common problem for entering HVA produced in small-scale farmers on market chains is that their products frequently do not comply with the established technical standards (Davis,

2006). Among the broader category of high-value agricultural products, these are some of the more widely grown products, thus trends in these commodities have broad effects on the marketing channels and the opportunities of small farmers in the region (IFAPRI, 2012)

Romania has a large area of HNV farmland. The objective of the research was to investigate the evolution of high-value agricultural products on foreign markets, due to its direct implications for the restructuring of the agricultural supply chain and its indirect implications for the role of small farmers. The study focuses on the structure of Romania's agricultural trade subsequent to the EU accession impact, analyzing dynamics and changes in agrifood products sizes and values of the trade flows, by comparing post-accession trends to the previous period. The main results provide assessments of the competitive potential on external markets expressed by Romania's high-value agricultural products. The scientific endeavor to investigate Romania's domestic potential and evolution of high-value agricultural markets is useful to develop the strategy for increase the incomes of small-scale farmers to help them diversify from low-value and quantitative unstable food into higher-value sustainable supplies.

MATERIALS AND METHODS

The study used as informational material the statistics for agriculture and foreign trade provided by NIS and FAO database on Food and Agricultural commodities by country (FAO, 2012), recent researches and specialized literature. The material was based on statistics of the Harmonized System (HS) corresponding to FAO codes, in the period between years 2006 and 2010, and was processed to select, identify and rank the domestic products resulted from agricultural enterprises with largest export values and highest unit values. The currency of the study was USD used as an option to offer analysis at the national level an international comparative base. The research aims to design Romania's agrifood high value products trade pattern, with the main objective of identifying the export potential in most valuable agrifood products to bring large revenues for rural economy. The methodological approach used the analysis of the agrifood sector competitiveness based on foreign trade performance by destination area of products, trade structure by sections, chapters and products. The outcome provides an assessment of the effects of integration Romanian agrifood products in the Common Market upon the structure and trade balance and the subsequent changes induced in Romania's export pattern. The results consist in dynamics of trade structure by sections and agrifood net exports by chapters of HS, Romania's place of in world hierarchy of top high value agrifood products, a hierarchy of the 20 most important food and agricultural commodities (ranked by value) productions and world exports.

RESULTS AND DISCUSSIONS

High-value agricultural products are provided by high-natural value (HNV) farmland and forestry associated with high biodiversity, referring to agricultural and forestry management systems as a driver for creating or maintaining HNV. The concept of HNV covers distinct areas as well as HNV features (e.g. ponds, hedgerows, buffer strips etc.) although part of areas however are excluded from definition of HNV (EC, 2011).

The need to evaluate and to prevent the loss of high nature value (HNV) farmland is widely recognized, and it consist an explicit objective of the current Rural Development EU Policy. The aim of estimating HNV farmland distribution at European level according to a standardised method JRC and the EEA prepared the first EU27 map of High Nature Value

farmland (JRC, 2008). According to these regionally differentiated selection criteria, Romania's high-value land and its regional pattern reside in areas included in Tab 1.

Tab. 1

High natural value land in Romania, by regions of development

Region	HNV farmland area (EC-JRC) [ha]	Regional area share in HNV farmland [%]	Agricultural land (CLC Agricultural classes +HNV areas) [ha]	Utilised Agric. Area (official figures from EUROSTAT FSS) [ha]	Area share of HNV farmland (col1*100/col3) [%]
0	1	2	3	4	5
Romania	4860372	100	14433920	13906700	33.7
RO01 North-East	741197	15.2	2070320	2032950	35.8
RO02 South-East	422703	8.7	2395440	2151210	17.6
RO03 South	318265	6.5	2486960	2325760	12.8
RO04 South-West	492539	10.1	1788990	1782600	27.5
RO05 West	694835	14.3	1784220	1751710	38.9
RO06 North-West	988420	20.3	1999750	1941420	49.4

