

STRUCTURAL CHANGE IN REPUBLIKA SRPSKA – SMALL FARMS BETWEEN SUBSISTENCE ORIENTATION AND MODERNIZATION¹

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Abstract: The paper aims to analyze the main barriers and opportunities for the modernization of the agricultural sector of Republika Srpska with a specific focus on the role of small farms. A particular attention has been given to specific elements related to the human, social, and institutional capital.

Methodologically the work has been based on an extensive desk research, on the use of a field survey and on a number of personal interviews with national experts and professionals. Overall the investigation has also greatly benefited from the theoretical framework elaborated by R. Yin within the “*case study methodology*”.

Key words: small farms; structural change; subsistence farming; Republika Srpska.

1. Introduction

In describing the evolution of the Balkans Micheal Pailaret used the expression “*evolution without development*” and concluded that policy makers had spoiled rather than valued the natural and human resources of the region.

Within this framework agricultural and rural areas have been often neglected to the periphery not only physically, but also economically and politically. This is particularly evident in Bosnia and Herzegovina due to the extremely complex administrative organization created with the Dayton Peace Agreement in 1995. This complexity has led to an extremely controversial policy environment that has been strongly characterized by the lack of a long-term perspective and by a non harmonized regulatory framework in which single municipalities have promoted individual development strategies.

The development of clear policy objectives and endorsement of a long-term, coherent and mutual agricultural and rural development policy have also been affected by structural problems: a lack of reliable information on population and other relevant issues, the absence of an adequate land registry system and cadastre. Moreover Bosnia and Herzegovina (BiH) agricultural sector is characterized by many factors that have typically affected transition countries such as land fragmentation, lack of agricultural mechanization and outdated production technologies, and rural aging, high unemployment and out-migration.

Small farms still dominate rural areas so their viability and their inclusion in long term agricultural and rural development strategies still represent a major issue in the academic and political debate.

The paper aims to explore and analyze the main barriers and opportunities for the modernization of the agricultural sector of Republika Srpska (RS) with a specific focus on the role of small farms. A particular attention has been given to specific elements related to the human, social, and institutional capital.

2. Theoretical framework

In South Eastern Europe the agricultural sector is still characterized by a dualistic structure composed of market-oriented commercial farms and small-scale subsistence farms. So an important part of the production is used predominantly for self-consumption and not for selling. This large share of subsistence makes agricultural performances often unpredictable (P. Kostov, J. Lingard, 2002).

Although no standard definition of subsistence farming exists, this phenomena is generally associated with small holding size, family agricultural work as a part-time or supporting activity, lack of machinery, difficulties in purchasing inputs and marketing products (assuming that they generate a marketable surplus), and lack of added value to primary commodities (Z. Lerman, 2004).

¹ Matteo Vittuari has been responsible for paragraphs 1, 2, 3 and 4. Conclusions have been jointly written by the authors.

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So, generally speaking, the term subsistence agriculture is used to identify those farms that are consuming a fundamental part of their own net production within the household, and, therefore, do not primarily produce to sell on the market. The larger is the share of self-consumption, the higher is the degree of subsistence. According *W. Doppler* (1994) a classification of subsistence farms could result as the following: farms producing at least 90% for their own consumption are subsistence oriented, farms producing between 10% and 90% for their own consumption are semi-subsistence farms, farms consuming less than 10% are market oriented.

Although a common definition is lacking, in agricultural economics literature, the term “subsistence agriculture” has a predominantly negative connotation (*R.E. Seavoy* 2003, *M. Brüntrup, F. Heidhues*, 2002). Subsistence-oriented agriculture is said to lack efficiency of resource use for various reasons:

- the priority given to satisfy family needs;
- the lack of market orientation;
- the lack of use of formal credit;
- external inputs are rarely used in subsistence production;
- technological backwardness;
- low responsiveness to policies.

Subsistence farming defined in these terms reflects, therefore, both historical factors and equally rational responses to high levels of rural unemployment, low incomes and social security systems. Such social security transfers play an important part in agricultural household income and could easily account for more than half of total agricultural household income in some countries. Subsistence farming can, therefore, play an important role in overall family welfare and, equally, in absorbing labor where alternative sources of employment are scarce.

3. Materials and Methods

Methodologically the work has been based on an extensive desk research, on the use of a field survey and on a number of personal interviews with national experts and professionals. Overall the investigation has also greatly benefited from the theoretical framework elaborated by *R. Yin* within his “case study methodology”.

