

## The Needs of Agribusiness Development

### Kharagauli Municipality



#### 1. Introduction

In September 2014, the Association of Young Economists of Georgia (AYEG) in partnership with the charitable humanitarian organization “People in Need” conducted an assessment study of the needs of agribusiness, from which current information regarding the municipalities of the region of Imereti was obtained. Results will assist local, regional and central government officials in the joint planning of agriculture development projects in the regions of Imereti and Racha.

The study was conducted in the framework of the project “The Support of Cooperatives in the Region of Imereti, Georgia”, with the financial support of ENPARD Georgia and the Czech Development Agency.

#### 2. Methodology

The agribusiness needs assessment study was conducted after having selected representatives from the Kharagauli municipality (individual respondents and focus group participants) who shared their views and ideas regarding the strengths, weaknesses, opportunities and risks of the local agriculture businesses. The following methods were used for research purposes:

- Desk Research;
- Focus Group Discussions;
- In-Depth Interviews;
- Priority Diagrams.

The interviewers and facilitators assisted the respondents in the analysis and categorization of their ideas. After the development of a SWOT analysis, the respondents prioritized solutions using the priority diagrams. In order to collect information, AYEG drafted guidelines for in-depth interviews and focus groups (see Appendix) encompassing open questions and study issues.

Focus group meetings and individual interviews were conducted by the research experts of AYEG. Technical assistance, facilitation of the interviews and discussions and the preparation of transcripts, was provided to the experts by students from Akaki Tsereteli

State University. A special training session was held for the students where they were given relevant technical tasks. The analysis of the retrieved information was carried out by AYEG experts using a deductive approach. The analysis is based on the grouping of data, identification of similarities/common trends and differences.

The development of the economy and agriculture of Kharagauli is relatively weak in comparison with other municipalities of Imereti. In this municipality, the most common type of agriculture is livestock farming and some cultivation of cereals/grains, fruits and vegetables. Therefore, mainly small and medium-sized and some experienced/entrepreneur farmers were selected as respondents for the methodology.

The following table shows the data collection methods according to the categories of the respondents.

Respondents	Focus Groups	In-depth Interviews	Priority Diagrams
Small Sized Farmers (<1 ha of land);	2 Focus Groups		Applied
Medium Sized Farmers (1 to 3 ha of land);	1 Focus Group		Applied
The main suppliers of agriculture (Seeds, chemicals, pesticides etc.) and Large Sized Farmers (>3 ha of land);		4 Interviews	

Unfortunately, there is no official data for municipalities in the area of agriculture. Nevertheless, the information used for drafting the municipality profile and other information about agriculture was mainly provided by the Kharagauli Municipality.

Focus group meetings were conducted in the Kharagauli municipality from September 1-5, 2014: Two meetings were with small-sized farmers (owners of <1 ha land and livestock farmers) and one meeting with medium-sized farmers (owners of 1 to 3 ha of land and livestock farmers). Each focus group meeting was attended by an average of 8-10 farmers. In addition, three in-depth interviews were conducted with medium-sized farmers: Twocattle farmers and one beekeeper. One interview was also conducted with the local phyto store owner. A specialized questionnaire was used for focus group participants and for individual interviews (provided in the appendix).

### 3. Profile of the Kharagauli Municipality

#### General Description

The Kharagauli Municipality is located in the Southeast of Imereti. From the West it is bordered by the municipalities of Zestaphoni and Baghdadi, from the South, Borjomi, in the

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East, Khashuri and to the North, Chiatura and Sachkhere. The Kharaguli Municipality is located at an altitude of 285-2,642 m. (mean. 420 m) above sea level. The municipality's total area is 91,390 ha, of which 73,390 ha of land is mountainous and 18,000 ha is valley. The municipality consists of one town and 78 villages, which are composed into 20 local government units. The town of Kharagauli is 198 km away from the capital city Tbilisi and 65 km from Kutaisi. The municipality is rich in rivers, from which there are mineral and thermal water deposits in the municipal area. Kharagauli is also rich in forest resources; forest land occupies 68% of the municipal area.