Source: JRC, 2008, Appendix X. pp: 96

With 4.8 million hectares of HNV land Romania shares 33.7% in the UAA (CLC method) (PNADR, 2012). By spatial distribution, it covers the major areas from Centre (66.8%), North-West (49.4%), North-East and Western regions. Comparing to other EU-27 countries, more than 30% of UAA of HNV areas are also in Bulgaria, Greece, Spain, Italy Cyprus, Austria, Portugal, Slovenia and Finland whilst in Belgium, Germany, Latvia, Lithuania, the Netherlands the share is between 10 and 20% and in Luxembourg and Denmark HNV area shares in the UAA less than 10% (JRC, 2007).

Tab. 2

Romania's main agrifood production, 2010 (rank by value)

Rank	Commodity	Production (Mt)	Production (\$1000)	Price (\$/t)
1	Cow milk, whole, fresh	4410840	1376451	312
2	Wheat	5811810	694445	119
3	Indigenous pig meat	363191	558312	1537
4	Indigenous cattle meat	199382	538606	2701
5	Grapes	740118	423064	572
6	Indigenous chicken meat	278944	397330	1424
7	Potatoes	3283870	362559	110
8	Maize	9042030	361095	40
9	Sunflower seed	1262930	346063	274
10	Tomatoes	768532	284022	370
11	Rapeseed	943033	261575	277
12	Sheep milk, whole, fresh	651317	253632	389
13	Hen eggs, in shell	297535	246772	829
14	Indigenous sheep meat	78724	214349	2723
15	Apples	552860	213512	386
16	Plums and sloes	624884	192258	308
17	Cabbages	983648	132231	134
18	Barley	1311040	115806	88
19	Chillies and peppers, green	243493	114626	471
20	Cherries	70290	89358	1271

Romania's gross value added (GVA) of agricultural industry rank on the seventh place in EU-27, with an average share of crop output of 5% and of animal output of 3%, after France, Italy and Spain (17.2% -15,8 % GVA) and Germany, Netherlands and UK (10.5% - 5.5% GVA).

Based on FAO statistics processing, in 2010 the most expensive Romanian agrifood products were sheep meat (2723\$/t), cattle meat (2701\$/t), pig meat (1537\$/t) and chicken meat (1424\$/t). The highest production value was of cow milk (1376.5millions USD), followed by wheat (694.4millions USD). The top 20 highest value productions obtained in 2010, including corresponding quantities (metric tons), values (thousand USD) and prices, are such as presented in Tab. 2. The main world markets for those commodities were Italy, Germany, Spain, Belgium, Netherlands, France, Greece, Portugal, Ireland, Sweden for cow milk; Algeria, Italy, Egypt, Japan, Indonesia, Spain, Brazil, Iran, Pakistan, Netherlands for wheat; and Russian Federation, Germany, USA, Poland, Italy, for pig meat.

Romania is net agrifood importer since 1990, although under the influence of developments in the national economy induced by the EU accession preparations, Romania's foreign trade expanded both in export and import flows. During post-accession period Romanian agrifood sector has been recorded a growing openness to foreign markets, significantly more important than indicators derived from national development. Romania is high dependent on external agrifood markets, sharing 83% in 2009, the indicator reflecting low performance facing international competitiveness, while EU is the major trade partner.

Trade policy and exchange rate in recent years have favored high levels of coverage of imports by exports, although lower than the national economy, in 2010 it amounted 80%.

The total agricultural trade continuously increased from 4.1 billion USD in 2006, to 9.2 billion USD in 2010, while the trade deficit trend to recover, after the deep historic deficit of -3.37 billion USD in 2007, to -1.03 billion USD in 2010 (Fig. 1).

