

Conserving autochthonous farm animal breeds through rural initiatives in South-Eastern Serbia

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Abstract: *The paper presents results from research on the role and impacts of rural initiatives in the area of Dimitrovgrad, South-Eastern Serbia. This area is of interest, because of local efforts to conserve autochthonous Balkan farm animal breeds, and the work of farmers and independent professionals involved in farming and rural tourism activities. The research used a farming style approach, including farm visits, meetings with farmers and secondary data collection. The study confirmed that endogenous development is an important component to carry out rural initiatives and strengthening social capital among farmers. The rural initiatives are supported by local organisations, private investors, external cooperation and local projects, partly coordinated by the Agricultural Ministry of Serbia. Conserving autochthonous farm animal breeds provides a biological capital for rural livelihoods as well as means of ensuring local food security and sustainable rural development. These activities represent a suitable strategy to revalorize local heritage and to safeguard local resources.*

Keywords: *rural initiatives, autochthonous farm animal breeds, endogenous development, South-Eastern Serbia.*

Introduction

Many European countries improved rural infrastructures and supported the abilities of villagers in remote and marginal zones through adequate agricultural policies. In countries with few smallholding areas, other alternatives to improve these situations have developed over time. Rural agricultural initiatives are opportunities to develop remote rural areas implying local resources and innovative activities (Mühlinghaus and Wälty, 2001; Milone, 2009). Remote rural areas are breeding and keeping indigenous farm animals. Basically, it consists in the management of local animal genetic resources, but still only few projects focus on this activity (Köhler-Rollefson, 2007).

Transition countries like Serbia are restructuring from the bottom by the formulation of their agricultural policies, to provide a steadily improvement of vulnerable and remote rural areas (Bogdanov, 2007). In South-East of Serbia, several projects started to improve the liveability of small farmers in remote villages. Moreover, projects have been carried out focused on recovering and revalorizing autochthonous animals (Marczin et al., 2007; Stojanovic, 2008).

The paper pursues how local actors and external agents are carrying out conservation of farm animal diversity projects. Albeit, agricultural policies in Serbia present some weaknesses to support rural initiatives; nevertheless, local stakeholders and projects are developing initiatives in rural areas. The paper is structured as follows. The second section discusses the theoretical framework, which helps to understand the conservation of indigenous animal breeds. The third section implies on rurality and sustainable rural development. The fourth section focuses on the case study undertaken in northern villages of Dimitrovgrad municipality which have been visited during the research. Section five then provides a framework approach on local capacity building around rural initiatives and Dimitrovgrad municipality. The paper ends with discussions and conclusions in the fifth section. The main questions addressed are: a) how do initiatives contribute to conserving autochthonous farm animal breeds in marginal villages? b) How can the sustainability of smallholder farms be enhanced?

Conserving autochthonous animal breeds

According to definition, conserving autochthonous animal breeds would build on rural initiatives combining endogenous development, local resources, knowledge production and capacity building.

Endogenous development, initiatives and local resources

Endogenous development is interpreted as development “from within”, and is based on local initiatives, knowledge, institutions and resources (van der Ploeg and Long, 1994; Haverkort et al., 2003). In marginal and remote rural areas, endogenous development takes into account a sustainable way of development by improving and creating rural innovation (Kucerova, 2002; Remmers, 1996, 2006; Bayer, 2006). In these areas the main issues include the involvement of local population and use of local resources (Nills, 2007). Breeding local livestock in remote areas, provides sustainability and liveability to smallholder, and includes the system of an ecological, economic and social viewpoint as well (Anderson, 2003).

Social and biological capital

Social capital enforces collaboration in local populations. The willingness to accept change and participate in local initiatives proved to be particularly important for functioning endogenous development process. Thereby, social capital has been recognized as an important element for local development. Indeed, is expressed through networks, norms and trust, facilitating coordination and cooperation for mutual benefit (Mühlinghaus and Wälty, 2001). In this paper local animal resource is seen as biological capital. It is regarded as component of the natural capital assets of poor rural families (Anderson, 2003). The indigenous animal becomes as local strategy for rural households.

