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**TOURISM
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I



**UNIVERSITY OF KRAGUJEVAC
FACULTY OF HOTEL MANAGEMENT
AND TOURISM IN VRNJAČKA BANJA**



DEVELOPMENT OF FARMING AND TOURISM AS A CONCEPT OF PRESERVING THE AUTHENTICITY OF PESTER RURAL AREA

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Abstract

Potentials for development of organic animal farming at Pester area are discussed in this paper. In this area two basic climatic types are present: mild continental climate and high altitude mountain climate with extremely cold winters. Geographic and relief position of this area represents very good terrain for intensive animal farming and fruit production. Main branches that should be focused on are production of cow, goat and sheep milk, mutton and lamb as well as production of apples, plums, berries, bee keeping and fisheries.

Preserved and healthy environment of Pester area is ideal for agriculture, especially for production of healthy food, recreational and rural tourism. Very famous products coming from that area are: Sjenica mutton, Pester cheese, paprika in full fat milk skim, smoked ham, stelja and sudzuk (traditional products). Rural area such as Pester highland represents unused resource for development of agriculture and tourism.

Key words: Pester highlands, agricultural resources, development of conventional and organic farming, tourism development

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Introduction

which are usually systematized in three main groups: natural, demographic and economic. It is very hard to quantify influence of separate groups of above mentioned factors whose role and significance

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change in some stages of social economic development of specific country (Tomić & Ševarlić, 2010).

The main characteristic of Serbian agricultural state is economic devastation and constant decrease in income of farmers. It is manifested in different intensity and modes through extraction of surplus values from agriculture mainly in favor of three sectors: industry, trade and banking (Mekić & Novaković, 2012).

Because of the above mentioned state, domestic animal husbandry is in a very bad state. Animal fund in Serbia is impoverished, since the beginning of 1990 it was descending by two or three percent and today it reached historic minimum (Mekić & Novaković, 2013).

According to the Statistical Office of the Republic of Serbia, on 01.12.2016 there was 893000 cattle of all categories being reared in the country. Out of that number milk yielding cows are 426000, pregnant heifers 47000, and 25000 two years and older heifers ready for breeding, and around 91000 female cattle aged 1-2 years ready for breeding.

When it comes to sheep production, there is a total number of 1665000 sheep being reared in Serbia, out of which there are 1231000 breeding sheep.

In spite of having very good breeding conditions, Serbian animal husbandry is in big crisis. Number of animals in the last three decades has significantly decreased, and therefore meat production has decreased from 650000 to 440000 tons per year. Meat consumption per resident in that period has decreased from 65 to 43kg per year, and today it is around 38kg per resident per year. Cause for that can be found in disturbed price parity, loss of market, inability to export all types of meat, decreased buying power of citizens, disturbed financing system, inadequate means in budget that are allocated for agriculture, inadequate functioning of stock reserves.

Worst condition is in cattle breeding, which can be seen through data that for two decades we have permission to export baby beef in the amount of 8875 tons in to the European Union, and we use it in extremely low percent. Best example is the fact that in 2013 only 600 tons were exported, and in 2015 only 315 tons. Cause can be found in extremely low number of calves, because in the beef production we have from 15-20000 calves. In order to fill the quote for exporting baby beef in to European Union it

is needed to dedicatedly fatten six times more calves than it is being done now, that is approximately 100000 calves.

Yugoslavia was in 1990 exporting in to the world around 50000 tons of baby beef, out of which 30000 tons originated from Serbia. Production of beef in Serbia was almost shut down and state should urgently apply adequate measures in order to recover this very important production.

Total gross value of agricultural production in 2015 was 4751 million dollars, which is by 7.59% less than what was realized in 2014 (5001 million). Value of realized animal husbandry production in Serbia in 2015 was 1826 million dollars. This data shows that existing animal fund even though it is in very bad state compared to available agricultural resources represents significant natural resource. If we look at it in the long run, especially at the average between 1988-1990 number of cattle in Serbia is lower by 20,2%, pigs by 22,5%, sheep by 26% and poultry by 22,7%. Result of this condition in animal husbandry is its participation in gross value of achieved agricultural production of 31%, by taking in count the number of conditional animals per acre of arable land (0,33animals/acre).

