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SEMI-SUBSISTENCE FARMING – PROSPECTS FOR THE SMALL ROMANIAN FARMER TO CHOOSE BETWEEN A “WAY OF LIVING” OR EFFICIENCY¹

ABSTRACT

“Subsistence and semi-subsistence farming” has been a research topic in the last decades on which a generally agreed definition was not reached yet. The main approaches to this subject are based on some criteria such as: *farm size, economic size and market participation*. In the context of the last 2 waves of EU enlargement, the subsistence farming, a specific phenomenon in the New EU Member States that occurred as a result of the transition economies and land reforms, induced important social implications in the rural area and considerable development gaps between the Old Member States and the New ones. For efficiency and competitiveness reasons, with the Common Agricultural Policy a special rural measure was designed to support the drive to commercialization of subsistence and semi-subsistence farms in the NMS. For the practical implementation of this measure, the generally definition for semi-subsistence farming in the context of the NMS has been agreed as *“the farm producing mainly for self-consumption, but also selling a certain part of the production”*, in which the *“surplus” part that is sold has a degree of regularity and consistency*. This issue was debated in the new Member States (NSM), before the elaboration of the National Rural Development Plans, being tackled through the local characteristics of each NMS, depending on the development level of the respective economies, correlated with the degree of general modernization of the society and with the accuracy of the available data. This paper intends to present some options for different types of small Romanian farmers to overpass the semi-subsistence status and become commercial, using the support options provided by CAP.

Keywords: semi-subsistence farming, rural development, New Member States, measures of National Rural Development Plans, Romanian farmers

JEL Classification: Q01, Q12, Q18

“Subsistence and semi-subsistence farming” has been one of the most researched topic in the last decades and it is still considered an interesting subject to attract research interest, especially in a developing country context and transition economies.

¹ This paper is based on two researched reports made on 2008 (“Semi-subsistence Farming in Romania: Prospects for Catching-up”, prepared for the Conference “Growth, Competitiveness and Real Income Convergence” organized by CEROPE and the World Bank and the study no. 5 Pre-accession impact studies “SCENARIOS REGARDING THE IMPACT OF RURAL DEVELOPMENT MEASURES ON THE ROMANIAN AGRICULTURAL STRUCTURES AFTER EUROPEAN UNION ACCESSION” financed by European Institute in Romania, 2006).

According to the economic literature there is not a generally agreed definition of subsistence or semi-subsistence farming but the approach may be based on some criteria such as: *the farm size, the economic size and the market participation*. Theoretically, in the 21st century (according to the old approach to this subject), the “subsistence farming” should be characteristic only to the lesser developed economies in the third world, being associated with poverty, low level of inputs and technology, low productivity and inefficiency and insignificant share of marketed products.

Considering the EUROSTAT definition on subsistence as “the farm with economic size lower than 1 ESU”² it can be underlined that “the subsistence and semi-subsistence phenomenon is still present, even if only marginally, in many developed countries as well as in the EU Member States” (see Annex 1).

The amplitude of this phenomenon is reduced in the Old EU Member States, and the social and economic connotation and implications of this type of farms are very different compared to the New Member States (many of this type of farms are “leisure” activities), where the subsistence farm is the result of the transition and land reforms, being a phenomenon with important social implications in the rural area because in most cases it is the sole source of income for the vulnerable rural population.

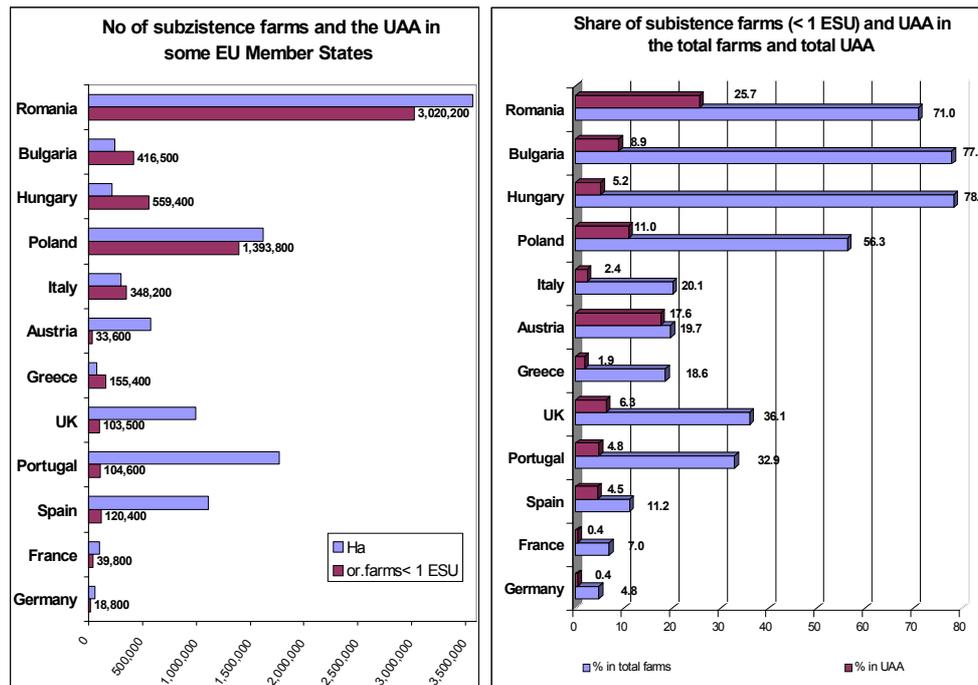
The EUROSTAT analyses point out that Romania is by far the country with the highest number of subsistence “farms”, followed by Poland, Hungary and Bulgaria (see Graph 1). Out of the Old Member States, Italy, Greece, Spain, United Kingdom and Portugal have a significant number of “subsistence” farms, but their utilized agricultural area (UAA) doesn’t exceed 10% of total UAA, except for Austria where the subsistence farms operate over 17% of the land area.