The desk research has been focused on the collection and examination of country surveys, reports and research papers, official reports of national agencies, national and international databases.

The field survey³, based on a structured questionnaire⁴, has involved 215 agricultural households in 5 “regions” of RS (Banja Luka, Bijeljina, Dobo, Sokolac, Trebinje). Since the administrative division of RS does not foresee the regional level – only the municipal level – the 5 regions were selected by following the territorial network and organization of the Agency for Extension Service of Republika Srpska.

Farmers have been selected randomly among those asking for advice or assistance to extension services (this criterion has been used to partially overcome the absence of a land registry). Moreover the number of respondent per region has been partially balanced according: the total population and the total sown area of each region.

The selection of the sample has been particularly complex due to the lack of data resulting from: an unclear definition of who can be identified as farmer in RS⁵; uncertain information regarding the total number of farmers in the Entity; the lack of a land register (a project to complete land registration has been initiated at the beginning of 2008 thanks to a World Bank loan); the number of farmers working part time or full time in other sectors and so not classified as agricultural workers by official statistics (*World Bank*, 2004).

Personal interviews have been carried out with a number of national and international experts in order to overcome the lack of data on specific issues and to collect expert opinions for certain dynamics.

4. Results

4.1 Assistance to Agriculture in RS: the 2000–2007 period

The major elements that must be underscored in analyzing Bosnia and Herzegovina agricultural policy, are the absence of a consistent uniform policy at the national level and the lack of institutional capacity to develop and coordinate agricultural policy and legislation (*European Commission*, 2005). According to the constitutional setting of BiH, all the existing public administration levels (state, entities, district, cantons and municipalities) are involved in agricultural legislation and administration (*European Commission*, 2005).

Duties and responsibilities at the State level are limited to the competencies emphasised by the Constitution as foreign policy and international agreements, foreign trade policy, and custom policy. Any function or power which is not expressly assigned in the Constitution belong to the Entities.

The agricultural support system of Republika Srpska has to be analyzed within this institutional framework. Taking

³ The survey does not aim to be exhaustive and the limits of this approach are evident especially in the size and in the selection of the sample. However, even if the survey does not aim to have a statistical significance, the results are extremely significant in order to explore the main characteristics of the subsistence sector and to provide additional and updated field information.

⁴ The questionnaire has been prepared by and the survey coordinated by Renata Rakic (Agency for Extension Service of Republika Srpska), Gordana Rokvic (Department of Agricultural Economics, University of Banjaluka), Matteo Vittuari (Department of Agricultural Economics and Engineering, University of Bologna).

⁵ The Law 01-892/06 defines as farmer who is holding a registered farm or a member of a family farm who is engaged in agricultural production. A family farm is a farm owned and operated by a family. The definition remains unclear due to different classification that can be used to identify family farms.

into account the last decade, the agricultural budget never exceeded three percent of the national budget, and the policy measures adopted have often been characterized by short term perspective and regular annual revisions.

Table 1. Agricultural budget 2000–2007 (data in .000 KM⁶)

2000	2001	2002	2003	2004	2005	2006	2007
7.562	16.149	17.781	22.149	27.607	31.748	38.780	50.000

Source: Ministry of Agriculture of RS

Before 2000, agricultural support in RS was characterized by individual, ad hoc decisions made by the Government or the Ministry of Agriculture. In addition, it was provided mostly to certain state-owned companies. In this sense public aid to agriculture was missing an overall strategy (both short or long term), and was basically unfair, as subsidies were not allocated according clear and transparent rules. Policy measures were adopted on an annual basis, and often characterized by a significant delay in their approval and implementation. This created uncertainty among agricultural producers, since in most of cases, they did not have any indication of the subsidies orientation or any access to credit, making it necessary for them to invest their own resources.

In the year 2000, some agricultural policy instruments were introduced, taking a step toward the creation of a clearer and better defined strategy. Measures such as regress for breeding stocks in livestock production and premiums for milk and tobacco were introduced; moreover, significant resources (38% of total support) were used in the form of extended credits and loans.

In 2001, the agricultural budget more than doubled from the previous year. With the positive impact of these measures being confirmed during the preceding years, additional measures were also introduced in 2002. A case in point was the Law on Allocation and Disbursement of Resources for Agriculture and Rural Development Support, which provided long-term grounds of support for this sector. However, at the same time, this law was characterized by critical aspects related to significant fluctuations and instability in different premiums such as milk production and breeding stock. Subsidies for livestock were halved, and even tobacco and wheat subsidies were significantly reduced. Overall, total resources for agricultural development support remained at the level of the previous year (+10%), and government started co-financing operating costs of Agriculture Extension Services, as an indirect support measure.