Knowledge production and capacity building

Knowledge means to the assumptions, acquired individuals or groups. Knowledge is in the community and folks, it is understood here, as the way which give meaning the phenomena and imparted (Haverkort and Rist, 2004). For developing a community is valuable the improved education and knowledge. It allows developing an adequate management of local resources. However, the matter is the combination of several kind of knowledge (Majerová, 2009). A tool that can afford combine knowledge and social capital is the local capacity building. It is regarded as a process of enlarging the range of local capabilities to achieve outcomes, such as to overcome agricultural production, local-level decision making and increase local development participation (Mequanent, 2007).

Rurality and initiatives in South-East of Serbia

Rurality in Serbia

Serbia’s rural areas, where 55% of the population lives, are characterized by traditional farming often, there is a low and uncertain governmental support and a low productivity comprised by small farmer (3.5 ha). Hence, rural areas were considered as a problem and not as a resource. Former policies focused to support larger farmers, improving agricultural infrastructures; however, while, small farmers had a lack of support mainly from technical advisories (Bogdanov, 2008). Moreover, the economy in Serbia still depends on the primary sector and exploitation of natural resources. Mostly, local projects are supported by donations through pilot projects (Bogdanov, 2008; S.O.R.S, 2008).

Rural initiatives still are not registered such as initiatives and/or activities in Serbian statistics accounts. However, there exist innovation activities, according to a pilot survey (INOV), a study that compiled and depicted most intensive innovation trends in organization of enterprises (57.34%

enterprises), and of the marketing sector (28.81% enterprises). The innovations of products/services and processes are almost the same 47.09% and 46.81 respectively. Upon 100 totals of enterprises, solely comprise 7.2% of the enterprises in agriculture, mining and quarrying sector (OSRS, 2008b).

Former development policies only improved Short Medium Enterprises support, through establishment of producers associations and improvement of infrastructures. During the 1970s period the rural life experienced several changes, centralizing the development in cities and towns, which has modified completely the traditional style of rural areas (Bogdanov; Djordjevic-Milocevic, 2008). Albeit, development policies were established and addressed to support poor marginal rural areas, they were not sufficient. Later, Serbia has designed strategic policies to reduce main problems rural poverty, infrastructural means and business initiatives. Thus, it is still harmonizing between local stakeholders from different sectors.

Sustainable rural development

Rural development terms are seen as implementation of a political, economic and social project lead for a collective vision and the future of rural regions (Yves, 2005). Often, rural development appears redefined as a model of identities, strategies, practices, interrelations and networks (van der Ploeg et al., 2000). The management of natural resources under benefit way of sustainability takes into account economic aspects. Indeed, local and technical knowledge enables an adequate management of local and natural resources (Tovey et al., 2009). A sustainable rural development, suggest the need to regard a local potential condition which consider an emerging, social – scientific and political – economic relationships (Marsden, 2006).

Initiatives in Dimitrovgrad rural area

The initiatives in Dimitrovgrad rural villages involve on-farm activities like conservation of local animal breeds. The areas comprise with less than 100 inhabitants and are defined as marginal villages (OECD, 1994; SORS, 2008a). However, these areas maintain local agrobiodiversity (farm animal breeds and plant varieties in preserved natural areas). During the sixties the villages were characterized by sheep breeding and traditional *Kashkaval* home-made cheese. Local and external institutions started to support rural initiatives. Further, the native breed and plants, which peasants have managed by long-time represent a great value.

Case studies setting in northern villages

The empirical evidence in this article is based on two initiatives working in the Dimitrovgrad municipality. Cases studies were hereby chosen as a research method (Ying, 2003). The fieldwork has been conducted in summer 2009 in northern villages of Dimitrovgrad municipality (Gornji Krivodol, Smilovci, and Prtopopinci). The case study compiles three methodologies: a) visits to the farm activities involved in rural on-farm, b) participant observations and informal meetings with stakeholders, including the collection of local documentation and reports c) systematic information collections about knowledge forms applied by initiatives.

Furthermore, a framework is developed about different processes by initiatives around local animal breeding. Moreover, a framework on sustainability for smallholder farm through local capacity building is suggested. The main aim of the case study research was to understand the initiatives involving autochthonous livestock breeding.

Case 1: Farm Company in Smilovci and Gornji Krivodol Villages

Farmers and independent stakeholders of Dimitrovgrad countryside started in 2002. At the beginning a local NGO, the Serbian Ministry of Agriculture (MAWFM) and external institutions promoted the

preserving of local animal breeds only as a generous act without a marketable purpose. An 'agrobiodiversity conservation group' begun with the identification of animals belonging to Balkan livestock likes horses, donkeys, cattle, goat, and sheep.

