



Republic of Serbia  
City of Nis  
MAYOR

No: 2649/2014-01  
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### PROJECT PROPOSAL

**Project Title: Development of Livestock Breeding in Nis Region**

**Prepared By: Nis Incubator Center**

**Sector: Sustainable Development of Livestock Breeding**

**Project Duration: 48 months**

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#### Introduction

The area of South East Serbia has lots of potential for developing of cattle breeding and the production of milk and dairy products as well as meat and other products that could come out from keeping animals. On the other hand, the manufacturers of these products, ranging from small dairies in the form of craft shops and through larger dairies which have reached a certain level of development as well as the processors of meat, leather and other products from livestock, are facing a number of challenges that are one-sidedly observed and that question better and more productive cooperation between producers and processors of raw materials.

Advantages of the Nis region for the development of livestock breeding are:

- Very good natural predispositions for the development of dairy farming
- There is a great potential in agricultural land and natural grass surfaces
- There are manufacturers that produce milk and they are achieving some results
- There are buyers of milk in the form of small-and large-scale dairies
- The tradition of livestock breeding
- There are municipal funds that direct funding for agricultural development
- Sheep and goat breeding is recognized as the region development potential
- Potential of creation of proprietary products
- The existence of advisory services that are actively engaged in livestock breeding
- Preservation of genetic resources in livestock production (especially in sector of sheep breeding)
- Teaching base for mountain cattle breeding of the Veterinary Faculty in Dimitrovgrad
- The introduction of agro-ecological measures for preserving grazing pastures
- Establishing reproduction centers of indigenous breeds of sheep

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- Involvement of private counseling services and records services into education of the producers
  - Sectoral coordination between the support system for farmers (better utilization of resources in the field)
  - Establishment of registered manufactures for special kinds of cheese.

Drawbacks of the current development of livestock breeding in Nis region are:

- Very poor housing conditions for dairy cattle and related categories
- A small percentage of equipment for milking and milk cooling
- Lack of facilities for storing technology for milking and milk cooling
- Very low level of hygiene
- Lack of independent laboratories for analysis of milk
- The system of "door to door" milk collection in the buckets which are in very poor condition
- Very low level of mechanization of the entire production process
- Poor nutrition
- A small number of animals
- Poor breed composition and availability of good cattle in the market
- Very low financial power of the producers
- Poor organization of work operations and processes in the yards of the producers
- Technological entites of the yards are disrupted with a number of intersections of clean and dirty parts
- Facilities for storing food and manure do not exist in the majority of households or they are not in compliance with the essential requirements
- Lack of skilled labor and producers
- Poor organization of the production chain - the producer, purchase, dairy
- Local dairies are small and without the possibility of technical and material support
- Underdeveloped functioning of existing associations
- Lack of specialized dairy or livestock breeding cooperatives
- Lack of activity in involving local producers in creating regional and national policy for this sector
- A small number of advisors who cannot cover the whole area
- Educations are mostly in the form of lectures, there is little practical training on farms
- Lack of connection between the professionals and the producers (the connections between secondary and higher vocational schools with producers)
- Inadequate utilization of the potential of specific products
- Insufficient use of natural and artificial pastures
- The animals, particularly large, are almost exclusively kept in closed conditions, without grazing
- Lack of a sense of cattle breeding being a job
- Lack of record on the costs of livestock production in the household, hence the impossibility of calculating the income and costs of a household in this sector
- Lack of capacity to absorb future EU funding (not being prepared for the use of IPARD funds)



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### **Short Description of the Current Situation and the Needs for This Project**

Nis region is characterized by very good natural predispositions for the development of livestock breeding, especially dairy cattle, sheep and goat. Pastures of the surrounding mountains, as well as the prospects for crop growing in Nis region, have contributed to the fact that population is traditionally engaged in the production of milk and dairy products. However, very little or almost negligible number of family farms specializes in milk production. Presently they are making satisfactory production results. With corrections and vocational guidance they could become a model for other farmers in the region.