The year 2003 was characterized by the availability of additional resources (+25% on an annual basis), and significant diversification of the overall program. Apart for a further growth of milk and tobacco premiums, for the first time, subsidies for fruit growing, feed and medicinal herb plantation production were introduced. An important

measure, that became effective in 2004, was the provision of subsidies for the interest rate for agricultural credits (around 10% of total resources). This significant diversification also included introduction of resources for rural infrastructure development that were planned but not used, due to the need for those financial resources to mitigate flood and drought consequences.

In 2004, overall resources grew an additional twenty-five percent. Apart from a further strengthening of the supports to milk and tobacco, new grants for the veterinarian sector were introduced. In addition, for the first time, subsidies for contracted production of vegetables and establishment of new orchards and vineyards were set up.

The increase of the agricultural budget continued during the 2005–2007 period, and was generally characterized by a lower degree of fragmentation than in the previous period: in these three years, agricultural policy was consolidated, despite constraints imposed by a lack of transparency and stability, low accessibility, and a general lack of a long term strategy. During this three-year period, direct support to production was slightly reduced in favor of investments in and support for rural development and the veterinary sector.

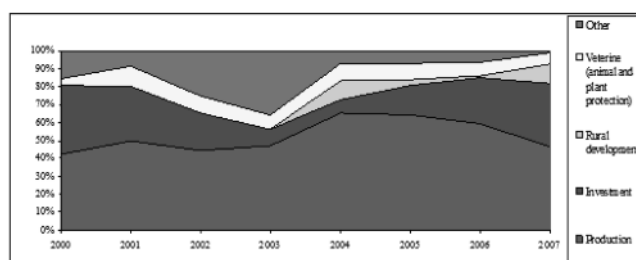


Figure 1. Subsidies by type of expenditure (2000–2007)

Source: elaboration of the author

Even though the four percent of the total RS budget provided for in the Law on Allocation and Distribution of Agriculture and Rural Development Support of 2002 was attained, the 2000–2007 period was characterized by a significant increase of resources.

During this period, the major share of agricultural support was allocated, through direct, support to certain types of production (milk, seed and tobacco) and only in the last years significant additional resources were assigned to rural development, long-term investment and to the veterinarian sectors. Although this shift of resources towards rural development was a positive measure, a clear mechanism for distribution of these funds has yet to be developed with respect to transparent rules on how to distribute such resources to beneficiaries.

So among the tendencies that have characterized the agricultural support system in the 2000–2007 period, it is relevant to highlight the following:

- total amount was increased significantly since 2000, when it was KM 7.562 million, to KM approximately KM 50 million, or by 6.6 times;

⁶ KM = Convertible Marks. 1 KM = 0.511292 Euro.

- more than 50% of the agricultural budget was allocated to direct support of production, and to income support in particular for certain products (milk, seed, and tobacco);
- many analysts agree that a significant amount of subsidies tend to end in the pockets of a negligible part of (large) producers, while a large number of (small) agricultural producers have had access to only relatively small subsidies (Z. Vasko, 2006). This suggests a lack of an equitable principle in subsidy allocation, and a failure in scope, as extremely few subventions have a social more than developmental character;
- funds for agricultural credit have often been characterized by an unclear mechanism of functioning, however, with the new strategy, these funds should be partially transferred to rural development;
- a not so negligible category was represented by those subsidies that were allocated by Ministry decision or under diverse “development programs” that were characterized by a lack of information regarding purpose and selection criteria;
- veterinarian grants have been allocated more for establishment and financing of veterinarian institutions than for animal health protection;
- funds have been allocated through 47 different items: such a broad spectrum suggests, on the one hand, that the overall strategy failed to have a long term perspective, and, on the other hand, that policy aims have been largely unclear.

Subsidies chosen by RS did not have developmental character during the period observed, and from the structure of beneficiaries, it could be concluded that they were used only by certain groups of beneficiaries, while they had little impact upon the stronger support for current and long-term development of larger groups of producers. Similarly, in the previous period, not a single more serious analysis of the impact of subsidies was performed, indicative of the impact of governmental financial support to growth, increased competitiveness and change of production structure. Actually, this analysis indicates irrational use and poor targeting of resources, which significantly puts under question readiness of society to provide support to the agriculture sector. When we add to this extreme inconsistency the measures and mechanisms implemented at RS level, individual local administration levels, as well as very poor monitoring of targeting resources and evaluating effects of the measures, we get a clearer picture of the appropriateness of RS agricultural policy and capacities of the responsible institutions.