Overall, 71% of the Romanian “farms” are under 1 ESU and operate around 26% of the UAA (Graph 2). Subsistence farms (under 1 ESU) have average areas of around 0.5 ha in Greece, Hungary and Bulgaria, 1 ha in Italy and 1.2 ha in Poland and Romania, around 3 ha in Germany and France, about 9 ha in Spain and the United Kingdom and 17 ha in Portugal and Austria.

According to EUROSTAT published statistics, the Italian, Greek and Portuguese subsistence farms under 1 ESU have a certain degree of self-

² The European size unit (ESU) equal to 1200 Euro (Commission Decision no. 85/377/EEC) is the measurement unit of the economic size of a farm. The economic size is computed as sum of the gross standard margins for each activity (in the case of crop production per hectares and in the case of animal production per animal head), differentiated at regional level in order to include the specific development of the different zones. The gross standard margin is defined as the difference between the values of the output (production) obtained on one hectare or from one animal and the cost of the different inputs required in order to produce that output. Usually, GSM is computed as triennial average in order to avoid the distortions induced by the prices or production fluctuations.

consumption, while the Austrian ones have a high degree of direct sales. This type of subsistence farms from the Old Member States cannot be compared with those from the NSM where the degree of self-consumption at farm level is very high, 91% in Hungary, 86% in Romania, 78% in Bulgaria and 57% in Poland.



Source: based on the country-specific publications on "Statistics in Focus", elaborated using the results of the Farm Structure Survey (FSS) 2005 for each country, EUROSTAT, 2007

Graph 1

Graph 2

For efficiency and competitiveness reasons, the Common Agricultural Policy designed a special rural measure to support the drive to commercialisation of subsistence and semi-subsistence farms in the NMS.

For the practical implementation of this measure it was necessary to find a generally definition for semi-subsistence farming phenomenon. The generic definition of semi-subsistence farm in the context of the NMS is "the farm producing mainly for self-consumption, but also selling a certain part of the production, in which the "surplus" part that is sold features a certain degree of regularity and consistency".

This issue was debated in the New Member States (NSM), especially before the elaboration of the National Plans for Rural Development, being tackled through

the local characteristics of each NMS, depending on the development level of the respective economies, correlated with the degree of general modernization of the society and with the accuracy of the available data.

For example, Hungary defined the semi-subsistence farms as those farms that have a total sales revenue from agricultural activities of 2–4 ESU; it proposed as efficiency indicator a jump to 4 ESU and above by the end of the fifth year, corroborated with the farm's capacity to sell at least 80% of its total output on the market. Bulgaria considered as semi-subsistence farms those farms between 1 to 4 ESU and proposed as indication of efficiency to exceed 3 ESU by the end of the fifth year of the program.

As it was mentioned before, the farm size can be classified on *the basis of the physical size* (land, livestock or combinations of the two), the source being the agricultural census and/or structural surveys, *on the basis of the economic size* (measured the compatibility in ESU, starting from the SGM), the empirical complementary source is FADN or on the basis of the financial performances (rate of return, profit), the source is represented by the fiscal declarations.