Animal husbandry in Serbia has significant position in country economy as it creates great value engaging natural and human resources. Animal husbandry is present in more than 600000 households (out of which 330000 households are doing intensive farming and animal husbandry) therefore it represents the branch which participates with 31% in gross product of agricultural production. Serbia has turned from the exporter of meat into its importer. In the year 2014 Serbia has imported 18000 tons of meat; 35000 tons of third category meat. Moreover, 347957 live animals for fattening were imported, and in the year 2015 330000 live pigs and approximately 38000 tons of third category meat.

Therefore, creators of agricultural politics and policies need to make move to use emergency measures and intervene in this sector of agricultural production. Animal husbandry should get its place in the agricultural structure of Serbia which will mainly be reflected in the process of giving the value to the working and production potential, realization of higher income (per animal, acre and per employed person), along with upkeep and improvement of land fertility, as well as in total intensification and strengthening of export oriented agro industrial production.

According to natural and demographic resources Serbian agriculture is mainly export oriented industry, so therefore that should be the strategic orientation in development of our agricultural development (Ševarlić et.al. 2008).

Aim of this paper is to point out the state, problems and perspective of development and improvement of animal husbandry production in the municipality of Sjenica as specific rural area for animal husbandry development. This area is rich in natural resources it has healthy environment, unpolluted land, rich ground water regime, people are traditionally orientated towards agriculture – animal husbandry, there is possibility of organic production, brand development, geographic origin product creation as well as possibility of rural tourism development. All these are chances for improvement of analyzed municipality.

Municipality geographic location and other general characteristic important for development of animal husbandry

Sjenica is a city and municipality as well, it is located in south west region of Serbia called sjenica-pester highland. It borders six municipalities (Tutin, Ivanjca, Novi Pazar, Bijelo Polje and Nova Varoš). This area is surrounded with numerous mountains (Golija, Giljeva, Ozren, Jadovnik, Javor, Zlatar). According to the area the municipality covers (1059 km²) it is one of the larger municipalities in Serbia.

Number of municipality inhabitants on 30.06.2014 was 26141 citizens who live in 101 settlements. Average number of people per 1 km² is 25. Sjenica is the center of pester highlands, average altitude is 1150 – 1200mⁿv. High altitude, harsh climate do not serve well in development of agronomy.

Climate is limiting factor in crop farming development in Sjenica area due to extremely low winter temperatures. Interesting fact is that in the Sjenica municipality on 13.01. 1985 lowest ever temperature in our country was taken, unbelievable 39,5°C below zero (village by the name Karajukići bunari). Late spring and early autumn frost shortens vegetation period for the plants and lower the total heat index needed for crop cultivation. Vegetation in Sjenica area lasts for 151 day. Its start is somewhere at the end of April and it ends by the end of September (Pavlović, 2004).

Therefore, climate is the main factor that influences the direction of regional development towards animal husbandry which is most perspective branch of agronomy in Sjenica area. Pluviometry regime, air temperature, pedology base and other natural factors have shaped terrain for meadows and pastures to have dominant place in surface structure. In that type of climate conditions, and on that base, population of sjenica area bases their activities and work, they live off animal husbandry.

Wide and big pastures are extremely good for animal husbandry development, especially cattle, sheep and goat breeding.

Natural resources

Municipality of Sjenica is very rich in natural resources. Most significant resource are ground waters, ores and biodiversity.

Ground waters in Sjenica belong to Drina basin, most significant rivers are Uvac and Vapa. In Sjenica area there are dozen rivers that flow underground out of which Borostica (23km) is longest river that runs underground. North from Sjenica in Cedovo there are two thermal springs which are at 986m and water temperature is around 26°C. Thermal springs are not used.

Floras mainly consisted of wild vegetation (meadows, pastures and forests). Sjenica – pester area of meadows and pastures is the largest in Serbia.

Serbia has approximately around 5111152 acres of arable land, 631552 farming households. Out of totally available arable land in Serbia only 3437423 acres is used; out of which furrows and gardens take 2513154 acres; orchards 156657 acres, vineyards 22150 acres, meadows and pastures 713242 acres (table 1).