### **Demography**

According to the data of 2014, the municipality has a population of 27,100 people. Out of the total population, 20% live in the town of Kharagauli, while the rest live in villages. An average of 296 people live in each settlement. The population density is 31 people/km<sup>2</sup> which is significantly less than the country average of 67 people/km<sup>2</sup>. There are five main sources of income for the population: agriculture, micro-enterprises (mainly for timber production/processing), trade and social assistance.

### **Economy**

The main fields of economic activity in the Kharagauli Municipality are agriculture, micro-enterprises (mainly for timber production/processing) and trade. Production is poorly developed in the Kharagauli Municipality. There are some small food manufacturing factories, bakeries, construction and paving stone mining/processing factories, as well as alcoholic beverage production enterprises. The population of the municipality is actively involved in timber production and realization. The municipality also produces the mineral water "Zvare", which is currently operating on a limited scale.

### **Agriculture**

Agriculture is the key area of employment in the Kharagauli Municipality. Despite the lack of land, the population is still engaged in agriculture. The municipality-owned agricultural land area consists of 13,784 ha, which is 15% of the total surface area of the municipality. From this land, 4,512 ha is arable land (33% of which is agricultural land), 1,301 ha is orchards (9%) and pastures make up 7,970 ha (58%).



**Harvest in the village of Tskalporeti**

The priority crops of the municipality are corn, vegetables, beans, and vineyards. The corn yield is 1.8 t/ha, while it is 2.8 t/ha for vines. Over the past ten years, all kinds of yields have been steadily decreasing. The causes for yield reduction are primarily inefficient farming, specifically, low productivity seeds, inefficient ways of combating pests, diseases and weeds and disregard for the relocation of crops.

Unfavorable weather conditions (drought, flood, hail) may also be seen as one of the causes of yield reduction. Approximately 40% of arable lands are in need of irrigation due to frequent drought, and this poses a problem due to poor irrigation systems, of which there are few. In addition, rain water is not collected for irrigation. At the same time, agriculture is facing another challenge, namely water logging as about 30% of agricultural land needs drainage, however there are no drainage systems in the territorial unit.<sup>1</sup>

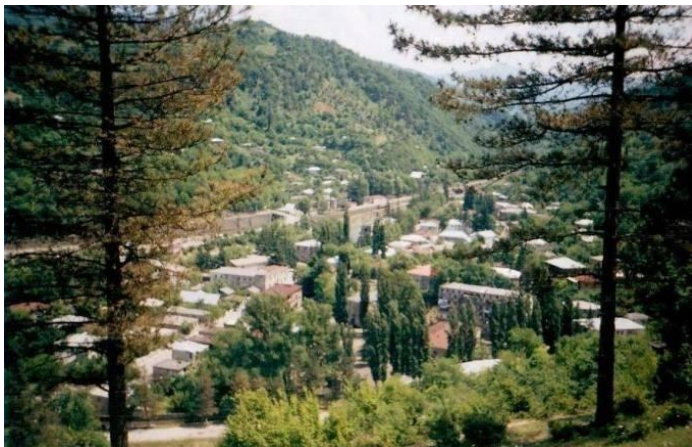
### **Livestock Farming**

Overall, 58% of agricultural land in the municipality of Kharagauli is pastures. This figure is high compared to the area's arable land. However, a number of villages are still suffering from grassland shortages due to uneven division.

During the Soviet period, the breeding of livestock was widespread. However, since then, the number of cattle and sheep has reduced by approximately 40-50%. The main reason for the reduction of cattle can be assumed to be the migration of the population. Currently, the municipality has counted about 9,000 cattle and 1,300 sheep. Cattle from neighboring territorial units are almost never brought to the Kharagauli pastures.

There are 1.1 cattle and 0.2 sheep per hectare of grassland<sup>2</sup>. With regard to beekeeping, one bee hive provides an average of 23.9-23.7 kg of honey. In 2012, an Agricultural Development Office was created in the municipality administration, which monitors and accounts agriculture-related issues.