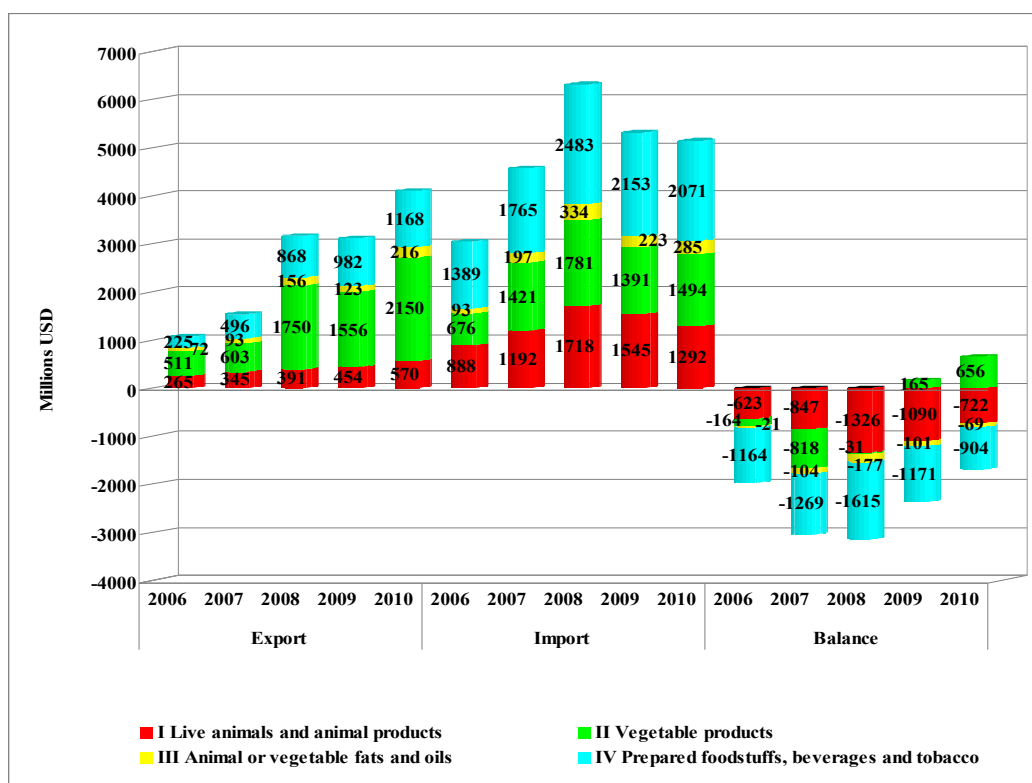


Fig. 1. Changes in Romania's agrifood foreign trade structure, 2006-2010

Source: processing of National Institute of Statistics data, <http://insse.ro>.

Romania's main 20 agrifood exports rank by highest value in the year 2009 and the evolution compared to the year 2006 are shown in Tab. 3.

Tab. 3

Changing pattern of Romania's high value agrifood exports, 2009 vs. 2006

Rank	Commodity	Quantity [t]	Value [\$1000]	Unit value [\$t]	Commodity	Quantity [t]	Value [\$1000]	Unit value [\$t]
2006					2009			
1	Sunflower seeds	636254	164742	259	Cigarettes	19149	503988	26319
2	Wheat	904702	118580	131	Wheat	2340670	422720	181
3	Pastry	20820	48963	2352	Maize	1686410	347678	206
4	Maize	241209	47672	198	Rapeseed	782186	311561	398
5	Chicken meat canned	13019	41342	3176	Sunflower seeds	564243	203316	360
6	Sunflower oil	61725	39830	645	Barley	543311	83761	154
7	Rapeseed	130931	39277	300	Sunflower oil	92102	75794	823
8	Food prep nes	30393	34249	1127	Food prep. nes.	14757	61334	4156
9	Wine	25384	31132	1226	Chicken meat	29767	61067	2051
10	Sugar refined	56382	27897	495	Pastry	19494	51735	2654
11	Mushrooms and truffles	2798	23227	8301	Cake of soybeans	103339	46002	445
12	Walnuts shelled	5501	23051	4190	Honey, natural	10654	41018	3850
13	Honey, natural	9606	20504	2134	Beverage non-alcoholic	60281	34021	564
14	Fruit prep. nes.	540	19314	1832	Sugar refined	36996	28570	772
15	Silk raw	508	17013	33490	Chocolate preps.	7509	27792	3701
16	Beverage non-alcoholic	36958	16283	441	Rapeseed oil	36182	27013	747
17	Sunflower cakes	182184	16001	88	Chicken meat canned	4708	23504	4992
18	Barley	118791	15156	128	Walnuts shelled	5667	20946	3696
19	Cheese of cow milk	4167	14151	3396	Wine	10888	19096	1754
20	Chocolate preps.	4126	14078	3412	Sunflower cakes	142197	18692	131