Table 1: *General information about agricultural land usage*

Region	N° of households	Used arable land	Furrows and gardens	Orchards	Vineyards	Meadows and pastures
Serbia	631552	3437423	2513154	156657	22150	713242
Sjenica	5550	54051	16208	105	-	37478

Data source: *Statistic yearbook – Municipalities in Serbia, 2016.*

In Sjenica municipality out of total number of used arable land 69,34% are meadows and pastures and to furrows and gardens 29,99% (table 1).

Arable land is mainly crop for production such is wheat, vegetables, fodder.

Orchards and vegetable production is mainly organized on small farming surfaces, mainly where climate and soil conditions allow that type of production, lower altitude terrains and valleys around rivers where soil quality is better. Very few farms have surplus product.

Structure of arable surfaces is best indicator about existing agricultural structure. Mentioned terrain morphology (hilly mountain area), climate, soil quality are much more oriented towards animal husbandry than towards crop production.

Beginning of unstable and hardening conditions in the period after 1985 has slowed down already slow and undeveloped agriculture. Small farming lands, a few arable surfaces in state sector, low soil quality, inadequate mechanization, small number of people who are willing to work, bad inadequate organization and low professional education as well as bad communication on the relation village – town center have influenced retrogression and further slowed the development.

Animal husbandry

Having in mind natural resources (69,34% under meadows and pastures), then climate of hilly-mountain area, animal husbandry should be the main branch of agricultural production. Moreover, having in mind that meadows and pastures dominate in the structure of arable land cattle and sheep breeding should be primary in animal husbandry development.

Tradition based mainly on natural resources of this area, has along with other factors contributed that animal husbandry is dominant branch of agriculture in Sjenica municipality. Villages of this area have lived off animal husbandry and its products for centuries. Today at the beginning of 21st century animal husbandry should be the future of agricultural production of this area.

Pester area was always known for sheep production, therefore there is no village farming household that does not breed sheep.

Cattle breeding, when it comes to number of cattle as well as to the quality, was in Pester area always in the shadow of sheep breeding. In the past Buša was the most present cow breed that was kept for personal needs and a few were bred for market. For decades number of cattle varied. All up to sixties of twentieth century buša was dominant breed (90%). With improvement of fodder and crop base there has been qualitative change in breed structure of cattle breeding.

Today, in the Sjenica municipality according to official data for 2012, 27288 cattle is being reared, 17214 cows, and 30324 sheep. This region is well known for their traditional products which are made within private farms. Almost all milk that is produced in Pester area is used for making cow, mixed or sheep cottage cheese.

Having in mind significance of animal husbandry for development of this region it is necessary to allocate significantly higher resources in to this sector of agriculture. Faster and higher quality development (of sheep and cattle breeding) would improve meat, milk, milk products, wool and skin production. Fact that those products originate from Pester area would make their demand even higher at the market (even today demand for products from this area is very high at the markets of big cities of Serbia and Montenegro), income from those products would be very significant. Achieved income off this “healthy food” would speed up the revitalization of this region, especially village areas.

In order for sheep and cattle breeding to gain significance that it should have it is necessary to improve fodder base. In order to improve meadows and pasture quality it is needed to create special ameliorative program and to use agro technical measures. It is imperative to improve animal breed format.

In order to improve agricultural production Sjenica municipality created in 2011 Regional agricultural and village development center, co-organizers were city Novi Pazar and municipality of Tutin. From 2013 this center becomes regional. Main objective of this center is research and development of agriculture, advisory and technical service for cluster farms. Within the center there is laboratory which offers chemical and microbiological analysis of meat, meat products, milk, milk products and honey. Within center there is also section for animal breed master records, testing and registering, as well as for farmer training.

Significance of animal husbandry and development potential

Agriculture can be considered leading economic branch of Sjenica municipality, which can be concluded based on 5550 registered farms, where 14295 people live, which is 54,68% of total number of municipality people who officially live off agricultural production. To this number, number of farms that do agriculture as side (economic) activity should be added..