However, overall milk production in the region is faced with a number of problems. Livestock has been decreasing for several years. Its further reduction can be expected as well as the lack of quality breed offspring. Family farms do not have the financial means to prevent the reduction, to build new stables and supporting facilities, to introduce new technologies and to specialize in the production of milk. For this reasons a large number of small farms that used to breed a few cows quit producing milk or they are in the process of abandoning it. Large disparities, uncertainty of production, price fluctuations, the absence of state subsidies for investments, bad policies have greatly contributed to this.

The great lack of funding with the producers led to the extensive production of milk which is not sustainable and cannot be profitable. The living conditions for dairy cattle and supporting categories are beyond all standards, very bad and difficult. It is impossible to comply with any technological standard or requirement for cattle breeding in such conditions. The supporting facilities for storing forage are non-existent or they are of insufficient capacity. The storage is often improvised or temporary. Nobody is thinking about the welfare of the animals and environmental protection. Breed composition and production results are below the technological standards. The quality of milk is very low. Technique and milking hygiene are below acceptable levels. Cooling devices are present only in the larger producers. However, even at big farms, they are not installed in adequate facilities and there is a lack of basic hygienic conditions and needs.

The purchase of milk in the region is not organized in a satisfactory manner. Existing small dairies are doing business with a lack of resources and they are technologically insufficiently equipped so they are producing a limited number of products, which are of lower quality and lower price. New mini dairies are continuing to be opened in the region while the existing ones are shutting down thus contributing to creation of uncertainty among producers. Education and professional knowledge of the producers are often very low. The number of professional staff for training in the field and educating the producers is not sufficient and their work is not coordinated lacking the funds to meet the needs.

The disparity is still present with the tendency of growth. Lack of funds of the producers, who are unable to obtain the necessary inputs or individual components in the diet of cattle, is bound to reflect on the decline in production and thus on the success of the producers.

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Setting up and implementation of the new standards starting from conditions for cattle keeping, breeding technology, nutrition, the quality of techniques for milking and finally the quality of milk, set by large dairies and which are becoming the compulsory condition for small as well, will lead further to a complete shutdown of small farmers and dairies, which will not be able to comply with. For this reason it is essential that the existing regulations and subsidies are planned and directed towards producers so that existing requirements in terms of standards and safety are gradually resolved and adopted on the producer's properties. The system of subsidies and a variety of incentives should be planned for long-term so that each producer could review and plan the volume of the production for a longer period of time.

The use of incentives for rural development in the region should be optimal. The problem with small producers of milk and milk products in the region should be resolved by their association at different levels and by developing joint institutions, cooperatives, clusters, and improving the potential of existing associations and the like. These organizations should work to improve the quality of products, their placement, and promotion of traditional products of the region to which they belong.

### **Project Description**

In order to develop livestock breeding it is necessary to initiate activities with a number of actors in the field, including relevant stakeholders from local governments, development projects, associations, producers and prominent farmers, businesses, professional services, academics and independent consultants from the region. The project must be in compliance with the National Agriculture Development Plan that complies with the EU agricultural policy.

Livestock breeding development should be based on: making land properties bigger, implementing new technologies of production and feed preparation, procurement of quality livestock breeds, building new modern stables, installing and using good quality equipment, raising the level and quality of products and safety in production and product placement.

This project envisages activities which will contribute to the increase of livestock in the region, to increasing competition among milk producers, as well as to educating of farmers to help improve the accommodation conditions for dairy cows and their nutrition. All this will certainly ensure efficient production on family farms and greatly improve quality of life in rural areas and thus contribute to the survival of the people in the countryside.

As a first measure to improve the situation there is a need to import high-quality heifers. In this connection the stimulating action of quality breeding animals' procurement should be continued (in accordance with the National Plan for Agricultural Development). Imports should be done in the most favorable way through the cooperation of local governments with producers of milk and dairy-farmers, both small and the large ones. This method has given results in other regions of Serbia.