To become sustainable, the activity of agrobiodiversity conservation it is supported by Belgrade private investors since 2008, who were interested in small farm breeding of threatened local breeds in a traditional way. After meetings with farmers from the local NGO in Dimitrovgrad, the investors decided to buy two middle sized farms in Smilovci and Gornji Krivodol villages (area of Stara Planina Nature Park).

The local NGO activists and their partners from other municipalities of Dimitrovgrad, Pirot, Babusnica, Trgoviste, Bosilegrad and Bujanovac discovered many animals planned to be sold for slaughtering. Thus, the private investors acquired these animals and they were transported to the farms in Gornji Krivodol and Smilovci Villages. Currently this project is sustained by private investors and is considered the most important rural initiative in Dimitrovgrad countryside, and also in Central Serbia in the field of agrobiodiversity conservation.

Case 2: Farm in Prtopopinci Village

The initiative in this village started in 2003 with an external cooperation combined with local projects and own funds. Currently it remains with the same perspectives such as the conservation of autochthonous livestock breeds; particularly local sheep breed, and Alpino and Balkan goat.

Moreover, one of the assets and products offered by this farm are the home made milk products. Today the farm produces using traditional techniques (e.g. cheeses of goat and sheep milk). Every year the owner takes participation in local and international events related on Balkan animal breeds. Additionally, the owner is a specialist in "traditional home made cheese" and musician, through his participation he is awarded and recognized in the events for the quality of its products. Activities and services offered by this farm comprise the possibility to stay and to know the traditional farming and rural life style. The local infrastructure is not adequate and still uses old housing like farmyard.

Initiatives and Local resource use in Northern Villages of Dimitrovgrad

The case studies in both villages reveal the existence of four basic categories of knowledge (scientific, technical, local and managerial). According to this analysis, Farm Company (Smilovci and Gornji Krivodol Villages) actor studied use scientific and technical knowledge, which was acquired through formal education. The manager acquired his scientific knowledge through learning in the university and theoretical training by workshops. The local knowledge was traditionally acquired, and the managerial knowledge was imported and constructed from bottom-up. According to size of this farm is important these knowledge forms, it allow the production of local products (Table 1).

Table 1. Initiatives and their knowledge forms used in farm activities.

Actor	Autochthonous livestock breed	Activities	Knowledge form	Source
Farm Company (Smilovci and Gornji Krivodol Villages)	<ul style="list-style-type: none"> • Busha cattle • Pramenka, Pirot Zackel and Karakachan sheep wool • Balkan goat and donkey 	<ul style="list-style-type: none"> • Local milk products • Small scale local meat production • Small scale local wool products 	<ul style="list-style-type: none"> • Scientific and technical • Local • Managerial 	<ul style="list-style-type: none"> • Imported and theoretical training • Traditionally acquired • Imported and bottom-up constructed
Farm in Prtopopinci Village	<ul style="list-style-type: none"> • Bardoka and Pramenka sheep • Alpino and Balkan goat 	<ul style="list-style-type: none"> • Small scale Milk and animal products 	<ul style="list-style-type: none"> • Technical and scientific • Local 	<ul style="list-style-type: none"> • Imported and non locally acquired • Locally and non-locally acquired

Source: Own table

Farm in Prtopopinci uses technical and scientific knowledge combined with local. These knowledge forms were acquired from the university as well as locally acquired. These forms of knowledge allow the owner to combine for managing the farm.

In our examples to achieve initiatives and use of local resources, knowledge becomes an important tool for carrying out activities. Those apply a combination of scientific, technical, local and managerial knowledge.

Expert and managerial knowledge forms are revealed through support from external and local organizations. These knowledge forms are combined with local in the case of local organization (Table 2). The expert support was addressed to provide scientific knowledge on conservation of local breeds. However, as an interaction process, it is necessary the combination of local expertise to achieve the initiatives according to place.

Table 2. Actors involved through support to rural initiatives.