Despite all above mentioned it can be concluded that agriculture resources are almost unused. Usage of meadow surfaces for grazing animals (37478 acre) allow significantly higher number of animals per acre. In Sjenica approximately 26782 acres are being accounted as unused (abandoned grass areas). If this unused land were to be brought to use additional number of animals could be reared.

By increase of milk production per animal and reaching the Serbian average additional 8000-9000 tons of milk would be produced. By increasing milk production in lactation to 5000kg in Sjenica municipality, yearly additional 25000tons of milk could be produced, total 87000tons of milk per year.

To existing milk production, production of mutton and large animals for fattening should be added. Developed animal husbandry sector would strengthen existing dairies and slaughter houses, which would enable creation of additional values, higher employment rate, entrepreneurship and investment inflow in to this sector.

Sjenica is well known for sjenica sheep and cow cheese production, stelja, smoked ham, mutton, sudzuk and paprika in skim. These products are known not only on Serbian market but in the region. Large number of these products has already been protected by geographic origin stamp. However due to bad economy politics these products are sold at very low rates in order to be competitive with other similar products of significantly lower quality coming from our country and abroad.

Therefore, agriculture as most perspective economy branch in Sjenica should adjust to development tendencies by adequately using its resources. With that aim in mind it is needed to do the following:

- To separate area centers in Sjenica where optimal natural resources and tradition of animal husbandry are already present;

- To activate cooperative fellowships in rural areas of municipality, in villages where it is possible to organize buyoff and processing of animal husbandry products for exporting (sjenica cheese, hard cheese, milk cream, dry meat products, etc.);
- To develop projects for health food production that is made for exporting and
- To intensify forestry, tourism and recreational sectors development and other sectors that are complementary with animal husbandry (in rural area of Sjenica municipality).

Concept of animal husbandry development

Animal husbandry is very important section of Serbian agriculture. It is main branch of agriculture, mainly in professional circles called the “steam engine of agriculture development”. Unfortunately this research points out at very big crisis of animal husbandry in the Republic of Serbia. The biggest devastation happened in the last 25 years, especially after class transformation, privatization of large agricultural companies, slaughters, dairies. Shutting down of large number of cooperative fellowships has further worsened the conditions in this sector of agriculture.

Considering that agricultural production is mainly oriented on farms, devastation was worsened by disappearance of small farmers that do animal husbandry.

Agricultural census 2012 identified animal husbandry condition according to regions, and having in mind available production resources and partial specialization in production, Vojvodina region is dominated by poultry and swine production while in Šumadija and Western Serbian region is dominated by cattle and sheep production.

Animal husbandry is leading branch of Serbian agriculture. Out of total number of farms 77,5% is oriented towards animal husbandry. Among 489364 farms that do animal husbandry 99,9% are small private family farms. They rear 84% of conditional animals, with average capacity of 3,5 conditional animals per household. Out of total arable land in Republic of Serbia 70% is being used by farms that do animal husbandry production.

Significance of animal husbandry in Republic of Serbia is directly seen when it comes to animal husbandry products. From the aspect of rural development, animal husbandry provides continual employment, also an

additional employment of female labor which is very significant in the conditions of very low employment rate that mainly hits rural regions. Besides, farms that do animal husbandry have continual income throughout the year, which is not the case in crop production. That has positive influence on capability of covering the current liabilities and life standard of rural population. Manure as side product of animal husbandry is irreplaceable organic fertilizer in crop production. Lately, the manure is often mentioned as one of potential sources of renewable energy, in production of bio gas or in production of solar panels for roof constructions of many construction objects used in animal husbandry.

Number of farms that do animal husbandry drops faster than the total number of households, due to the effect of specialization in agriculture. Animal husbandry farms share in Republic of Serbia has been reduced from over 90% in 1960 to 77% in 2012. In the EU-9 countries, animal husbandry production farms share in total number of farms in the period from 1975 - 2010 has been reduced from 74% to 38%.

In the Republic of Serbia there is regional division of animal husbandry which is the result of availability of production resources and partial specialization. If we observe from North towards South it can be concluded that in Vojvodina highest number of swine is being reared (41%) and poultry (45%). Šumadija and Western Serbian region are leading when it comes to cattle (46%), sheep (60%) and bees (41%), while in southern region goats (38%) and bees (35%) are being reared.