In Romania's case for small-medium sized farms, the last source is still unrealistic, the second one uncertain for now, and the first one is available (the structural survey and the census) only at aggregated levels. *For this reason the real picture of the Romanian farm structure can be drawn only by combining the available data.*

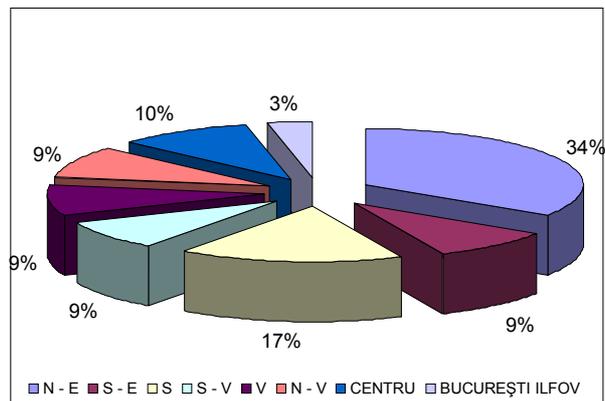
On the basis of this approach and the results of different studies related to this subject, it was decided to set the limits of "*semi subsistence farming*" between 2 to 8 ESU (about 350 thou. farms), being generally represented by typical individual farms (the share of the legal entities being low, *i.e.* 0.5–2.1%). This segment represents 9% of the total farms and about 16% of the UAA, with an average size of 4.9 ha/farm for the 2–4 ESU group and 9.4 ha for the 4-8 ESU group.

On the basis of previous experience in implementing SAPARD measures, as well as on the current information on rural areas in Romania (regarding the socio-economic and knowledge development), we can assume that no more than one quarter of the potential beneficiaries will ask for this type of support.

As the combined information from different sources regarding the economic size of the small and medium sized farms in Romania could only provide a "processed" image of the farms, at the end of 2006 MARD initiated a survey throughout the country in order to be able to substantiate the decisions regarding the classification of the farms as semi-subsistence farms, and to support them through NRDP measures.

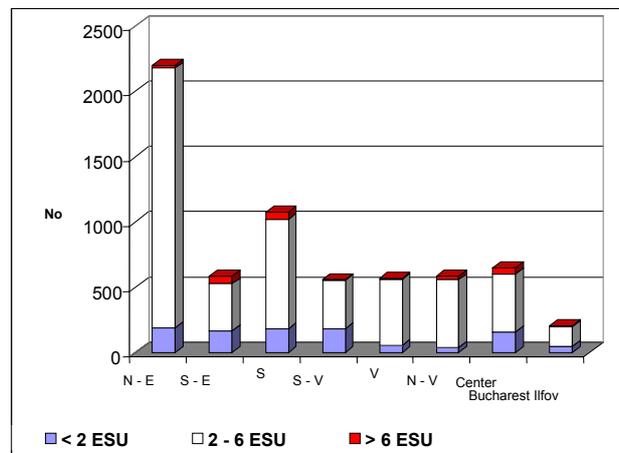
The methodology consisted in the elaboration of statements/questionnaires sent in all counties (to a sample of 6,427 farms), which were filled in by farmers and subsequently consolidated at county and national level. The share of questionnaires filled in by regions is presented in Graph 3, and the share of questionnaires filled in by regions and type of farm size in Graph 4.

The two graphs below reveal that most questionnaires were completed in the regions North-West and South, and that most of the respondents had a farm between 2–6 ESU (80% of the questionnaires).



Source: based on the processed data from *MARD*

Graph 3. Share of filled questionnaires by regions (% out of 6247)



Source: based on the processed data from *MARD*

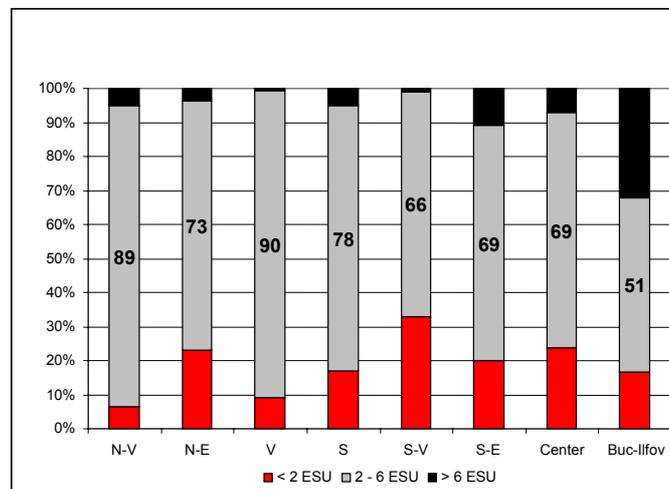
Graph 4. Structure of the analyzed farms at regional level by economic size.

We consider that this action was salutary, as currently the existing data (those supplied by the FADN office and those obtained through the census) do not provide an up to date image of the small-sized farm status.