The method of a revolving fund can be used for importing and distributing heifers which means that producers have a duty to return the same number of animals (in the category of heifer) to revolving fund in the next few years. At the same time, the way should be found for a significant increase in the number of cattle in the revolving fund, as well as the methodology of revolving fund functioning. The method by which the biggest and best



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producers are the one to get the heifers first should be applied in practice and the deadlines for the return of heifers should be agreed with them. The continuous control of the animals should be done during the formation and functioning of the fund thus maintaining the effects of the action to the end.

It is necessary to implement vigorously and support the activities related to the consolidation of production on existing farms in order to form first commodity farmers. For serious and intensive milk production it is necessary to improve the genetic potential of cattle for milk production. In addition to these measures, it is necessary to continue with the measures that are traditionally carried out in order to improve the situation, i.e., the artificial insemination of heifers with good quality semen. This may be an activity that will be supported on different levels. The responsibility for the success of this action should primarily be established between associations/cooperatives, producers and local governments and the simplest model for monitoring insemination of heifers and procurement of semen should be found. The supply of good quality semen should be provided by associations and cooperatives in the form of procurement for its producers. Thus the associations will meet their primary tasks and they will also ensure the use of semen that is really of good quality. Local governments can get involved by subsidizing the procurement of semen or by participating in the price of the insemination. Artificial insemination under full control would have to be done in cooperation with the artificial insemination centers and local veterinary clinics. Thus, with significant financial resources, relatively fast and safe genetic improvement and increased production per cow would be provided. Also, it is necessary to introduce criteria for the evaluation of the work of veterinary stations and vets who perform the artificial insemination in order to ensure the quality and so that they also have a share in the responsibility for the success of the undertaken actions.

Supply high quality of raw materials and cattle head in sheep and goat breeding would also greatly contribute to improving the breeds, which would, in areas that specialize in this type of milk production, contribute to the easier availability of quality animals and the selection with the objective of improving of these production could be done. The establishing of the reproductive center could additionally bring profit to these areas in the form of selling quality cattle to other parts of the country as well as in cross-border areas.

In order to use pasture optimally, the systematic exploitation of pastures can increase pasture productivity by 60%. It is necessary to begin with the application of agro-technical measures such as fertilization of pastures, surface treatment, overseeding and weed control in pastures.

With the existing farm structure, where the average number of cows per farm is 5 and annual milk production under 4000 kg, it is not possible to provide economically efficient milk production. Therefore in the future it is necessary to work on increasing of milk production of dairy cows and achieving economically efficient production. Besides improving livestock breeds it is necessary to improve the conditions of nutrition, housing, etc..

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Almost all accommodation facilities are old and inadequate. The capacity of facilities is a limiting factor for the increase in the number of animals in a significant number of farms, which have already started the process of specialization. The construction of new or renovation of existing facilities as well as supporting facilities must be done in accordance with the technological standards and creating opportunities for full mechanization of work processes.

However, the factor that has the greatest impact on the milk yield in animal is certainly nutrition. Attention should be paid simultaneously to increasing production, primarily of forage and to improving the quality of dairy cows' nutrition. The nutrition of high milk yield dairy cows must be consistent and sufficient throughout the year. Fluctuations in the composition and quantity are not allowed. This means that when planning the planting structure, scale of production and space, applied technology, the need quantities of nutrients on annual basis must be known.

The process of improving the conditions of breeding and nutrition is a long process. Besides financial and technical assistance the support of expert advisory services is needed and a comprehensive education process that would involve the opening of demonstration demonstration farms.

An important aspect of competitive milk production is the production of microbiologically correct milk. The process of producing microbiologically correct milk in healthy cows begins with the process of milking. As a strategic priority in the dairy industry in the region a need for education on hygiene of milking is imposed as well as the need for the supply of adequate milking machines, milking units, lactofreezers. In regions where there is not sufficient milk production or where there are small households it is necessary to establish buying out spots.