Animal husbandry share in total agricultural production value

Assessment of animal husbandry is measured in income percent that animal husbandry achieves within agriculture:

- a) If animal husbandry share is less than 50% income, condition of agriculture of the state is bad;
- b) If the income of animal husbandry is between 50-70% situation is medium good, and
- c) If the animal husbandry share is over 70% of income, situation in agriculture is very good.

Animal husbandry share in the total agriculture value for the 2011 in the Republic of Serbia was 41,2%; crop production 26,1%, orchards 19,7%, vegetable production 13,0%.

Therefore, best confirmation of very bad condition in our agriculture is the fact that today animal husbandry share in total income of agriculture is with approximately 31%. This is the urgent matter and it has to be changed, because advanced and developed animal husbandry means advanced and developed society.

Development possibilities

On the future development of agricultural production at the Pester highland area following development factors will be beneficial:

- Orientation towards village farms and private entrepreneurship;
- Unpolluted environment;
- Education and application of new technologies in agricultural production.

Production perspective in animal husbandry

Within the total animal husbandry production ruminant breeding (cattle, sheep and goats) and horse breeding at marginal areas which is based on usage of available arable land can be clearly defined. As meadows and pastures are dominant in hilly mountain regions they conditions breeding of ruminant in total animal husbandry production.

In creation of further development of animal husbandry production it is very important to pay attention to sustainable usage of available resources. General statistic aims in Serbian agriculture should encircle economic, social, and ecologic problems. In that way it is needed to:

- Build sustainable and efficient agriculture sector that can compete at world market and influence growth of national income;
- Provide food that satisfies consumer needs when it comes to safety and quality
- Ensure life standard support for people who are dependent on agriculture and are not able to follow the economic reforms;
- Ensure support by sustainable village development;
- Preserve environment from harmful agricultural influences;
- Prepare agriculture of Serbia for the EU integration.

Nowadays there is the question if we in Serbia are able to stop unfavorable trends in animal husbandry and start with development and improvement of this strategically most significant section of agriculture,

by using natural and other existing resources. Their improvement is needed as all of them are in very bad shape.

In order to speed up the development and improvement of animal husbandry at Pester highland area, it is necessary to create programs which will encircle: regulation of arable land and its better usage, increase of animal feed quality, cultivating, reproduction, production technology, state measures for stimulation and protection, development and application of scientific results, development of milk and meat industry, increased efficiency and development of local and foreign market. Programs of improvement of animal husbandry are very complex and are made for the long run.

For that matter it is needed to:

- Create proper social and economic conditions in rural area and ensure their part in economic growth of the country;
- The politics of rural development have to respect territorial specificities;
- Categorization should be performed according to LFA EU model (Less favorable areas) for production and this fact should be taken in to consideration while creating measures of agricultural politics.
- Investments should be done in to farms in order to reduce production costs, increase quality, increase production and improve environment, hygiene, animal welfare and diversity in agricultural activities;
- Support should be given to small farmers to start production;
- Farmers should be preserved;
- Incentives, prizes should be given to farmers in areas where conditions are hard;
- Incentives for ecologic farming;
- Improvement of processing and marketing of agricultural products;
- Soil improvement, consolidation, creation of help and services for farmers, marketing of quality products, improvement of living conditions, protection and conservation of rural heritage, development and improvement of rural infra structure, support for touristic and craft making activities, environment preservation and rural area management.

This would help renewing of agricultural production which is decimated.

Cattle and sheep breeding concept

Genetic improvement of cattle breeding: Based on what is said till now, it has been determined that dominant breed in cattle breeding is domestic spotted within Simmental type 90% from total number of cattle in municipality and region. Therefore, cattle for combined production should be reared, milk-meat, meat-milk in which domestic spotted within Simmental type belongs to.

In extensive and semi-extensive conditions development would be going towards meat-milk production, while in intensive conditions milk-meat direction would be taken.

Domestic spotted would be improved by selection and crossing. Breeders of domestic spotted cattle that have production direction towards meat-milk would be producers of quality bullocks.