Source: FAO, 2012.

The top five agrifood products amounting in 2006 the highest revenues have been brought by the exports of sunflower seed, wheat, pastry, maize and meat of chicken canned. Compared to that, the rank by export value resulted that the top five Romanian agrifood exports in 2009 were of cigarettes, wheat, maize, rapeseeds and sunflower seeds.

According to FAO data (FAO, 2012), in a world hierarchy of top high value agrifood products, Romania was in 2009 among the first 6 major exporters of cigarettes (19149 tones), after Germany, Netherlands, Poland, China & Hong Kong and Switzerland, gaining the second highest unit value of this product. At the same time, Romania was placed on the 11th place (with 2.3 million t) among the wheat exporters, below USA, Canada, Australia, France, Russian Federation, Germany, Ukraine, Argentina, Kazakhstan and UK, with 181\$/tone unit value.

According to these records the potential markets in Europe are Italy, Spain, Netherlands, Germany and Belgium and by the major world imports, are Algeria, Egypt, Japan, Indonesia, Brazil, Iran, Pakistan, Korea, Nigeria and Turkey. As well, Romania was the ninth exporter of maize (1.6 million t), after USA, France, Argentina, Brazil, Ukraine, Hungary, India and South Africa; the fifth exporter of rapeseeds (0.782 million t) after Canada, Ukraine, France and Australia; although in 2006 was, by quantity, the first world

exporter of sunflower seeds (0.634 million t) and the second by value after France, in 2009 (with 0.564 million t) stepped down on the fourth place after Bulgaria, Hungary and Ukraine by quantity or USA by value.

Although not included in top rank, medicinal plants demand is growing. In Romania there were exports of such herbs of 2.63 millions USD in 2007, 7.4 millions USD and dropped to 2.4 millions in 2010, in conjunction with political support and standards limiting context.

The analysis of the main agrifood exports by the highest unit value in descending rank resulted that Romania's most expensive agrifood exports were those listed in Tab. 4.