Actor	Knowledge form	Activities supporting rural initiatives
External organizations (GTZ, EED, REC, MAWFM, SIDA)	Expert	Cooperation started in 2002 and coordinated with the local NGO in Dimitrovgrad. Recovering and reintroduction of native livestock breeds in remote villages.
Local project	Expert 'combining local knowledge'	Development and promoting Rural Tourism in the Stara Planina Mountain area, particularly local animal diversity and tourism.
Local government (Municipality)	Managerial, politic Traditional, local	Support and coordination for improving local infrastructures in the town. Coordination between local actors.
Local NGO	Expert 'combining local knowledge' Managerial	Involved at the beginning with establishment of Agrobiodiversity project and monitoring of rare animal breeds. Support to Rural Development, agriculture and organic farming projects.
SAVE Foundation	Expert	Support activities related to Conservation autochthonous livestock breeds and plants.

Source: Own table.

Managerial and local knowledge forms are revealed for local organizations, which provide support through coordination between local projects and improvement of local infrastructures. Viability is necessary to maintain local animal breeds, and through MAWFM support, small subsidies receive each animal, but they have to follow quaternary controls.

Endogenous and exogenous development processes occurring at different levels

The rural initiatives are managed by farmers and independent professionals. These activities comprise the conservation of local animal breeds and rural tourism activities. Endogenous development (ED) plays a role in strengthening the social capital and networks inside rural initiatives. At the beginning these activities started with the involvement of some enthusiastic farmers supported by local projects and private investors (Figure 1). The support through local projects and private entrepreneur plays an important role to carry out the initiatives. However, the case showed that at the beginning these villages had not financial resources.

Thus, was necessary an external inputs through projects financed by external cooperation. Exogenous component is represented by external cooperation, more involved by multinational projects, local development projects and the strategies for agriculture and rural development from Serbian government. These actors attempt to improve the rural welfare, and liveability to smallholder farms.

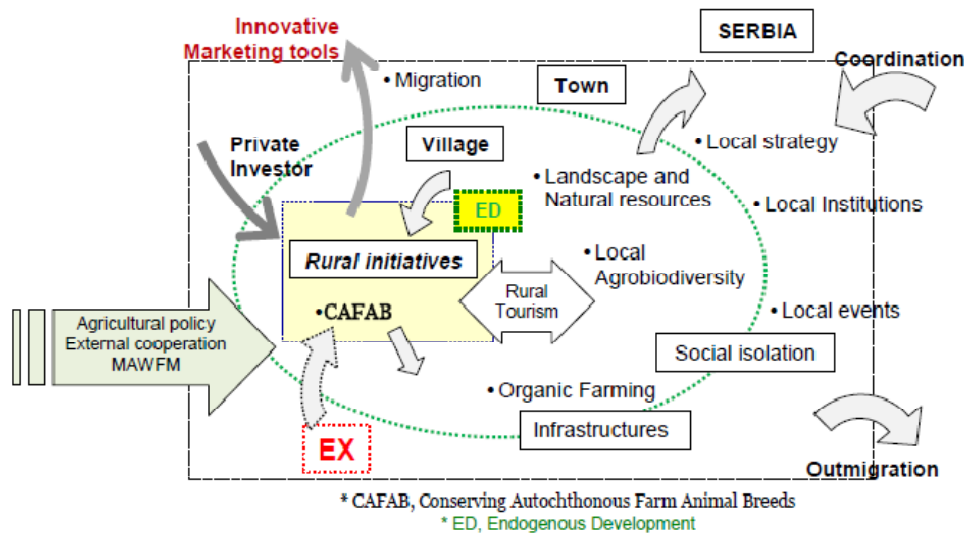


Figure 1. Analytical framework: processes occurring at multiple levels through rural initiatives in Dimitrovgrad (Source: Own figure).

The initiatives are promoted and advertised through printed material. Likewise, there are an active participation of owners and farmers in local and international agrobiodiversity events and rural tourism.

Several projects were carried out to improve the skill of farmers, particularly in the dairy sector and sheep breeding. However, problems with social isolation and infrastructural means are still present in the villages. Agricultural policies attempt to alleviate the rural poverty, improve and promote rural tourism. Nevertheless, it needs a better integration and harmonization between main actors, including local and rural stakeholders to solve current problems in marginal rural areas.

Enhancing sustainability through Local Capacity building

To provide sustainability for smallholder farms we propose an organizational approach through local capacity building. The external inputs should be invested to foster the rural initiatives. Consequently it would improve the activities carried out by entrepreneurs and local stakeholders. Simultaneously, small farm holdings may be involved in the production of traditional crafts, local products and services.