The statement/questionnaire contained minimal data, useful to the targeted purpose:

- farm location;
- if the owner has a pension and, if yes, what type;
- data regarding the owned area and the category;
- number of parcels and their area;
- crop structure;
- number of animals.

The coefficients per farm agricultural activities used to assess the economic size are presented in Annex 2. After processing almost 6,500 questionnaires completed in 1963 communes, a structure of the farms economic size was outlined from the sample at regional level (Graph 5) and at country level.



Source: based on the processed data provided by the Ministry of Agriculture

Graph 5. The structure of subsistence and semi-subsistence farms by regions (of the analyzed MADR farms).

Because this survey is rather empirical from the methodological point of view and did not attempt to establish a representative sample based on statistical rigors, the obtained results can only provide an approximate image of the structure of subsistence and semi-subsistence farms in Romania. However, along with other studies on this subject, the thorough analysis of the questionnaires from farms with a size within 2–6 ESU (80% of the total number of questionnaires) represented a benchmark for the decision to establish the minimum threshold of the semi-subsistence to 2 ESU and the maximum to 8 ESU in order to implement NRDP measures aiming at supporting these farms towards the conversion into commercial family farms. The structure of the semi-subsistence farms points out the need to make well-targeted interventions.

Taking into account that in Romania, according to the Ministry of Agriculture data (June 2007), out of the total agricultural households only 1,237,358 (29% of total) were registered in the Farm Register, operating on 9,705,502 ha (70% of total UAA), it can be underlined that about 3 million small household holdings cannot be considered “farms” because they do not comply with the minimum conditions to be registered (1 ha of land, with parcels over 0.3 ha) and they are not eligible to benefit from Pillar I single area payments. These values also give an indication of the picture of the subsistence problem in Romania. For these 3 millions “farms” or “households” which are not eligible for EU support under Pillar I, the Government should continue the former policy for farm consolidation through different measures such as the current life annuity measure as well as by making full use of the measures under Pillar II, such as the diversification activities, support for SMEs and encouraging the tourism activities.

Besides this support through CAP, some national policies dedicated to the rural area with socio-economic measures for this category should be taken into consideration in order to diminish the gap between the urban and rural areas as well as in terms of adjusting the macroeconomic structure and diminish the size of the agricultural sector in the NMS.

From the total of over 3 million small farms in Romania (subsistence and semi-subsistence), taking into account the limits set up by the Ministry of Agriculture (2–8 ESU) only 350 thousand can be considered as “potential” farms which may be transformed into commercial farms, using the subsistence farm support measure from NRDP. Considering that only $\frac{1}{4}$ from these total “potential” farms will apply for this type of support, MARD estimates a target of about 76 thousand to be supported and a success rate of 80% for these farms to become commercial after 5 years (about 60 thousand).

As compared to other NMS such as Hungary, which estimated a potential of 20 thousand farms and a target for support of only 3 thousand, with a success rate of 80%, and Bulgaria with a target for support estimated at 21 thousand farms with an estimate success rate of only 60% (about 16 thousand), we consider that Romania’s expectations are too optimistic.

To simulate an assessment of the support that can be received by the Romanian semi-subsistence farms, we randomly chose ten case-studies of semi-subsistence farms (from MARD survey) in each region, with an economic size between 2 to 8 ESU, mostly in hilly areas, to be used as a real base for an estimation of the financial support that can be received through CAP.

Table 1 and Annex 3 synthetically present the characteristics of the 10 semi-subsistence farms considered.

Table 1
Main characteristics of the semi-subsistence farms considered for the analysis

	SC 1	SC 2	SC 3	SC 4	SC5	SC 6	SC 7	SC 8	SC 9	SC 10
UAA Ha	3.2	3.6	6.5	3.7	6.1	7.0	4.5	12.5	3.4	36.0
ESU	2.2	3.2	4.3	4.5	5.3	6.1	7.2	7.7	8.0	8.0
From crop productio n %	31.7	78.2	52.2	29.0	34.7	25.6	11.9	72.8	74.7	100.0
From livestock productio n %	68.3	21.8	47.8	71.0	65.3	74.4	88.1	27.2	25.3	0.0
Farm type ³ out of which:	mixt	mainly crops	mixt	mainly livestock	mixt	mainly livestock	mainly livestock	mainly crops	mainly crops	mainly crops
mainly	<i>Varied crops and livestock</i>	<i>Cereals, oilseeds and varied granivores</i>	<i>Arable crops and granivores</i>	<i>varied livestock and arable crops</i>	<i>cereals and varied ruminants and granivores</i>	<i>Ruminant and granivores,</i>	<i>Milk and beef specialized, and various livestock</i>	<i>pasture and sheep</i>	<i>Arable crops and mixed ruminants and granivores</i>	<i>cereals and oilseeds</i>
Age limit pension	no	yes	no	yes	no	yes	no	yes	no	yes

Source: from farmers' statements, collected by MAFRD, October - November 2006

It is assumed that the farms selected for analysis fulfill the conditions for CAP support⁴. After analyzing the structure of these farms we can say that they are generally mixed farms (with one exception), typical for the Romanian peasant farms, with areas from 3 to 36 ha, with the household head retired due to the age limit and younger, in equal shares.