Encouraging the establishing of milk producers' associations is necessary measure which will help them to overcome much easier many difficulties they are facing at the moment. The capacity of existing associations should be built constantly, their co-operation and addressing the decision-making bodies should be encouraged, as well as the creation of joint strategic plans that will define the most important development directions and methods that are specific to the associations and their members. Local governments, as well as advisory services should provide services to the associations to help their development, particularly in the area of defining the direction and priorities of the associations, cooperatives and clusters. The organization of exchange of experience between the associations and cooperatives from different areas would help producers to develop activities of their associations. In addition to study tours for producers, specific study tours at home and abroad should be organized for the management of those associations on occasion of which they will be able to exchange ideas and results and to define their cooperation.

In addition, it is necessary to establish a laboratory for testing the quality of milk in the region. Such laboratory must be accredited and equipped for a successful operation. Besides the accreditation for testing microbiological safety this laboratory should be accredited for testing of product composition. Due to the ongoing process of establishing national reference laboratory for milk, it is necessary to examine the issue of the transitional



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arrangements and the establishment of regional independent laboratories (Veterinary Institute, Agricultural Extension Service Nis, laboratories, etc.).

The region has significant potential for the development of specialized products, some of which have already been registered – belmuz from Svrljig and cheese from Mountain of Stara Planina. As the development and registration of these specific products is one of the great potential of creating added value of products in these areas, it is necessary to devote a lot of attention, establish associations which will register and certify these products and that will be the support for the improvement and diversification of production in the dairy sector.

The production of traditional products, preservation of biodiversity and genetic resources in mountain areas, which have other positive benefits, may contribute to the development of a specific agricultural production, which may serve in the function of the rural economy diversification (rural tourism and services).

In order to preserve genetic resources and improve the sorts of breeds, the repro-center will be established, especially for indigenous breeds of sheep and goats.

#### **Project Objectives**

**General Objective:** Improving livestock breeding in Nis region by increasing livestock, improving breeds and increasing competitiveness

#### **Specific Objectives:**

1. Increasing livestock and improving breeds
2. Developing dairy production chains
3. Increasing competitiveness

#### **Target Group**

##### **Direct Target Group:**

- Population in rural areas
- Registered agricultural holdings
- Associations of producers
- Businesses
- Agricultural Extension Services
- Academics
- Local self-government
- Independent consultants

##### **Indirect Target Group:**

The citizens of Nis region

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## **Activities**

### **1. Increasing Livestock**

- Purchase of highly fertile heifers – imports with high genetic potentials, with the participation of producers in the procurement (consulting and financial participation) with clear criteria about who can participate in these programs (the condition such as bigger number of cows and alike)
- Modernization and use of revolving fund
- Registering of quality cattle and provision of additional support for the possession of cattle with high production quality
- Mandatory insemination of the cattle with quality semen
- Regular screening and rewarding the best producers, according to the quantity and quality of milk
- Establishing repro centers for sheep and goat breeding, as well as for indigenous breeds of animals
- Incentive payments per head for all animals (cows, sheep and goats) in order to preserve the mountain pastures
- The introduction of mandatory controls and verification of semen that comes from the Institute for artificial insemination

### **2. Increasing Competition among Milk Producers**

- Procurement and application of the latest milking machines
- Installation of closed milking systems into stables with bound way of keeping livestock
- Increasing milking hygiene to the highest level
- Building rooms for lacto freezers and equipment for automatic washing of milking line
- Building places for milking and installation of milking equipment that allows upgrade (semi and automatic control of the milking process) in barns with free way of keeping stock
- Procurement of heat pumps for heat recovery while cooling milk
- Taking measures to prevent unsanitary and inadequate purchasing of raw milk
- Providing transportation of milk in tanks with a cooling device
- Providing conditions for constant control of the milk at the purchase places or while handing over of milk from cooling tanks
- Mandatory registration of farms for the production of raw milk
- Registration of facilities for the production of milk
- Determining daily amount of milk for getting the lacto freezers from the dairies
- Creating purchase locations for small producers in order to comply with hygiene standards and attract dairies
- Introduction of quality standards in production depending on the selected strategy development (GGAP, organic production, certification of products with geographical indications, etc.)



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- Identification of subsidies in accordance with the facts in the field and not on the basis of assumptions and outdated information
  - Enabling more efficient settlement of property relations over agricultural land in order to increase production

### 3. Nutrition Program for Dairy Cows

- Planned production of fodder on one's own agricultural land
- Increasing the yield per area unit by using appropriate agrotechnical measures
- Increasing the number of family farms that are transferring to new technologies in nutrition
- Incentives to move to a new technology of producing, conservation and use of livestock feed
- Incentives and assistance with the procurement of adequate pieces of machinery for new technologies
- Support in establishing service centers for mechanized harvesting, transporting and preserving forage for livestock feed,
- Feeding cows according to technological standards in accordance with the level of production
- Binding recommendation for analysis of nutrients used for livestock
- Purchase of software
- Using a mixer distributor trailer for Total Mix rations
- Using of grazing with cattle, sheep and goats as a form of feeding (natural and artificial pastures and meadows)

### 4. Program of Improving the Cattle Housing

- Building new barns with natural climatic conditions according to the latest standards in free cattle housing
- Incentives/conditionality with good conditions for keeping livestock
- Subsidies for small producers to improve housing facilities
- Adaptation of existing stables (if it is possible) to the latest standards for all categories
- Development of standard stable projects and supporting facilities for farmers, according to the latest solutions of free and bound rearing
- Construction of supporting facilities for storing forage
- Construction of the landfill and manure storage
- Organizing farms according the animal welfare standards
- Promotion of livestock production in the natural parks in accordance with the best practices of conservation of landscapes and scenery
- Supporting cattle breeding in order to preserve and promote the landscape

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## 5. Education of Farmers

- Workshops, trainings, field visits by professional services. Development of topics such as technology for feed preparation, feeding, housing conditions, construction and renovation of production and related facilities, care and use of manure, environmental protection, milking and procedures with milk
- Building demonstrational farms  
Organizing expert visits in the country and abroad

## 6. Dairy Chain

- Work on developing a program for association of producers at all levels
- Organized participation in the procurement of inputs under more favorable conditions
- Securing experts to work on developing new products
- Strengthening Agricultural Extension Services professionally and materially and strengthening all stakeholders that make up a support system for producers
- Linking local production with regional tourism
- Using the laboratory for quality control
- Providing conditions for favorable loans
- Promoting and protecting local products
- Production of needed amounts of high quality forages for the annual needs of the farm
- Regulating the relations between the dairies and farmers
- Educating management of the associations and cooperatives about the functioning and role of these organizations in development
- Educating local stakeholders to use IPARD funds

### Expected Project Results

- Revolving fund established
- High quality heifers imported
- The cows inseminated with the highest quality semen
- Seminars and professional trainings for farmers held
- The cattle exhibition held
- The number of modern milking machines increased
- The number of built milking places increased
- The number of lacto freezers increased
- The number of purchase location organized according to HACCP standard increased
- The number of the farms registered for milk production increased
- The number of closed non-hygenic purchase line increased
- The number of introduced quality standards increased



- The number of procured machines for implementation of new feed technologies increased
- The number of farms implementing nutrition according to technological standards increased
- The number of farms using grazing as a form of cattle, sheep and goat feeding increased
- The number of built productive and supporting facilities according to technological standards increased
- The number of educated farmers increased
  - The number of organized professional visits increased.


**Specification:**

1. . For open competition select 500 families that will receive two cows 500 x 2.000€ =1.000.000€
2. Reconstruction or construction of new stables 500 x 10.000 €= 5.000.000 €
3. The modern equipment for the production of milk and cheese 500 x 2.000 €= 1.000.000 €
4. Buying 2.000. sheeps x 200 € = 400.000 €
5. Buying 500 goats x 300 € = 150.000 €

**Needed Funds: 7.550.000 €**

**Note:**

The project will be implemented through the strategic partnership between the City of Nis and potential investors. New strategic partnership can be realized for each of the planned activities.


  
 Mayor  
*Zoran Perisic*  
 Zoran Perisic, MD, PhD