The external inputs should also strengthen the municipality, particularly improvement the institutional organization and infrastructure. These processes will ensure the sustainability of rural households, provide additional incomes and promote rural tourism. The suggested organization will be achieved, if there are established associations and organizations. Otherwise, instead it will be difficult to maintain social and economic safety.

The figure 2 represents a framework that describes the major components of local capacity building such as fostering and strengthening and external inputs. Rural initiatives include marketing organization, infrastructures and local livestock breeding. Municipality include institutional organization and local infrastructures. Through this framework, we are arguing, that if there is external support. It can be addressed to the development programs or that can provide easy access to appropriate skills sets. And the small farmers would reach additional incomes through the promotion of local products and services.

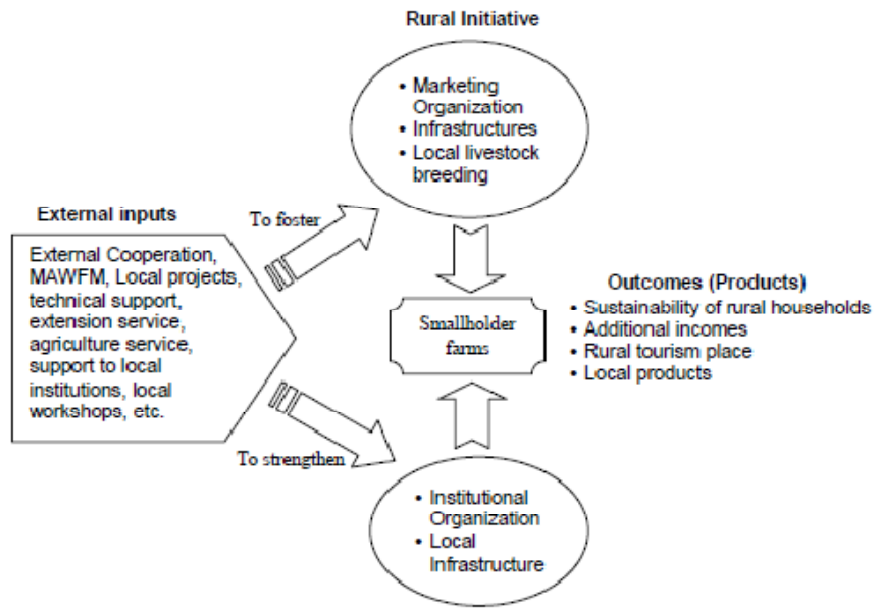


Figure 2. Sustainability of small farm holding through local capacity building framework (Source: Own figure).

Discussion and Conclusions

In this paper were only presented two example cases, on the matter is the local animal breed for marginal villages in Dimitrovgrad. These activities attempts to preserve the high animal diversity from villages and to avoid the disappearing of endangered animal breeds. In addition, local products at small scale from initiatives are promoted in near cities.

The breeding and keeping of the local animal breeds represents biological capital for the rural livelihoods and contributes to future food security at local level. Local livestock provides items such as draft power, manure, saving accounts. It also provides social means and cultural values.

The importance of agrobiodiversity should stimulate the government to coordinate and improve rural strategies by promoting better integration between institutional and local stakeholders. Moreover, the government and non-governmental organisations and organised local stakeholder should run awareness-making campaigns to convince entrepreneurs that protecting and enhancing agrobiodiversity is feasible and relevant for future viable agricultural production in those areas.

Several knowledge forms were revealed in our case studies that applies local entrepreneurs. Likewise, knowledge forms applied from external and local organization were characterized more by expert and managerial support. Nevertheless, the rural areas present great potential of organic farming, now the organizations should focus on certification of products and how the other smallholder farms can reach and strengthen their local associations.

According to Serbian agricultural policies, interesting strategies are addressed to the farmers, particularly for remote and marginal rural zones. However, as support to initiatives it needs to be provided with a necessary legal framework, financial and knowledge transfer. The strategies should be targeted to enable participation of local actors for a successfully develop and management of initiatives, but, there is still the risk of increased bureaucracy.

Finally, we propose a simple local capacity building framework that depicts beyond fostering and strengthening of rural initiatives and municipality. It would allow achieving an effect on smallholder farm in Dimitrovgrad villages. This approach suggested is to strengthen the local capabilities for initiatives and municipality.

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