Because the survey did not include questions regarding the sold production, it can be assumed that in all the investigated cases in our study (with some exceptions regarding CS 10 that cultivates cereals and oilseeds on 15 ha, and CS 7 specialized on milk and beef), the market integration level is extremely low, the share of self-consumption is high and the surplus (milk, ewe cheese, pork, poultry and eggs) is probably sold directly on the peasant market. Those with a larger land area certainly use the services provided by third parties for mechanization works; probably the "farmers" working on these household farms have no specific knowledge (perhaps with the exception of some of those who are not retired).

³ We consider as "mixed farms" those farms with an economic size composed by approximately 50–50% ESU livestock and crops, and "mainly livestock" or "mainly crops" if the share of ESU from livestock or crops is a combination of 25–75%.

⁴ They are registered in the Farm Register, have 1 ha of land and parcels of minimum 0.3 ha, the livestock is registered and the sold products (milk) have the required quality.

The financial support for the selected farms will be provided through area direct payments in relation with the land area and through market measures along with the rural development assistance (in this case under Axis 1).

The estimation methodology was simple, using as information the crop structure and the related number of hectares, the number of animals on each farm (bovines, sheep and goats) (see Annex 3) and the value of the potential support to be granted though the legislation in force (Table 2).

It was not considered that the farms cultivating maize, sunflower, rape or soybeans could receive the complementary national direct payments for energy crops (54 euro/ha).

Table 2

Direct payments according to Gov.'s Emergency Ordinance 125/2007, Minister's Order 295/2007 and Government's Decision 985/2007

Specification	EUR*/ha or EUR/head 2007
Single Area Payment Scheme from EAGF	50.5
Complementary national direct payments from MARD+ EAFRD budget	
<i>Wheat, rye, barley, malting barley, oat, sunflower, maize, rape, beans, and other vegetables, flowers, fodder crops +</i>	47.0
<i>– for energy crops (maize, sunflower seeds, rapeseeds, soybean</i>	45.0
<i>– Hops</i>	120
<i>Sugar beet</i>	192.08 (+77.2 if they have contract with a sugar factory)
<i>Livestock in farms producing for the market</i>	
<i>– Dairy and beef livestock</i>	146 (divided in 2 payments/year)
<i>– Sheep and goats</i>	10 (divided in 2 payments/year)

* exchange rate 1Euro =3.3441RON

Source: legislation in force in 2007

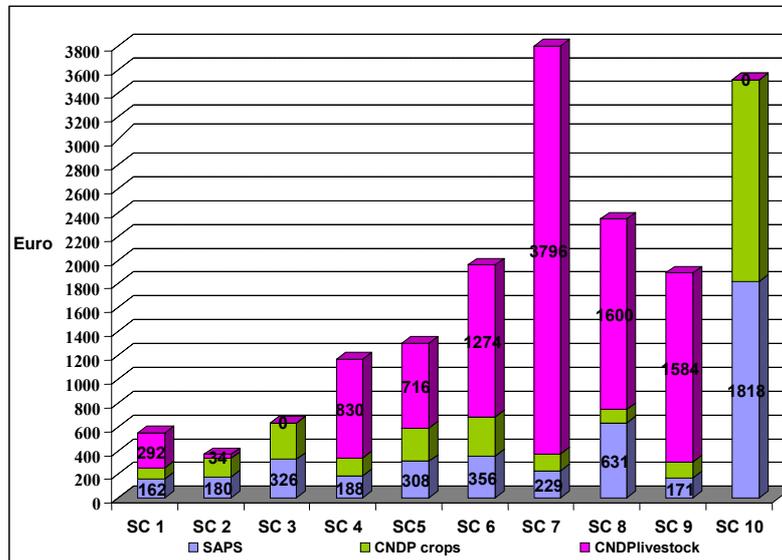
The ten investigated farms could receive direct payments from the EU and national budgets ranging from 370 euro to 4,166 euro (Table 3), this value being directly influenced by the structure and typology of the farms (Graph 6).