### **Natural Hazards**



Strong storms, floods, landslides, avalanches, riverbank erosion, earthquakes and drought are characteristic of the Kharagauli Municipality. In the last decade, the threat of natural disasters has been present on both residential and arable land. For example, in almost every village, residential areas as well as agricultural lands (both arable and pasture) have been damaged by landslides. To date, 28 villages are

located in a landslide zone. Moreover, floods are a frequently occurring natural problem, which significantly affects the local infrastructure (mainly roads and bridges) and the agricultural production process. The municipality does not have a master plan for spatial arrangement, which would list land-use planning factors and consider natural hazards.

<sup>1</sup> Source: Administration of the Kharagauli Municipality

<sup>2</sup> Source: Administration of the Kharagauli Municipality



#### **4. Agricultural Business Needs**

The agricultural business needs of the Kharagauli Municipality are presented in the form of a SWOT analysis (strengths, weaknesses, opportunities and threats), which includes the results of the focus group meetings and in-depth interviews.

##### **Strengths**

According to the participating small and medium-sized farmers of the focus group, one of the strengths of the municipality is its rich tradition in agricultural work. Farming families have a long tradition of agricultural work and therefore significant knowledge which helps them effectively fulfill their tasks. Along with tradition, the strong motivation of the local population to succeed in their work is stated as another important strength. One of the participants of the focus group stated: "The main strong point is tradition and the will to take care of the village and participate in rural development, which envisages the operation of agriculture."

Furthermore, small and medium-sized farmers name beekeeping as one of the strengths of the area's agriculture and focus group participants believe that this should be supported through the maintenance of natural conditions. Livestock farming is also named as a priority sector, for which the existence of significant



**Local Beekeeper Lasha Gurgenidze**

areas of pasture is necessary. A farmer who was a participant of the focus group stated: "Kharagauli provides a good environment for beekeeping and livestock farming." An In-depth interview respondent stated: "Because of the location of Kharagauli, beekeeping is successful; there are large chestnut and linden forests." In addition, farmers state that local fertile soils and climate conditions are also strengths.

Local small and medium-sized farmers note the existence of state programs as an important strength in the development of agriculture. Focus group participants brought up the example of the distribution of agro-vouchers and underline their importance for them. One of the farmers stated: "The agro-vouchers have been distributed for two years now which has guaranteed that everyone has fertilizer. This is very important."

##### **Weaknesses**

One of the biggest weaknesses pointed out by respondents is the low qualification level of small and medium-sized farmers, which prevents them from effectively carrying out agricultural work, as well as participating in various grant and loan programs. One of the biggest difficulties which the farmers reported is the complicated procedures needed to

acquire loans and grants. They state that the farmers lack the qualification and resources needed to properly prepare business plans and meet loan requirements.

The farmers participating in the focus group believe that stricter regulation of the trade of fertilizers and agricultural chemicals is needed in order for the quality of products to be ensured. The respondents stated that it is difficult for farmers to distinguish high-quality chemical from the relatively low-quality alternatives. During one of the in-depth interviews, one of the farmers stated: “The lack of consultation regarding the use of chemicals is a very serious problem in Kharagauli.” The owner of the Phyto pharmacy also confirmed that “a consultation on the use of chemicals is needed for local farmers.”



**Farmers Participating in the Focus Group**

In addition, low availability of agricultural machinery is named as a weak point. In this regard, small and medium-sized farmers are actively engaged in the free cultivation state program, but in their opinion the machinery is out of date and in many cases not suitable for the conditions of Kharagauli. Most of the machinery is unavailable for some of the villages. One of the

concerned farmers stated: “Why do they bring the wheeled tractors to our village? Chain tractor barley gets the job done so it is logical that the wheeled ones will be useless. Therefore access to machinery is very scarce because the available machinery frequently is not able to get the job done.” Furthermore, the small-sized farmers stated that there should be an appropriate amount of machinery and they should be suitably available. One of the farmers stated: “Because of the lack of equipment the land cannot be processed in due time. Therefore, we frequently use old methods such as bulls for land cultivation or mini-tractors, which not everyone has the opportunity to purchase.”