Agricultural support policies has been partially revised during 2006 when the Ministry of Agriculture carried out important reforms and created and adopted three major documents: the “Strategy for agricultural development of the Republic of Srpska by 2015” (including a new model for agricultural subsidies); an action plan for the implementation

of the strategy; and a new regulation on subsidies. All three documents came out with the following understanding:

- a) RS Government shall channel its support to the agrarian sector through the “Agrarian budget” and the total amount of resources should reach 6% of the domestic revenues during the first phase of the strategy and 8% during the second phase (Ministry of Agriculture of Republik of Srpska, 2006).
- b) Agricultural support should be addressed through the current system of subsidies and incentives (axis 1), through support to development programmes (axis 2), and through support to rural development and non-commercial holdings (axis 3) (Ministry of Agriculture of Republik of Srpska, 2006).
- c) In the course of the initial three years of the realization of the Strategy, the ratio of resources directed should amount to 40 (axis 1):40 (axis 2):20 (axis 3), and following a period of three years, the ratio should shift to 30:50:20. Therefore, in both periods, the emphasis was placed on development (axis 2 and axis 3), with 60, i.e. 70% of the volume of support, from the aspect of multi-functional development of agriculture (Ministry of Agriculture of Republik of Srpska, 2006).

4.2 Small farms in RS: a field survey

4.2.1 Farm size

The sample in the survey respects the farm size estimations of the major reports and studies: a significant number of farms have a size lower than 5 ha. Farms above 10 hectares included in the sample are generally located in mountain areas or present a significant share of unutilized land.

Table 2. Farm size

Farm size	Number of farms (%)	Number of farms – Cumulate%
0–1 ha	8,4	8,4
1–5 ha	37,4	45,8
5–10 ha	36,5	82,3
10–30 ha	17,7	100,0

Source: elaboration of the author

Besides farm size a major constraint is land ownership which is still under a transition process. A large share of agricultural households do not have formal documents to certify their property or the rental status of the land (renting without contract is a quite common practice). Moreover, among the 50% of registered properties there is a variety of situations. An exception is represented by the few large producers who are in possession of the legal documents for the land they have rented.

Labor is largely the main input and in general the overall level of mechanization remains poor also due to the average farm size which is largely inappropriate for a modern mechanization and to the lack of financial resources that

would allow to purchase or to rent machinery. Moreover the existing technical equipment is generally outdated.

4.2.2 Market vs subsistence

Grain, fruit and vegetables are produced mainly for self consumption while the marketed share is considerably low. The case of fruit production, where only the 5% produce mainly for the market and an additional 5% sell on the market at list the 70% of the total production, is particularly significant.

Farms based on fresh meat and fresh milk productions are generally more market oriented. Among the reasons behind the development of this sector there are: a well developed milk processing industry, a well structured shredded milk collection network, the opportunity for a valuable monthly income for small farmers, low market costs and fixed investments.

Milk and meat processed products are predominantly produced for self consumption with the exception of Dobož and Trebinje area. This can be partially explained considering some successful stories like the “*sir iz mijeha*” (cheese in a sack) which has been recently protected through a *slow food presidium*⁷. However on farm meat processing remains rare also because of the relevance of the livestock market within the Entity.

Table 3. Market orientation by product (%)

Product	Mainly for family consump.	Up to 70% for family consump. and 30% for market	50% for family consump. and 50% for market	Up to 70% for market and 30% for family consump.	Mainly for market	No product.
Grain	50,9	9,4	7,9	5,9	5,4	20,5
Fruits	71,9	6,4	3,5	4,4	4,9	8,9
Vegetable	76,8	5,9	2,0	8,7	5,6	1,0
Milk (fresh)	25,2	8,5	14,4	13,9	23,2	14,8
Milk products	43,0	5,5	5,9	15,9	7,4	22,3
Meat (fresh)	15,3	11,9	9,5	35,1	25,7	2,5
Meat products	73,2	1,0	0,5	0,5	0	24,8
Honey	17,3	0	2,0	2,5	2,0	76,2

Source: elaboration of the author

Overall more than the 40% of products are marketed through farmer markets while only a 20% of the farmers sell their products through a processing company or a distributor.