Farmers that have better breeding conditions would go for milk-meat production and they would be milk, calf and bullock producers. They would breed larger number of cows where selection would be made for higher milk yield.

Base for improvement work should be controlled reproduction. Therefore, it is needed to make plan for artificial insemination of cattle that includes all measures to improve work of this service, because if this problem is not addressed the improvements can not be applied.

It is necessary to solve problem of obtaining good quality pregnant heifers in order to change breed composition and improve the level of production. There is interest for good quality reproductive material, however due to lack of funds possibility to buy good quality breeding cattle is very limited.

Special factor for intensive cattle production is that environmental conditions and healthcare conditions have to be met as well as food production (feed conservation) and providing of ample amount of food for entire year.

Cattle production requires state support in the long run in order to feel the effects of applied improvement measures.

Improvement of sheep production: Main orientation in intensive sheep production today is production of high amounts of quality mutton per sheep during one year and during the usage period, higher milk yield and on the third place improvement of wool yield and its quality.

In the future period it is necessary to take certain measures in order to improve sheep production:

- To increase number of sheep,
- To genetically improve production traits,
- To increase fertility,
- To reduce lambing interval,
- To provide high quality food.

Intensive sheep production should be based on genetic potential and life cycle of an animal, mainly towards increase of biologic base for sheep reproduction.

Considering that sheep production is mainly oriented on individual farms, large farms should be formed with 100-300 sheep for reproduction, they would be meat, milk and wool producers. Professional services would give special attention to these farms.

Genetic improvement and sheep improvement program: According to breeding selection program (Breeding aim and genetic improvement strategy) improvement of genetic potential and breed change of Republic of Serbia should be realized by following these: 1) breeding domestic strains of pramenka in pure breed in order to preserve genetic resources; 2) to change heredity base of certain number of pramenka breed – by creating new permanent population and types; 3) by directing and building upon wanted traits of already existing mix breeds within defined breeding program. In this regard, concept of genetic improvement of sheep in Sjenica municipality (in short) would be as follows: It is needed to create new more productive populations of lighter type dual production (meat-wool), and keeping milk production at superior level.

Within genetic concept, combination crossing should be used. As female parent selected flocks of sjenica pramenka would be used, and as male parent merino light type rams would be used, for example Wurttemberg sheep.

The aim of this work is to create programmed population with specific genetic combination, production and traits per animal: body weight of fully grown sheep 50-55 kg; rams 70-90 kg; unwashed wool yield per sheep 3,0-3,5 kg; ram 4,0-5,0 kg; fiber diameter 25-29 micrometers; lock length 10-12 cm; fertility 120%; milk yield 80-90 kg; solid constitution and good health. However, breeding conditions have to be improved compared to traditional way of breeding pramenka sheep breed which is still present (bad housing, inadequate and bad diet).

Proof that given genetic improvement program can be realized and that it gives satisfying results are production results of improved Pirot sheep which was created by crossbreeding and acknowledged as new breed, same thing is suggested for sjenica pramenka breed.

Production results of Pirot improved sheep are: sheep body weight 60-65 kg; ram 100-120 kg; wool yield 4,0 kg (sheep) 8,0 kg (rams); wool thickness 7 cm, fiber diameter 23-26 micrometers; milk production 60-90 kg; fertility 115-140%, kid body weight at birth 4-5 kg, all this is much better than for autochthonous pirot pramenka.

Development of organic animal husbandry production

Due to remoteness from big city centers and limited funds of individual farmers in Sjenica is not affected by high level of soil, water and air pollution. Therefore, this area is excellent for health food production especially in the Pester region.

General characteristics of organic animal husbandry

One of the most significant aims of organic animal husbandry is enabling natural life conditions to all animals, their natural behavior and satisfying of their most significant etiologic needs.

Growing number of consumers who demand that food should be of high biologic value, influence the organic production. Organic agricultural production, whose synonym is also ecologic production or biologic agriculture, does not represent new branch of agriculture. However, in order for one farm to be characterized as "organic" it is needed to fulfill numerous conditions as this type of animal husbandry is very different from conventional production, especially from industrial. Most differences are in field where on organic animal husbandry farms great

attention is given to protection and preservation of environment. One of the solutions which will stop degradation of environment is crossing from conventional to organic agriculture. Agriculture of hilly-mountain areas is very close to organic type. Large amount of arable surfaces can be instantly classified and certified without conversion.