One of the biggest problems which small and medium-sized farmers reported with the development of local beekeeping is the existence of adulterated honey on the market, which makes it difficult to sell natural honey. Meanwhile, another obstacle which small and medium-sized farmers stated regarding the development of livestock breeding and plant growing is low access to agronomists and veterinarians. In addition, the farmers participating in the focus groups stated that it is difficult to gain access to full and exact information regarding different support projects and programs, therefore informational campaigns should be conducted periodically in Kharagauli, in order for the population to receive information about state/donor/international or other projects. It was also stated by the farmers participating in focus groups and in-depth interviews that, because of their low income, local farmers are not engaged exclusively in agricultural work but also in different fields, mainly timber extraction, processing and sales.

One of the weaknesses cited was the lack of agro insurance. Focus group participants believe that there should be special state programs for farmers in this direction, which will ensure compensation, together with the private sector.

In the field of livestock farming, low availability to slaughterhouses was stated as a weak point, since it raises the price of meat and makes it non-competitive in comparison to farmers of other municipalities. Focus group participants frequently stated that low accessibility to qualified veterinarians and agronomic services as well as low-productivity species in livestock were weaknesses.

### **Opportunities**

Vocational training was put forward as an opportunity for the development of beekeeping. One of the participant farmers of the focus group stated: “The reality is that there are 2-3 people who hold the knowledge needed for beekeeping, I do not mean to offend anyone but these people are monopolists in regard to their human resource, meaning that they are good specialists and therefore they are always the



**Farmers Participating in the Focus Group**

ones which are consulted and hired. This should not be like this; these people should also be the ones who are teaching the village farmers.” Meanwhile, another participant added: “We could buy American corn but we would not be able to take care of it.” In addition, one of the respondent farmers of the in-depth interviews stated that grain farming is impractical and that the production of berry crop has great potential in Kharagauli: “In my opinion, the development of agriculture in the field of grain farming is very unreasonable, raspberries and other similar berry crops might be justified, it is not as difficult and produces a good income, the demand is high, this year the sales were good. In the case of corn, ploughing and fertilizer costs are high so there is not much profit. Corn is cultivated for the purpose of food for the farmers and livestock. It is not possible to quit working as a livestock farmer since it is a major source of income but it is also impossible to have any savings in order to start up anything new. For example, I sincerely believe that berry crop cultivation is very promising.”

The creation of processing enterprises (mostly dairy and fruit) was also named as a necessity at the focus group meeting. One of the focus group participants stated: “If the government were to set up a dairy processing enterprise farmers would think about owning 10 cows instead of 5 and producing milk.” In addition, small and medium-sized farmers believe that more attention should be paid to the development of greenhouses in Kharagauli, since the location of the municipality makes the distribution of greenhouse production easy in both West Georgia and in the neighboring municipalities to the East.

Small and medium-sized farmers who participated in the focus group noted the necessity of the replacement of species for the development of local livestock breeding. One of the farmers of the focus group stated: “We own animals with the capacity of 6 liters; therefore we are hardly making any profit. We need new species of livestock.” Moreover, a respondent of one of the in-depth interviews stated: “The development of livestock farming is much easier in regard to pigs and also the development of trout farming has big potential, I am planning on building a trout farm.” Along with trout farming, farmers spoke about the potential of owning pigs and tree nurseries.

In addition to funding, the participants of the focus group stressed the need for the improvement of qualifications. One of the farmers stated: “If we don’t teach farmers how to write a simple project plan, then there is no use in speaking about funding, since many projects will be competing with one another.” Most small and medium-sized farmers agree that, in addition to funding, the government should provide farmers with consultation services, which will ensure that they develop high-quality project proposals for grants and other competitions. According to small and medium-sized farmers, by providing training and consultations, farmers will be able to develop



**In-Depth Interview Respondent – Owner of the Local Phyto Pharmacy**

their farms by achieving more accessibility to loans and increasing the efficiency of agricultural work. The focus group participants also stated that it is very difficult for them to find co-financing or mortgages to participate in business project competitions, therefore they see a need for the state to support farmers in this direction.