4.2.3 Credit

The credit system is not used by the majority of agricultural households (57.7%) however the most accessible institutions are Micro Credit Organization (MCOs) and

NGOs while the presence of commercial banks is absolutely residual.

The major barriers to credit are the high interest rates required (MCOs and NGOs are more accessible since they offer better condition) and the request of significant collaterals that are considered as a major constraint in the 56% of the cases.

Overall credit has been used mainly for purchase of equipment, for the construction and modernization of buildings and other facilities, and for solving financial problems. Correlations between access to credit and access to subsidies have to be observed. Farmers who do not have access to subsidies usually do not have access either to credit or microcredit. Small size, age and low education level are among the main causes.

4.2.4 Subsidies

Overall more than 50% of the interviewed agricultural households have received subsidies, but relevant regional disparities have to be underlined. Subsidies have been received by the 65% of agricultural households in Dobož area and only by the 20% in Trebinje area. This diversity in subsidies distribution can be partially explained with the diversity of farm size within the regions: large farms in Banja Luka and Dobož receive the largest share of subsidies.

Table 4. Access to subsidies 2006–2007

	%	Cumulate%
Subsidies received	51,2	51,2
No subsidies received	48,8	100,0

Source: elaboration of the author

The subsidy system is considered extremely complicated by a large group of households who find the main element of complexity in the fact that in the last years the system has been deeply modified on a yearly basis.

Moreover subsidies are extremely fragmented and fail to promote specialization or competitiveness. Considering that almost the 80% of subsidy recipients obtain less than 900 KM

Table 5. Subsidies received in 2007 (KM)

Subsidies received	Number of farmers (%)	Number of farmers – Cumulate%
No subsidies received	47,8	49,2
50-100 KM	3,4	52,8
100-200 KM	3,4	56,3
200-300 KM	3,9	60,4
300-400 KM	5,4	66,0
400-500 KM	6,9	73,1
500-700 KM	4,4	77,7
700-900 KM	2,0	79,7
900-1500 KM	3,9	83,8
1500-2000 KM	6,4	90,4
>2000 KM	9,4	100,0

Source: elaboration of the author

⁷ Slow Food: <http://www.slowfood.com>.

per year it is probably appropriate to recognize in agricultural subsidies more a social than a development purpose.

A large majority of subsidies (70,5%) have been allocated exclusively to production, this is coherent with the agricultural policy instruments used in the 2000–2007 period basically aimed to the direct support of certain commodities (overall milk and tobacco). Apart for production there is a quite significant share of farmers (7,9%) who have received subsidies both for production and for the purchase of new equipment. Other categories (modernization of new facilities, purchase of inputs as chemicals and fertilizers) have been residual and did not have a significant impact at the farm level. A subsidy scheme mainly oriented to support production instead the purchase of new equipment or the improvement of the facilities fails in promoting a modernization process

Table 6. Subsidies/aim

Aim	Subsidies received (%)	Subsidies received – Cumulate%
No subsidies received	48,2	48,2
Purchasing of new equipment	2,0	50,2
Modernization of facilities	2,0	52,2
Purchasing of inputs (chemicals, seeds)	1,5	53,7
Production	36,9	90,6
Purchasing new eq + production	7,9	98,5
Modernization of facilities + production	1,0	99,5
Equipment+inputs	0,5	100,0

Source: elaboration of the author

A major criticism that farmers direct to the subsidy system is also related to its extreme complexity due to the lack of stability (in the past decade an overall strategy have been not foreseen and instruments were changed on an annual basis) and the extremely bureaucratic (for farmer's average knowledge) procedures.

4.2.5 Sectoral organizations and farmers associations

The majority (68%) of the agricultural households are not member either of a cooperative or of an association. The situation is largely common in transition countries, where agriculture cooperatives played a big role in former systems. In RS more that 300 “old” cooperatives are still formally existing and most of the cases they are not functioning but they are still in control of valuable and large properties. This situation has a significant impact on the farmer's perception of the cooperative system. So mistrust is still a major constraint for the creation of associations and of a new model of cooperative.

4.2.6 Demographic trends and family structure

Effects of war and changes in the economic system continue to support the lasting trend of migration of people from rural areas to economically more developed urban

centers contributing to further erosion of rural households and their deteriorating age structure. Agricultural activities in the area are thus often limited and have mainly a subsistence or semi-subsistence character. The age structure reflect this considerations since families are characterized mostly by elders and so by people with less chances to find a better job in a more urbanized center or with a not so strong desire to move in search of a better life. Generally life and work in villages are made more difficult by the lack of adequate infrastructures and services.