For organic production it is important that domestic breeds and strains of animals adjusted for a certain terrain and conditions to be reared. Reproduction should be natural, however insemination is allowed. Hormone and induced estrus is not allowed, embryo transfer, gene manipulation, embryo manipulation and usage of breeds and strains which are product of genetic engineering is not allowed. Housings for animals within organic agriculture program should fulfill demands for animal welfare. In order to preserve animal health prevention is of great importance because usage of medication and drugs is minimal. Organic production in animal husbandry means that health problems are mainly solved by prevention.

Fresh water fishery concept

Existing and most significant rivers at municipality of Sjenica are Uvac and Vopa, they are base for development of fresh water fishing, especially trout breeding. Development of fresh water fishery in Sjenica municipality can be realized via:

- Aquaculture development;
- Development of sports and recreational fishing.

Aquaculture development (rearing of water organisms in prebuilt objects) should be done through:

- Improvement of production at existing (they should be renovated) cold water (trout) fisheries;
- Building of new cold water (trout) fisheries.

Production improvement at existing cold water fisheries would be realized via hydro-technical and technical corrections on the fisheries and production technology corrections.

Above mentioned corrections will be conducted in several phases:

- Overview of “narrow points” of hydro-technical and technical solutions on existing fishery;

- Overview of “narrow points” in production technology;
- Preparing of elaborate report with needed corrections of technical and hydro-technical solutions.

Development of sports and recreational fishing would also go through several phases:

- Overview of conditions for recreational and sports fishing;
- Development of plans, elaborate reports, bases for proper ownership and manipulation of fishing waters;
- Development of secondary conditions for recreational and sports fishing.

Tourism

Agro-tourism is a part of the multifunctional concept of agriculture, and it is an integral part of rural development. Agro-tourism is a part of touristic industry which embodies the travel and staying of people outside of their residing place, for vacation, recreation etc. Tourism can be: Summer holiday based, rural, hunting, health care tourism, fun, cultural, sports, excursions, seasonal and off seasonal, domestic, foreign, family, individual, collective etc. Tourism is important for local economy as it brings income from tourists. The word tourism originates from English word “tour” which according to Oxford dictionary means: pleasure of travel, with staying in different places. Tourist is a person who undertakes such travel, Pejanović and Vujović (2008).

Tourism in Sjenica depends on natural and anthropogenic potentials, as well as from ownership, people standard, touristic management etc. New concept of organizing tourism is based on market economy principals. In order for tourism to use development chance in this municipality it is needed to:

- Collect and create content of touristic offer;
- Increase activity of touristic content near the main roads;
- Provide marketing, information boots on regional roads;
- Provide higher quality housing for guests;
- Include villages which are ready to participate in touristic offer;
- To create local touristic agency which would plan and realize projects and whose assignment would be to promote touristic values of Sjenica municipality.

Conclusion

Above mentioned directions for regional development of Pester highland, municipality of Sjenica can provide higher degree of functional integration of geographic area by defining priority activities and solving imminent development problems. Realization of animal husbandry and tourism development suggestion of Sjenica municipality is lasting process and it can not be conducted sporadically by implementing just some solutions, it is needed that through cooperation with local government and social work priorities to be set and problems of development to be solved.

Directions of regional development of Sjenica municipality can provide solutions for social economy and demographic problems that accumulated for years. Problems can be solved or decreased by activating natural resources, restructuration of economy, realizing investment programs etc. Analyzed area has high economic perspective for agro-industry, animal husbandry and tourism.

Priority in investment in rural development should be given to building and maintaining road network, quality supply of electric power, communal and social infrastructure. Through animal husbandry improvements (which are now at very high level especially when it comes to production size) it is possible to utilize existing unused natural resources and increase production. Special attention should be given to improvement and increase of organic animal husbandry production. Therefore, possibility of producing organic food, creating branded product with geographic origin, possibility of rural tourism development is a chance for improvement of the analyzed region.

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