The creation and operation of cooperatives on the market with joint resources is an important opportunity for small and medium-sized farmers to be able to expand their activities.

In addition, other than increasing opportunities for financing, the participants of the focus group spoke about the importance of cooperation between farmers and the government, in which they cited the specific example of the bad conditions of the local infrastructure. The respondents stated that if infrastructure is not improved the realization of products will be difficult, even if financing is available.

### **Threats**

Migration is foreseen as one of the threats to local agriculture, which affects the flow of knowledge. One of the farmers of the focus group stated: “From what I’ve observed no one ever returns to the village, farmers with high qualification leave the villages to work elsewhere and therefore it is really difficult to speak about the revival of agriculture if this process is not stopped.” The participants of the focus group stated that young people



leaving the villages is the greatest threat, which makes it even more difficult to develop local economy and agriculture each year.

All small and medium-sized farmers claimed there were threats associated with the use of chemicals, saying that they have a significant environmental impact and complicate the production of high-quality products. The farmers believe that environmental pollution is particularly damaging to the field of beekeeping.

In addition, small and medium-sized farmers feel that one of the drawbacks associated with the government is the implementation of projects which do not or cannot consider the specifics of Kharagauli. Small-sized farmers raised the project “Small Farmers 2014 Spring Promotion” as an example of this point. The agro machinery provided under the project was nonfunctional because local specifications were not taken into consideration. One of the small-sized farmers stated in a focus group: “Programs and projects should not be written out in only work offices, the opinions of the farmers should be taken into consideration. What may be good for Qartli or Kakheti may not be suitable for Kharagauli, every region needs to be evaluated individually. Meetings with the farmers should be conducted and needs should be assessed in this way.”

Small and medium-sized farmers consider epidemic diseases as one of the biggest threats to their livestock. The farmers feel that there is low availability of veterinarian, since there are only private veterinarian clinics and they often cannot find time for all of their clients. Therefore, livestock frequently die because of a lack of medical attention. One of the respondents of the in-depth interviews responded: “In the past there were much fewer diseases, the reason there are more now is the lack of quality medicine.”

Natural events such as drought, hail and flood are also stated as some of the biggest threats to their industry by small and medium-sized farmers. One of the participating farmers of the focus group stated: “This year my neighbors planted beans and because of the drought they withered and consequently could not make a profit. This is a very frequent problem.”

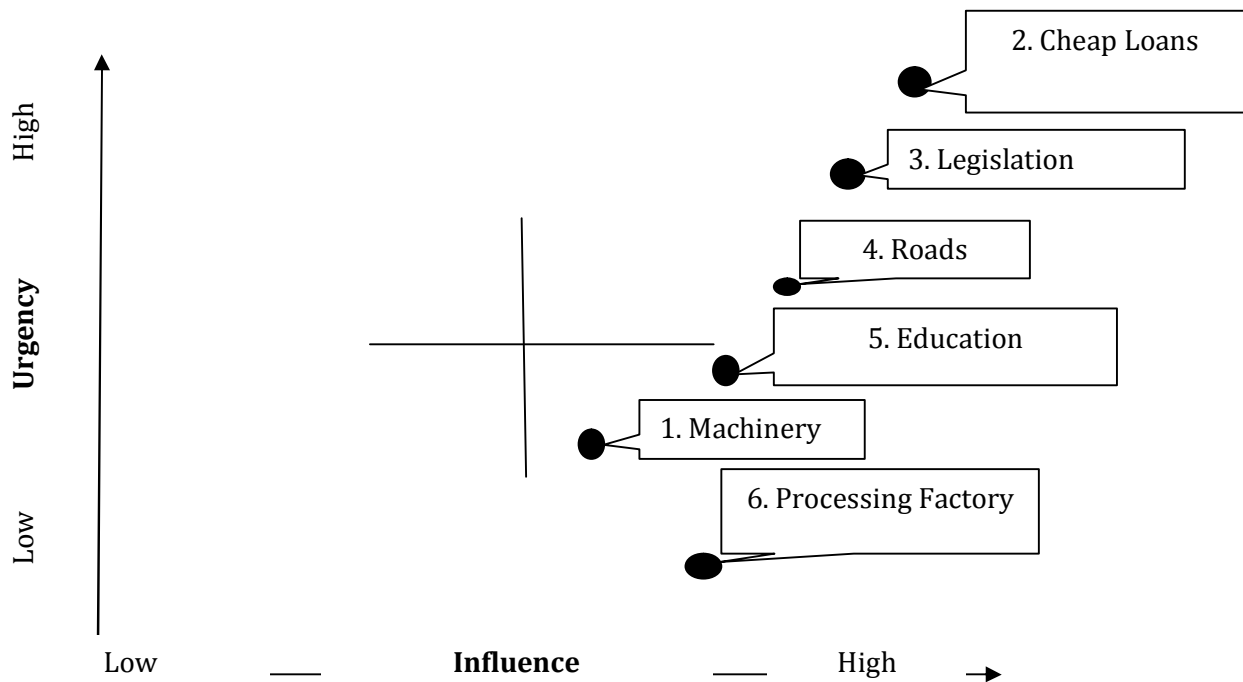
### **Needs of Agribusiness in the Kharagauli municipality - SWOT Analysis**