Tab. 4

Romania's agrifood exports rank, by the highest unit value, in 2006 vs. 2009

Rank	FAO codes/HS Codes	Commodity	Quantity [t]	Value [1000\$]	Unit value [\$ /t]	FAO codes/HS Codes	Commodity	Quantity [t]	Value [1000\$]	Unit value [\$ /t]
2006						2009				
1	1195/4301	Skin furs	7	1386	198000	1195/4301	Skin furs	5	339	67800
2	1186/5002	Silk raw	508	17013	33490	829/2402.10	Cigars cheroots	1	55	55000
3	450/0712.3	Dried mushrooms	277	5645	20379	1074/0207.3	Offals liver geese	22	922	41909
4	723/0910.9	Spices nes.	7	79	11286	1186/5002.0	Silk raw	81	3031	37420
5	702/0908	Nutmeg mace and cardamoms	1	11	11000	1075/0207.3	Offals liver duck	2	63	31500
6	1172/1602.90	Prepared meat nes.	176	1745	9915	450/0712.3	Dried mushrooms	196	5345	27270
7	340/ 1515.90	Oil of veg. origin	233	2216	9511	828/2402.20	Cigarettes	19149	503988	26319
8	225/0802.21	Hazelnuts shelled	1	9	9000	1172/1602.9	Prepared meat nes.	232	4100	17672
9	994/1505	Grease incl. lanolin wool	1	9	9000	1008/5105	Hair carded/ combed	4	60	15000
10	449/0709.5	Mushrooms and truffles	2798	23227	8301	1187/ 5003	Cocoon unr.&waste	1	11	11000
11	828/2402.20	Cigarettes	1587	12205	7691	231/0802.12	Almonds shelled	1	10	10000
12	687/0904.11	Pepper	5	35	7000	831/ 2403	Tobacco products	159	1586	9975
13	223/ 0802.50_	Pistachios	20	133	6650	449/0709.5	Mushrooms and truffles	1779	16000	8994
14	698/0907.00	Cloves	1	6	6000	836/4001.10	Natural rubber	4	33	8250
15	547/0810.20	Raspberries	130	698	5369	223/ 0802.50_	Pistachios	18	148	8222
16	451/2003	Canned mushrooms	157	839	5344	109/ 1901.10	Infant Food	26	197	7577
17	977/ 0204.21	Sheep meat	1408	7440	5284	1017/ 0204.50	Goat meat	6	45	7500
18	1243/1517.9	Fat prep. nes.	172	901	5238	230/ 0801.32	Cashew nuts shelled	1	7	7000
19	659/2101	Coffee extracts	540	2825	5231	340/ 1515.90	Oil of veg. origin	1	7	7000
20	473/ 0710.80	Vegetable frozen	1585	8015	5057	221/ 0802.11	Almonds, with shell	96	666	6938

Source: FAO, 2012.

The agrifood Romanian exports rank by unit value, in 2006, were: skin furs (198000 \$/t), silk raw (33490\$/t), dried mushrooms (20379 \$/t), spices (11286 \$/t), nutmeg mace and cardamoms (11000 \$/t), prepared meat (9915 \$/t), oil of vegetable origin (9511\$/t), hazelnuts

shelled and grease including lanolin wool (9000\$/t), mushrooms and truffles (8301 \$/t) and cigarettes (7691\$/t).

While comparing to previous period, in 2009 only skin furs (67800\$/t) maintained on the first position although with smaller quantities and unit values, and silk raw (37420\$/t) and dried mushrooms (27270 \$/t) in top 5.

Cigarettes (26319 \$/t), prepared meat (17672\$/t), mushrooms and truffles (8994\$/t), oil of vegetable origin (7000 \$/t) and pistachios (6650\$/t) keep listing among products with export highest unit value.

On the main places in the rank were also included cigars cheroots (55000\$/t), offals liver geese (41909\$/t), offals liver duck (31500\$/t), hair carded/ combed (15000\$/t), cocoon (11000 \$/t), almonds shelled (10000\$/t), tobacco products (9975\$/t), natural rubber (8250 \$/t), pistachios (8222 \$/t), infant food (27577 \$/t), goat meat (7500 \$/t), cashew nuts shelled (7000 \$/t), and almonds, with shell (6938\$/t).

In the rank were also included some re-exports of products of which Romania is not a traditional producer, such a natural rubber, pistachios, cashew nuts or almonds. The analysis highlighted certain products with export potential (9000\$/t – 5057\$/t) such as grease including lanolin wool, raspberries, canned mushrooms, sheep meat, fat preparation, vegetables frozen, that amounted high unit values in 2006. Besides, among the exports with highest unit values in 2009 added other products such as cigars cheroots (55000\$/t), offal liver geese (41909\$/t), offal liver duck (31500\$/t) and hair carded/ combed, cocoon, tobacco products and goat meat (15000-7500\$/t).

Only a few products proved an export potential revealed by significant export values in 2009, although in 2006 Romania's export pattern was more diversified. The other high value products among those listed in Tab. 3, even though potential revenue providers amount only small export quantities. Compared to 2006, only skin furs, silk raw, dried mushrooms, prepared meat, oil of vegetable origin and cigarettes maintained among the high value exports of agricultural and food products.

CONCLUSION

Romania has 3.32 millions ha of high natural value of farmland, sharing 14% of country's area and 22.5% of total agricultural land. Forests area covers 26.7% of the country, while the European average is 35%, the most part stock in mountain zone (58.5%), 34.8% in hills and 6.7 in plains. There is a wide range of local products considered HNV which are provided by small farmers, such as dairy and cheese, goat and sheep meat, as well as beef meat, sausages, pastrami preserves, jams and compotes, honey and honey products, produced from berries and medicinal herbs, wine, juices and spirits/brandy as 'palinca' and 'țuica'.

The statistics on HNV products lack either in figures or in categories by producer or holdings size. Therefore, the research provides an evaluation framework for this new studied market segment of products provided by agricultural activities with high income potential.

The empiric results indicate Romania's highest-value agrifood products, proving export potential revealed by their performances during the analysed period. Summing-up, the domestic products were of a kind included in categories corresponding to 6 digits-HS codes, such as: skin furs, of Chapter 43; silk raw and wool or animal hair, belonging to Section 'Textiles and textiles articles', respectively comprising Chapters 50 and 51; dried mushrooms, mushrooms and truffles, hazelnuts shelled, spices, nutmeg mace and cardamoms, of Section 'Vegetable products', respectively Chapters 07, 08, 09, including edible vegetables, fruits and nuts and spices, medicinal and aromatic plants; prepared meat of Chapter 16; oil of vegetable origin, and grease including lanolin wool, of Chapter 15; cigarettes in Chapter 24.

Comparing to previous period, the evaluations upon post-accession performances of Romanian agricultural and food high-value commodities revealed in general, a less diversified export pattern and lower quantities.

Some exceptions have to be noted, such as: commodities of Chapter 24, among which cigarettes that registered significant growth; as well new products with high value and places in the rank, such as offals liver geese and offals liver duck, belonging to Chapter 02 - Meat and edible meat offal; in addition, goat meat, with high export values contrasting the reduced quantities, replaced the sheep meat that previously registered large exports.

REFERENCES

1. Davis, J. (2006). How can the poor benefit from the growing markets for high value agricultural products? MPRA Paper 26048.
2. EEA and JRC (2007). High Nature Value Farmland in Europe.
3. European Commission (EC) (2011). Rural Development in the EU – Statistical and Economic Information Report 2011, http://ec.europa.eu/agriculture/statistics/indicators/rd-2011/o18_en.pdf.
4. Food and Agricultural Organization (FAO), FAOSTAT. Downloaded on 15.06.2012 <http://faostat.fao.org/site/339/default.aspx>.
5. GFAR (2006). How can the poor benefit from the growing markets for high value agricultural products? Synthesis Report, International Workshop, Centro Internacional de Agricultura Tropical, Cali, Colombia, 3-5 October 2005.
6. Gulati, A., N. Minot, C. Delgado and S. Bora (2005). Growth in high-value agriculture in Asia and the emergence of vertical links with farmers. Paper presented at the workshop “Linking Small-Scale Producers to Markets: Old and New Challenges”. The World Bank.
7. International Food Policy Research Institute (IFAPRI), Participation in High-Value Agricultural Markets, Washington, USA. Downloaded on 30.06.2012.
8. Joint Research Centre (JRC) – Institute for Environment and Sustainability (2008). High Nature Value Farmland in Europe - An Estimate of the Distribution Patterns on the Basis of Land Cover and Biodiversity Data. Luxembourg: Office for Official Publications of the European Communities.
9. MARD (2012). National Rural Development Program Romania 2007-2013, Version IX.
10. http://www.cropsforthefuture.org/wp-content/uploads/2012/06/poor_benefit_HVA_prod.pdf.
11. <http://www.ifpri.org/book-749/ourwork/program/participation-high-value-agricultural-markets>.