Table 3

The value of direct payments for the investigated semi-subsistence farms

Specifications	EURO									
	SC 1	SC 2	SC 3	SC 4	SC5	SC 6	SC 7	SC 8	SC 9	SC 10
SAPS	162	180	326	188	308	356	229	631	171	1,818
CNDP	386	186	303	977	996	1,603	3,937	1,712	1,719	1,692
Total direct payments	548	367	629	1,165	1,304	1,959	4,166	2,344	1,891	3,510

Source: own estimations



Source own estimations

Graph 6. The estimate value of direct payments for the semi-subsistence farms by source.

It can be noticed that the national support through CNDP was intended to complement the area direct payments from the EU budget, which amounts to only 25% compared to the amount received by the Old Member States; for the livestock farms (bovines and sheep), the direct payments received from the national budget bring a considerable input to farmers' incomes.

Besides the direct payment support granted under Pillar I, these farms can also access a number of NRDP measures. From these measures, the most feasible ones for the investigated cases would be the support to semi-subsistence farms, setting up young farmers, establishment of producers' groups, developing non-agricultural activities and granting compensatory payments for agri-environment, mainly for organic farming, farm modernization, training, providing advisory and consultancy services to farmers.

We assume that the analyzed farms would have access to at least two of the previously-mentioned measures, namely supporting the semi-subsistence farms and set up of young farmers. In order to comply with the eligibility criteria to access these support measures, we assume that the retired farmers would give up the farm to a younger head of the household (under 40 years old who could be a member of his family), and the not retired household heads under 55 years old would have incomes from other sources.

The support for semi-subsistence farms is granted to farmers⁵ under 62 years old who come up with a business plan to restructure the household. The imposed age limit was established on the basis of the high share of semi-subsistence farms, managed by retired persons who would not have had enough motivation for developing a viable household. Three years after the support is granted, the viability of the semi-subsistence farm would be demonstrated by a 20% increase of the production to be sold and an increase by minimum 3 ESU of the farm size, compared to the initial status as mentioned in the business plan. The support granted under this measure is of 1,500 euro/year/semi-subsistence farm over a period of maximum 5 years. These farmers could also access to measures targeting the professional training and consultancy services. On a case-by-case basis, they can also access the farm modernization measure or other measure such as: setting up producers' groups, developing non-agricultural activities and granting compensatory payments for agri-environment, especially for organic farming.

Setting up young farmers aims at setting up and/or taking over through transfer of ownership and/or renting under a minimum 5-year contract or the concession of a farm between 6–40 ESU, for the first time by a manager (head) of the household for young people under 40 years old. Those accessing this measure will have to submit a business plan and will have to undertake, in the first 3 years after receiving the support, professional training under measure 111 “Professional training, information and knowledge dissemination” in at least one of the fields: the management of the agricultural household, farm accounting, environment protection, organic farming etc. The support would be granted as a premium, in two tranches: 60% out of the value of the support for setting up, at the date of APDRP’s approval of the application for support and 40% after achieving the actions foreseen in the business plan. The beneficiary must demonstrate that the farm size is over 10 ESU and increased by minimum 4 ESU from the date of the individual decision to grant the support for setting up a young farmer. The value of the setting-up support is of 10,000 euro for a household with a minimum size of 6 ESU, and over this size the setting-up support could increase by 2,000 euro/1 ESU but could not exceed 25,000 euro/household. The young farmers can access other measures as well:

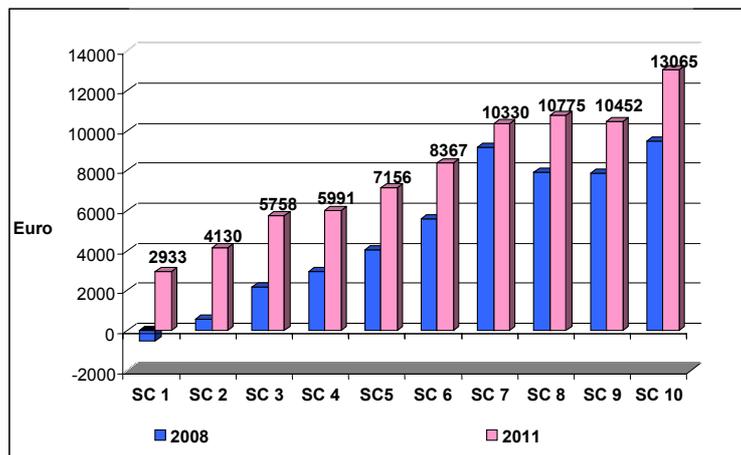
- “*Vocational training, information actions and diffusion of knowledge*”;
- “*Modernizing agricultural holdings*”;
- “*Improving and developing the infrastructure related to the development and adaptation of agriculture and forestry*”;
- “*Support semi-subsistence farms*”;
- “*Supply advisory and consultancy services to farmers*”.

⁵ The farmer is a physical or legal entity, whose household is located on the country’s territory and has a size equal or larger than 2 ESU, who undertakes mainly agricultural activities and who is registered in the Farm Register/Agricultural Register.

Let us assume that a 3-member family has an average consumption of 4.3 ESU and, for a farm to begin selling part of the production, it should have at least a surplus of 2–4 ESU. Under these working hypotheses, we assessed the value of the surplus to be sold by the considered farms in the scenarios presented below.

2008	2011
<ul style="list-style-type: none"> • ESU – 2006 level • SAPS + CNDP according to legislation in force (table 3) • Self consumption – 4.3 ESU (5,160 Euro for a family with 3 members) • Support for semi-subsistence farms under Pillar 2 (1,500 Euro yearly) 	<ul style="list-style-type: none"> • + 3 ESU as compared to 2008 • SAPS + CNDP according to legislation for the NMS (40% SAPS + CNDP annually decreasing by 30%) • Self-consumption – 4.3 ESU (5,160 Euro for a family with 3 members) • Support for semi-subsistence farms under Pillar 2 (1,500 Euro yearly)

As indicated by Graph 7, direct payments support corroborated with incentives to subsistence farms (under NRDP) may lead to an increase in the tradable surplus by minimum 20%. This differs with farm production specialization. The farms with a larger number of animals need to access other measures, because their incomes will go down as CNDPs (the only direct payments to livestock growers) shrink. We should underline here that real premises to turn into commercial entities exist just for the holdings with a sellable surplus of at least 4–5 ESU. In this condition setting an upper limit of farm eligibility on implementing the semi-subsistence measure (over 4 ESU) would be more efficient and realistic for Romania. The support for farms between 2–4 ESU will be only a “social” measure for farmers that will not reach the proposed objective of farm restructuring.



Source: own estimations

Graph 7. Supplementary ESU available for the market for the semi-subsistence farms.

Considering, on top, the support for young farmers' settling down, for which (under the described scenarios) the farms over 6 ESU are eligible (*i.e.* SC 6, SC 8, Sc 10), based on a business plan, we can assume that the minimum amount of 6,000 Euro that can be granted to the farmer in the first stage, is able to boost the holding towards becoming commercially viable, through investments in technology and inputs. To these access to knowledge can be added, as enrolling in the accompanying "*Professional training, information and knowledge dissemination*" is advisable.

Beyond this set of measures, all farms under analysis can get access to various other programs like: *incentives to producer groups, agro-environmental payments and support to farmers in the least-favoured regions (if applicable)*.

Having in view all the above assessments, one can state that 20% of MARD target group⁶ have real chances to reach the objective which means about 12 thousand farms that have real opportunities to get involved into commercial activities on the medium term (only 21% success from MARD expected results).

For the rest of about 3 millions "farmers", the Government should continue to implement farm consolidation measures within the EU limitations, to access and make full use of the measures from Pillar II (such as diversifications of rural activities and support for SMEs, encouraging tourism activities, support for young farmers) and, complementarily, to design special socio-economic policies targeted to rural areas.

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⁶ From the total 350 thousand farms between 2–8 ESU, 80% have the size between 2–4 ESU and 20% between 4–8 ESU.

ANNEX 1. THE SHARE OF SUBSISTENCE FARMS IN SOME EU MEMBER STATES

Country	Specification	Total no of farms	< 1 ESU subsistence farms	% of subsistence farms in total farms	≥ 1 ESU	% in total
Germany	No. farms	389,900	18,800	4.8	371,100	95.2
	Ha (000)	17,035.2	59.9	0.4	16,975.3	99.6
France	No. farms	567,100	39,800	7.0	527,400	99.6
	Ha (000)	27,590.9	100.5	0.4	27,490.4	99.6
Spain	No. farms	1,079,400	120,400	11.2	959,000	88.8
	Ha (000)	24,855.1	1,114.1	4.5	23,741.0	95.5
Portugal	No. farms	323,900	104,600	32.3	219,300	67.7
	Ha (000)	3,679.8	1,767.0	4.8	3,502.9	95.2
UK	No. farms	286,700	103,500	36.1	183,200	63.9
	Ha (000)	15,894.3	996.3	6.3	14,898.0	93.7
Belgium	No. farms	51,500	2,000	3.9	49,500	96.1
	Ha (000)	1,385.6	2.0	0.1	1,383.5	99.1
Greece	No. farms	833,700	155,400	18.6	678,200	81.4
	Ha (000)	4,016.3	78.0	1.9	3,938.4	98.1
Austria	No. farms	170,600	33,600	19.7	137,000	89.3
	Ha (000)	3,266.2	576.0	17.6	2,690.2	82.4
Italy	No. farms	1,728,500	348,200	20.1	1,380,300	78.9
	Ha (000)	12,707.8	301.9	2.4	12,405.9	97.6
Poland	No. farms	2,476,500	1,393,800	56.3	1,082,700	43.7
	Ha (000)	14,754.9	1,622.6	11	13,132.2	89
Hungary	No. farms	714,800	559,400	78.3	155,400	21.7
	Ha (000)	4,266.5	221.2	5.2	4,045.3	94.8
Czech Rep	No. farms	42,300	15,900	37.6	26,400	62.4
	Ha (000)	3,557.8	37.1	1.0	3,520.7	99.0
Bulgaria	No. farms	534,600	416,500	77.9	118,100	22.1
	Ha (000)	2,729.4	241.8	8.9	2,487.6	91.1
Romania	No. farms	4,256,200	3,020,200	71	123,699	29
	Ha (000)	13,906.7	3,569.6	25.7	10,337.1	74.3

ANNEX 2. COEFFICIENTS USED TO EVALUATE THE ECONOMIC SIZE
OF THE FARMS INCLUDED IN MARD SURVEY

No	Specification	ESU/ha	Livestock	ESU/head
1	Wheat	0.280	Equides	0.071
2	Oat	0.084	Bovine under 1 year	0.061
3	Maize	0.213	Bovine above 2 years males	0.095
4	Other cereals	0.085	Dairy cows	0.261
5	Potatoes	1.174	Sheep for breeding	0.008
6	Sugar beet	0.547	Goats for breeding	0.033
7	Tobacco	1.228	Piglets under 20 kg	0.057
8	Hops	0.417	Sows for breeding	0.243
9	Fresh vegetables	2.257	Pigs	0.140
10	Strawberries	17.481	Chicken broilers – 100 heads	0.450
11	Melons	2.883	Hens –100 heads	0.596
12	Permanent pasture	0.168	Turkeys – 100 heads	0.576
13	Sunflower seed	0.173	Ducks – 100 heads	0.328
14	Orchards	2.125	Geese – 100 heads	0.878
15	Vineyards	1.749	Beehives	0.083

ANNEX 3. THE CHARACTERISTICS OF THE SEMI-SUBSISTENCE FARMS ANALYZED

Specifications	SC 1	SC 2	SC 3	SC 4	SC5	SC 6	SC 7	SC 8	SC 9	SC 10
Economic size (ESU) out of which from:	2.17	3.20	4.33	4.51	5.32	6.09	7.23	7.70	8.04	8.03
Crop production	0.69	2.50	2.26	1.31	1.85	1.56	0.86	5.61	6.01	8.03
Livestock production	1.48	0.70	2.07	3.20	3.47	4.53	6.37	2.09	2.03	0.00
Utilized agricultural area (ha) out of which:										
Arable	2	3.1	6.25	3.13	5.96	7	3	2.4	2.89	34
Pastures and meadows	1			0.5			1.5	10	0.4	
Orchards										
Vineyards	0.05	0.22			0.05	0.04		0.1	0.1	
Backyard garden	0.05	0.25	0.2	0.1			0.03			

Specifications	SC 1	SC 2	SC 3	SC 4	SC5	SC 6	SC 7	SC 8	SC 9	SC 10
Crops structure (ha)										
Wheat	0.75	1.5			5	3			1	15
Oat	0.1					1	2	0.38		
Maize	1	1	2	2.18	0.96	2	1	1	1.5	5
Sunflower seed		0.25	3.25			1				16
Fresh vegetables		0.25	0.2	0.15			0.03		0.09	
Potatoes	0.1			0.1						
Strawberries		0.25							0.3	
Hay	0.05			0.8				1		
Permanent pasture	1.1			0.5			1.5	10	0.4	
Tobacco			1							
Orchard										
Vineyard	0.05	0.22			0.14	0.04		0.1	0.1	
Livestock (no.)										
Equides				2		1	2	2	1	
Bovine under 1 year	1			2			5		2	
Bovine under 1 year males				1			2			
Bovine above 2 years males						1	1			
Dairy cows	1			2	1	3	8		2	
Sheep for breeding				10	56	60	120	140	90	
Goats for breeding		2			1	9	26	20	10	
Pigs	6	2	14	1		7	3	3	4	
Sows for breeding				1	10		2			
Piglets under 20 kg				6			11			
Chicken broilers										
Hens	30	50	18	100	50	25	35		15	
Geese	5			10		15	7			
Turkeys	13						10			
Ducks	8					10	25			
Beehives				10		20				
Age pension limit	no	yes								