Interviewed households are not extremely large since the 45% of them have between 3 and 4 members and the 78% less than 6 members.

4.2.7 Family income

Insufficient income from agriculture is result of low level of investment. Limited production contributes to high sale price by product unit for which reason local products cannot compete in the market with those imported from neighboring countries.

Considering the farmers included in the survey a significant variety of situations has to be underlined: income range from less than 300 KM per month (16,4% of the total population) to more than 700KM (17,2% of the total population) and it is almost equally spread in all the categories in between.

Table 7. Income – Individual income (monthly)

Income	Individuals (%)	Individuals – Cumulate%
<300 KM	16,3	16,3
301-350 KM	5,8	22,1
351-400 KM	9,4	31,5
401-450KM	10,5	42,0
451-500 KM	14,0	56,0
501-600KM	10,5	66,5
601-700 KM	12,9	79,4
>700 KM	20,6	100,0

Source: elaboration of the author

Farmers and agricultural households' farm mostly part time and beside agriculture they are permanently employed or they have a temporary position in the service or in the industry sector. This situation is confirmed also by the fact that agriculture does not generally represent the majority of the income, but only an “additional source” to a salary from another sector or other revenues (i.e. a pension). More than 50% of farmers gain less than the 60% of their income from farming activities and only the 15%–20% can be considered as professional farmers since they gain the large majority of their income from agriculture.

Off farm work is shared among services (20%), agriculture through work in other farms or companies (19%) and industry (13%). A significant share (35%) is unemployed or has access only to short term casual jobs (5%). Other revenues such as pensions (34%) and remittances (2%)

represent an additional economic support for a significant share of farmers.

Overall a correlation between income and subsidies can be noticed: households with lower income do not receive subsidies or are anyway minor recipients.

5. Conclusions

A large majority of farmers seems to elude a commercial definition or orientation. Subsistence and semi-subsistence remain still largely the main orientation so that non commercial farms are still the most common production unit. This is emphasized also by several findings:

- farm size is predominantly small or really small (less than 5 ha) although if regional differences has to be highlighted;
- land ownership is still under a transition process so that the land market is affected by a significant stagnation due to the uncertainty of the property and to the lack of investments and long term strategy at the governmental level. This situation give not any incentive or adequate support to the farmer to move from a subsistence to a more market oriented production;
- there is an overall lack of investments both in physical (outdated machinery, lack of machinery and other facilities) and human capital (the level of education is generally low as well as the overall availability of vocational training);
- production is extremely diversified and based on labor as main input so that the overall productivity is significantly low;
- access to credit is at a very low level due to the high interest rate required and to the request of significant collateral by the credit institutions. Moreover the overall perception of the risk is very high so that farmers are reluctant to invest or ask for credit even in case they would have the chance to do it;
- subsidies are often too small to be attractive (so that the system results to be too complex also due to its scarce economic attractiveness) and do not have a significant impact on farming activities. Overall subsidies are too fragmented to promote specialization and competitiveness and so to support an evolution of the “farmer” that at the moment find in the subsidies, and overall in the agricultural sector, a social support;
- policy measures are mainly focused in supporting production and fails to stimulate innovation and change. Stronger emphasis could be dedicated to credit programmes for small-scale agriculture or to the improvement of rural areas through technological modernization and social infrastructures;
- associations and cooperatives are not developed. Also because of this farmers have no influence over legislation and regulation for agriculture in the sense

of adopting new stimulative measures contributing to higher living standard of rural population and stopping rural migration;

- rural migration is significantly high especially among younger generations. The lack of services, infrastructure and of public investments in rural areas do not create any alternative economic opportunity so that the labor force is often forced to migrate often leaving farming activities to the elder members of the family or keeping on farming part time during week end and so failing in creating a class of specialized farmers;
- farmers are generally elder and younger farmers perform agricultural activities only part-time also due to the lack of economic attractiveness of the agricultural sector.

Most of these elements can be considered major constraints in promoting competitiveness and innovation. However if on the one hand subsistence farming embodies a barrier for the modernization of production schemes, it is also true that on the other hand it represents an important social safety net especially in rural areas and in the rural-urban fringe due to the lack of economic opportunities.

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