The opinions of small and medium-sized farmers are more or less the same; therefore for the purposes of the Kharagauli Municipality agribusiness SWOT analysis, they will be shown together:

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Favorable landscape and climate conditions for the development of livestock farming and beekeeping;</li> <li>More or less fertile land;</li> <li>Availability of water resources;</li> <li>Tradition and knowledge in the field of agriculture;</li> </ul>	<ul style="list-style-type: none"> <li>Low accessibility to high-quality agricultural machinery;</li> <li>Lack of information on different programs (agricultural loans, grant competitions);</li> <li>Low accessibility to slaughterhouses;</li> <li>Low level of knowledge among small farmers on modern technologies;</li> <li>Low level of knowledge among small farmers on the formation of business plans;</li> <li>Low-productivity species in livestock;</li> <li>Lack of programs for business loans and business grants for small farmers;</li> </ul>

	<ul style="list-style-type: none"> <li>• The absence of drainage and irrigation system problems;</li> <li>• Limited availability of quality agricultural chemicals and fertilizers;</li> <li>• The existence of counterfeit products on the market;</li> <li>• Low availability of qualified veterinarian and agronomic services;</li> <li>• Frequent change of climate conditions;</li> <li>• Lack of agro insurance;</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Delivery of special training courses for farmers in the agricultural sector;</li> <li>• Creation of a new enterprise (dairy and fruit processing);</li> <li>• Providing business consultancy in the development of business plans;</li> <li>• Implementation of business loan and grant programs aimed at small farmers;</li> <li>• Development of pig and trout farming;</li> <li>• Provide accessibility to qualified veterinarian and agronomic services;</li> <li>• Arrangement of a slaughterhouse in the Kharagauli Municipality;</li> <li>• Development of greenhouses;</li> <li>• Control of animal diseases;</li> <li>• Improvement of livestock breeds;</li> <li>• Fight against counterfeit products;</li> <li>• Arrangement of drainage and irrigation systems;</li> <li>• Conduct of frequent informational meetings in regard to agricultural support programs and projects;</li> <li>• Creation of cooperative with the involvement of small and medium-sized farmers;</li> <li>• Upgrade of agricultural machinery, increased accessibility and the implementation of new technologies for production;</li> <li>• Development of tree nurseries;</li> <li>• Production of berry crops;</li> <li>• Development of local agro insurance for local farmers;</li> <li>• Reduce damage from natural hazards.</li> </ul>	<ul style="list-style-type: none"> <li>• Natural hazards (drought, hail etc.);</li> <li>• Migration and outflow of knowledge;</li> <li>• Environmental pollution;</li> <li>• Epidemic diseases;</li> <li>• