

SUBSISTENCE FARMING IN BULGARIA: BETWEEN TRADITION AND THE MARKET

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Abstract

Present-day Central and Eastern European agriculture is characterized by a high incidence of small-scale farmers who are not producing for the market. This paper uses household level data from a 1998 survey in Bulgaria to analyze which characteristics and factors influence subsistence farming.

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1. Introduction

Present-day Central and Eastern European agriculture is characterized by a high incidence of small-scale farmers who are not producing for the market. This is partly the result of land reform procedures practiced in these countries. Post-communist land reforms predominantly restituted land to pre-communist owners, resulting in an extremely fragmented ownership structure (Swinnen, 1999). This ownership structure has been translated into a dual farming structure consisting of still relatively large-scale corporate and cooperative farms on the one hand, and small-scale family farms on the other hand. Market-based middle-sized farms are rare (Sarris et al., 1999).

Subsistence farming implies producing enough food and fibre for the needs of the farmer and its family (Spedding, 1979). Subsistence farming in Bulgaria is not necessarily a product of the ongoing transition reform processes, as it has its traditional roots. Thus, we cannot go into its core neglecting the past. The late start of the country's development (after 1880) brought into the scene a large number of land owners possessing small plots that were too small or just enough to produce sufficient food to sustain the large-sized households that characterized Bulgaria. Different types of production organizations existed, mainly based on cultivation of small, dispersed plots for self-sufficiency. Sharecropping was widespread. Subsistence farming was sustained due to a low level of education respectively low managerial level, lack of capital, lack of off-farm opportunities, legislative framework, large-sized families and the hard times for living.

Some attempts for overcoming the problem and shifting agricultural production from subsistence to market-based were done in the beginning of the 1920's when the first co-operatives emerged. They allowed farmers to apply new techniques, new ways of production and mechanization, thus overcoming the subsistence level and entering into the market. Another way for changing the social status of subsistence farmers was through land renting. This was a step that allowed them to earn returns from their investment of labour and efforts.

As a result, the share of farms smaller than 1 ha decreased from 32% in 1897 to 12% in 1926 and 14% in 1934.

Communist leadership enforced agricultural collectivization, such that large-scale farm enterprises replaced the existing patterns and drastically changed the situation in the sector. The small subsistence farms vanished and production co-operatives appeared instead. The only feature of subsistence farming that remained were the rural and urban households with household plots, where different products were grown, mostly fruits and vegetables. But the cultivation of household plots is something traditional for the Bulgarian society. In the past, the household plot was a sign of wealth. Now, because of the economic changes, it is used as additional source for food or income. Nevertheless, subsistence farming appears to be not a transition phenomenon and will not disappear in the near future.

This paper uses 1998 representative survey data on Bulgarian household farms to investigate the factors that determine their market orientation. Following the introductory part, Section 2 briefly discusses the agrarian reform after the fall of communism that has led to the present situation. Section 3 discusses two cases of subsistence farming which differs in its characteristics and development. Section 4 proposes an empirical model of subsistence farming, while the results obtained from the empirical analysis are described in Section 5. Section 6 concludes the paper.

2. agrarian reform in Bulgaria

Post-communist land reform in Bulgaria started in 1991 and aimed at the restitution of the land and the establishment of new, private, competitive farms. They had to fill the gap left after the liquidation of the former production co-operatives and other communist forms of production. Some claimed that the future development of the rural areas should be a copy of the existing model between the two World Wars – a period that was determined as the most prosperous for the Bulgarian village. The private individual producer was considered as the most appropriate organization in Bulgarian agriculture. The potential of agriculture as an income source and source for employment was expected to revive the rural areas, to create new job and employment opportunities and to solve the problems of depopulation.

Table 1: Pre-reform agricultural structures in Bulgaria, 1985

	<i>Number</i>	<i>Average arable area (ha)</i>	<i>Total arable area (ha)</i>	<i>Share (%)</i>
AICs, comprising of:	298	12,600	3,754,800	80.7
TKZS	678	4,000	2,712,000	58.3
SAFs	196	2,100	411,600	8.8
MTS	99	0	0	0
Brigades	na	na	631,200	13.6
Other agricultural organisations	238	1215	289,200	6.2
Private plots	1,600,000	0.38	609,000	13.1
<i>Total</i>	<i>1,601,509</i>		<i>4,653,000</i>	<i>100</i>

AICs = Agro-industrial complexes, TKZS = Labour agricultural co-operatives, SAFs = State agricultural farms, MTS = Machine and tractor stations

Source: National Statistical Institute (NSI), Davidova et al., 1997

The pre-reform structure of Bulgarian agriculture (table 1) displays that most of the agricultural land was cultivated by the so-called AICs that were comprising different structures relatively economically independent - labour agricultural co-operatives (TKZS), state farms (SAFs), machine and tractor stations (MTS), and Brigades. Within this variety of

operating units, TKZS had the dominant role. Private plots were 13% of total agricultural land, one of the highest shares in Central and Eastern Europe.

Table 2 : Post-reform agricultural structures in Bulgaria, 1995-1999

	1995			1999		
	Number	Share of arable land (%)	Average size (ha)	Number	Share of arable land (%)	Average size (ha)
State farms	980	6.5	310.9	311	1.6	241.16
Municipality farms	-	-	-	21	2.0	n.a.
Organisations under liquidation	157	-	-	0	0	0
Co-operatives	2,344	40.8	815.3	3,666	36.8	482.54
Individual farms	1,777,122	52.5	1.4	7,862*	56.0	n.a.
Others**	122	0.7	283.5	457	3.6	378.56
Total		100.0			100.0	

Source: NSI, Davidova et al., 1997 (for 1995); National Statistical Institute and own calculations (for 1999)

*Includes only individual farms registered at Bulstat Register

**Others includes: resident legal entities; foreign legal entities; foreign physical entities; foreigner in co-operative; associations; religious organizations; other non-government organizations.

Implementation of 1991 land reform resulted in various production units by type of ownership and a very dual structure (see table 2): roughly spoken, in 1995, half of the land was cultivated by individual (household) farms and almost 41% by the new co-operatives that emerged after the liquidation of the old ones. In 1999, the share of the arable land cultivated by individual farms has increased to 56%, the number and the size of other production units has increased as well, while the share and the size of the agricultural co-operatives has been reduced.

What was expected to happen in Bulgarian agriculture, namely the emergence of well-functioning market oriented private (household) farms, did not. On the contrary, two-thirds of the individual farms are subsistence farms – they do not produce for the market (see further). According to the official statistics (table 3), the share of the cash household income from the household plots is considerably below its pre-transition level.

Table 3: Bulgaria: Household income, 2000-2001

	1989	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total HH* income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>of which:</i>										
Share of the cash income from the HH plot	12.95	2.89	2.95	3.04	3.74	4.27	4.33	3.28	2.75	2.68
Share of the income "in kind" from the HH plot	n.a.	18.29	17.22	22.88	23.82	18.34	20.60	17.41	14.91	13.99

* HH = household

Source: Own calculations based on NSI data.

Furthermore, after the years of recession and economic crisis in 1996-1997 its share is strongly diminishing, accompanied by decrease in the "in kind" income. But still, the share of the income "in kind" from the total income is high. The situation is worse in the villages, where the income "in kind" from the household plots was 31% in 1999 and 30% in 2000.

Additionally, in the villages, there exists a positive correlation between the share of the "in kind" income and the total household income (table 4).

Table 4: Bulgaria: Structure of the households' gross income in the villages by annual income per capita, 1999

	Total*	Decile Group**									
		I	II	III	IV	V	VI	VII	VIII	IX	X
Total income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>of which:</i>											
In cash	65.1	72.8	75.6	73.9	71.5	69.2	67.6	63.3	62.5	58.0	56.8
In kind	34.9	27.2	24.4	26.1	28.5	30.8	32.4	36.7	37.5	42.0	43.2

* Per household

** I group: with income per capita of up to 600 BGN; X group - with income per capita of 2520 BGN and more

Source: NSI, Bulgaria.

The reasons for this are manifold: lack of competitive internal product markets, land fragmentation, no economies of scale, weak consumer demand as well as low producer prices and high input prices, payment delays, poor market information, etc. Disrupted links between farmers and administration on one hand, and farmers and professional organizations, on other, combined with insufficient rural development activities only strengthen the existence of the subsistence farms. Adverse conditions create new subsistence farms, while the restoration of the agriculture sector and its adjustment to the level of the EU agricultural sector assumes reduction and limitation of this kind of farms and their transformation into market-oriented.

3. Case Studies

Many rural households are making attempts to enter farming, especially after the end of the restitution process. Households adopt different strategies to cope with the high share of unemployment in the rural areas and lack of off-farm opportunities. Here, we are going to describe two cases of subsistence households. The first family was forced to work in the agricultural sector, because of the low salaries in off-farm activities. It shows how a household in a rural area, operating a small-scale farm, can be vital and progressively expanding its activities. The second case describes a family strongly relying on the social system in the country, but because of the low level of the pensions forced to become purely subsistence. Both cases are randomly selected observations from the survey. The families live in the village of Nevestino, Municipality of Kustendil, Sofia region. Once started to produce for self-sufficiency and becoming small-scale farmers they do not want to leave this level which gives them more stability and secures their future.

The first family has three members and the 56-year old husband is the household head. He has spent all his life in the village. They started their business after the state restituted their land (1.7 ha) in 1995 - 1 ha of arable land, 0.2 ha of orchards, 0.3 ha of pastures and 0.2 ha of fallow land. But they knew that this land will not be enough to cover their needs. That is why they decided to start looking after animals using the restituted pastures as a starting base. They both work in the nearby settlement where they have their main jobs. Although they are getting some money from it, they are still spending around 30% of their time working on their farm. And agriculture remains their main income source - 70% from all means entering the household. Their daughter, who is a student, helps them in the weekends and in the summer when she is not at lectures. A problem they face is that their land is fragmented. The arable land is on four parcels (they owned a parcel of 0.05 ha before 1990), the pastures and the orchards are on two parcels each, and the fallow land is one parcel. This implies that they have 1.7 ha on 9 places, instead of on 3 or 4. They do not lease land. They have their own poultry houses, stable for cattle, and multipurpose sheds, but they use services for cultivation

of their land provided by specialized companies. They grow mostly grain and maize, but also some vegetables - beans, tomatoes, peppers, cabbage, onions, and potatoes. In their orchards they have apples, cherries, apricots, plums, peaches. Only parts of their fruits go to the market - in years when the harvest is good. The largest part of the vegetables they use for own consumption, while everything from the grains goes to the animals: 3 cows less than 2 years old, 1 cow over 2 years old, one male cattle, a pig, two sheep, a lamb, donkey, chickens, and other poultry. In the future they want to increase the number of the chickens and male cattle. But they want to reduce the old cattle and will no longer look after the lamb. For the last year they produced 8 tons of cow milk, of which they have sold 7.3 tons without contracting on a very good price and this is actually their main income source. They made also 45 kg of cheese and 10 kg of butter for their own consumption, 30 kg of beef, 45 kg of pork, 25 kg of sheep meat. They were able to get 2,220, 000 BGL from the production sold on the local market without any difficulties for finding buyers for their own livestock production. But they admit that buyers will never come to the farm and take the products by themselves, that they do not know so many buyers and with difficulties learn about the market prices of the agricultural production. Additionally, they do not know the market prices in other villages or parts of Bulgaria. And as they say, "our output is still very low, and that's why we don't have a dominant role when selling our production". They buy the fertilizers for their production from the co-operative in the village, but the rest of the inputs they find on the local market with no difficulties, and respectively pay at the time of the delivery. They invested a lot compared to their income, mostly for the purchase of the animals and chemicals. They are not members of the co-operative or association, and they do not intend to become. They consider their cash income from the livestock production as stable and enough for them. They are not interested in setting up a non-farm enterprise being satisfied with the things they have by now, but confess that is more difficult to find a new job compared to five years ago, and they have to rely heavily on friends and relatives if they have to search for a new one. They assess their income as enough to cover their basic necessities and food needs, but not anything more. Considering themselves for old enough they do not have the stimuli to increase their agricultural activities.

The second family consists of two members, husband and wife, both pensioners at the age of 74. They also have spent their entire life in the village and their life does not differ much from the life of every pensioner in the village. They are already old, but half of their time they spend on their own farm. In the beginning of the 1990s they were cultivating their own 0.2 ha until the restitution gave them 1 ha more in 1996. Their land is not of good fertility, like other land in the same region, but they still cultivate it and try to improve it. Land fragmentation also affected them and the 4 parcels they have are too much for such a small farm size. They also do not participate in the land market which is normal given their social status. And because of their age and income, they have to use the services provided by the local farmers for the cultivation of their land. They look after some animals and have in their yard sheep shelters, multipurpose sheds and poultry houses. They grow some maize, which they use to feed their poultry. And also beans, tomatoes, cabbage, onions, potatoes, and get some apples and plums from the fruit-trees in their yard. Everything produced they consume at home. Nothing goes to the market. They have one pig, two goats, two geese and some chickens. They have produced 25 kg of goat milk, 10 kg of cheese, 10 kg of yogurt, 40 kg of pork meat and 40 kg of goat meat, and 200 eggs for the whole year. And consumed all livestock production at their home. They buy concentrated feed for their animals from the local co-operative, but the seeds and feed grain from a different farm enterprise. They have used the service only of the veterinary doctor and they will use it in the future, but no other services because is too expensive for them. Friends and relatives remain their most important source of information. They consider the produced and consumed production at home, as their most

stable income source. And their pensions as very low and not enough even to cover their food expenses. As they say their financial situation has worsened a lot compared to five years ago, and even to the previous year.

4. An empirical model of subsistence farming

Farming systems consists of resources (land, labour, capital) used in activities (crops, livestock, off-farm) to produce a flow of outputs (food, raw material, cash). A farming system is a unit consisting of a unit group (household) and the resources it manages in its environment. Factors such as climate, weather, land tenure, land quality and socioeconomic variables are included (Beets, 1990). Haines (1982) describes the farm as a system that has two objectives: to produce income for the household and food for consumers using certain resources under constraints like soil conditions, climate, planning regulations, etc. Each farming system itself has the same twin objectives: (i) to achieve an adequate level of return, measured in income or food for subsistence and (ii) to produce this regularly and reliably throughout a farmer's working lifetime.

Previous research concerning farm restructuring in Central and Eastern Europe has focused on the determinants of the shift from collective to individual tenure and has pointed to the importance of human and physical capital factors on the one hand (Rizov et al., 2001), and the initial conditions characterizing the economy and the state of technology on the other (Mathijs and Swinnen, 1998). However, there has been no investigation into the determinants of subsistence or market orientation among individual farmers following this shift.

In this paper, we will follow the approach of Goetz (1992) who modeled agricultural household's discrete decision of whether to participate in coarse grain markets separate from the continuous decision of much to sell or buy, conditional on participation. Contrary to Goetz (1992), we consider all products and we do not consider the buying decision. To econometrically model the rural households' two-stage decision problem, we use a double-hurdle model following Cragg (1971) and Heckman (1979). In a first stage, households decide whether or not they sell any surplus of their agricultural production. The equation of the first stage is estimated with a probit analysis. In a second stage, those households who decided to sell, decide how much produce they will market. This equation is estimated by ordinary least squares. For reference, we also estimate a one-stage Tobit model to see which of the two procedures is superior. The following models will be estimated for the Heckman procedure:

$$(1) \quad D_i = D(X_i, Z_i) \text{ for all farms with } D_i=0 \text{ if } S_i=0 \text{ and } D_i=1 \text{ if } S_i>0$$

$$(2) \quad S_i = S(X_i, Z_i) \text{ for } D_i=1$$

where S represents total sales in Bulgarian leva; X is a set of household specific variables, such as age, education, household size, income situation, asset ownership, membership in a cooperative and distance to the nearest regional centre; and Z is a set of farm specific variables reflecting the farm's resources, such as land, machinery and livestock. We refer to (1) as the "selection" regression and to (2) as the "allocation" regression. The Tobit regression is as follows:

$$(3) \quad S_i = S^T(X_i, Z_i) \text{ for all farms.}$$

We use data from the last farm household survey in Bulgaria carried out in 1998 (since 1998, there were conducted no surveys concerning Bulgarian agricultural producers; only several case studies and anecdotal evidence exist). The survey was a two stage random survey meant

to be representative for the country and including 1,400 farm households. After cleaning the data for outliers and errors, 863 observations were retained. Of them 61.9% (534 observations) are households that were not selling any food and can thus be considered as pure subsistence farmers.

Table 5: Summary statistics and definition of variables

Variable	Mean	S.D.	Definition
Age	62.1124	11.9059	Age of the household head
Education	9.0753	3.3417	Years of education of household head
Household size	3.0475	1.7668	Number of household members (including children)
Income	2.2839	0.8680	Categorical variable: 1 = household income is not enough even for food, 2 = income is enough only for food, 3 = it is enough for food and necessities, but not for much other expenses, 4 = it is enough to meet all household's needs
Asset index	0.9896	0.1016	Dummy variable equal to 1 if the household possess at least one car or apartment/house, and 0 if otherwise
Member	0.1506	0.3579	Dummy variable that equals 1 if a household member belongs to a co-operative, association or other agricultural enterprise, and 0 otherwise
Livestock	4.8841	5.3881	Weighted index for livestock
Land	2.2315	4.8347	Land cultivated by the farm household in ha
Machinery	0.5006	0.5003	Dummy variable that equals 1 if the household has some agricultural machinery, and 0 otherwise
Distance	76.6848	57.7638	Distance of the household's farm from regional center
Sales	2480771	8949239	Amount of sales realised by the household (in Bulgarian Leva)
Observations	863	863	

Source: Own calculations

Table 5 presents the summary statistics and variable definition we use in the regressions. These statistics show that households are relatively small (3 members), household heads are old (62 years) with 9 years of formal schooling, and farms are considerably far away (77 km) from the markets in the regional centers. Households are cultivating on average 2.2 ha, and half of them possess some machinery.

5. Results

The results of the various regression analyses are summarized in Table 6. It also includes the results of a second Heckman procedure that contains different specifications. A first result is that none of the Heckman regressions has a significant lambda, such that we will focus our discussion on the Tobit results. In other words, the selection regression dominates the allocation regression to such an extent that the latter provides no additional information. This suggests that to market food, households have to take a considerable hurdle.

Table 6: Bulgaria: Regression results*

	Tobit	Heckman I		Heckman II	
		selection	allocation	selection	allocation
Age	-0.24 (0.00)	-0.05 (0.45)	-0.02 (0.00)	-0.03 (0.05)	-0.02 (0.00)
Education	-0.40 (0.02)	-0.04 (0.78)	-0.03 (0.03)	-	-0.03 (0.03)
Household-size	0.10 (0.76)	0.13 (0.27)	0.00 (0.97)	0.13 (0.09)	-
Income	2.75 (0.00)	0.63 (0.42)	0.23 (0.00)	0.51 (0.07)	0.23 (0.00)
Asset index	0.97 (0.86)	1.14 (0.62)	0.02 (0.96)	-	0.02 (0.96)
Member	-0.59 (0.69)	-0.52 (0.35)	-0.05 (0.72)	-0.54 (0.22)	-0.05 (0.72)
Land	2.83 (0.00)	0.63 (0.39)	0.24 (0.00)	0.52 (0.05)	0.24 (0.00)
Machinery	3.67 (0.00)	-0.13 (0.92)	0.32 (0.00)	-	0.32 (0.00)
Livestock	0.20 (0.04)	0.04 (0.46)	0.02 (0.02)	0.03 (0.23)	0.02 (0.02)
Distance	0.02 (0.08)	0.00 (0.41)	0.00 (0.13)	0.00 (0.22)	0.00 (0.12)
Constant	-1.65 (0.82)	9.61 (0.10)	0.12 (0.85)	11.14 (0.00)	-0.12 (0.85)
Lambda	-	1.76	-	1.05	-
Log likelihood	- 1598.326	-	-	-	-
Observations	863	863		863	

* Coefficients are given with p-values between brackets. Coefficients significant at 10% level are indicated in bold.

Source: Own calculations

The characteristics describing the household head (*Age* and *Education*) are negatively related to sales. This is of no surprise given the high average age of the household heads and the fact that those who are highly educated spent more time in working off-farm, where income is much more stable, regular and higher than in agriculture. On the other hand, older people are more risk-averse and they are less keen to specialize in a certain production. *Household size* has no impact on market orientation, giving us evidence that other factors are more important for the decision-making process. The income situation is positively related to sales. While this can be attributed to the endogeneity of this variable, many authors interpret the variable as a measure for liquidity constraints (e.g., Rizov et al., 2001). The *Asset index*, however, is not significant.

Membership in a co-operative has a negative impact on sales. This seems somewhat surprising as membership should facilitate the marketing of produce and the access to machinery and other inputs. However, this result is consistent with the findings of Mathijs and Vranken (2001) who found a similar phenomenon when investigating the relationship between farm efficiency and membership in a cooperative. They found a positive effect in Hungary but a negative effect in Bulgaria. *Land*, *Livestock* and *Machinery* in the Heckman allocation and Tobit regressions are all positively related to sales. Finally, *Distance* has a

positive effect, a result also confirmed by efficiency studies. This can be explained by the fact that farm households living near to regional towns are more likely to find an off-farm job and their chances for better marketing of the production increases.

A comparison between the allocation and the selection regressions of the Heckman procedure yields some insights as whether the explanatory variables have a differential impact. *Age* and *Education* affects both the selection decision and the allocation in the same direction. Also *Income* and *Land* affect both decisions, while *Machinery* and *Livestock* only impact the allocation decision. This suggests that land is an important constraining factor to expand a household's farm operation.

6. Conclusive Remarks

As the transition from plan to market is characterized by macro-economic instability, unemployment and limited access to capital, cultivation of small household plots remains a reliable source for food provision. In regions where off-farm opportunities are limited, the cultivation of the own land is the main source for income. Both output and factor markets are ill-developed and in addition many rural households have no access to these markets. Our regression results reveal that in Bulgaria, particularly land and capital markets are constraining households to escape from the subsistence level.

The underdeveloped land sales market in Bulgaria and the still improving land lease market create an environment impeding the possibility for increase use of the land as a production factor. There are only three regions where land sale market is well-developed: Dobrich, Silistra and Plovdiv. Land lease market in Bulgaria is less politically and socially sensitive and is less sensitive to the joint ownership factor. The prevailing rent payments are "in kind" (in 80-85% of the cases) which attracts the aging population, but does not support the land leasing market development (Kopeva et al., 2001). The development of the land market in Bulgaria in terms of reduction the transaction costs and the administration procedures for contracts' certification and registration, combined with further stabilization of the land lease market will increase the households' access to land. This inevitably will improve their vitality and will make small-scale farmers more resilient. The result that land occurs to be important factor, shown in our analysis, is further proved by the nowadays reality in Bulgarian agriculture, which is characterized with many cases of rural households leaving or entering subsistence farming sector. In one of these examples (Roma families in the villages of Rakovski and Borovetz), landless and unemployed households started leasing land of small size, supported by an NGO in terms of education, training and information. Due to the specification of the legislation in the country, this step forced the households to leave the social security system and to stop receiving social payments, which were their only income by that time, no matter the size of the land they started to cultivate (according to the legislation, all agricultural producers has to be registered and once this registration is complete, the producers are not treated as unemployed). A fact that puts them into one vicious circle and further forces them to stay out of agriculture, and respectively, to stay unemployed given their low education level and ethnic characteristics. Furthermore, this impedes the activities of the NGOs and reduces the alternatives for rural development. A policy that has to be changed.

Land consolidation has to be implemented and used as a tool for keeping farms vital and increasing their efficiency and competitiveness. It will give the small-scale farmers the incentive to specialize in certain production and hence will improve their sustainability in terms of reducing production costs, obtaining more knowledge, better cultivation and higher yields, improving their social status.

Additionally, credit supply for agricultural activities is missing, with exception for the large farmers (in most of the cases lessees). Low-income households and small-scale farmers have no access to public credit (additionally proved by our data set where no households have obtained credits for the transition period by the time of the survey) and have to turn to the informal market, borrowing money from their relatives, neighbors or the local lenders. Agriculture is still considered as risky, inefficient and unreliable by the banks. The interest rates imposed by them vary between 22-26% and the loan security has to be more than 150%

of the credit amount. State policy in this respect is limited by now to the activities of the State Fund "Agriculture". The credit programs provided from the Fund still have high requirements towards the loan security (130% from the credit), although land is accepted as a back up.

Improving the accessibility to the farms can have additional positive effects on the sustainability of the rural households' farms. Improving, renovating and maintaining the road system can ease the access to farms, reduce the transport costs and make better off the whole community in a certain regions.

Nevertheless, because of the long-lasting economic changes in Bulgaria, subsistence farming plays a huge social role. In the last few years it was used as an instrument for consumption smoothing. It provides the necessary way for overcoming the budget constraints faced by the households. But it does not lead to optimal allocation of resources, welfare and economic growth.

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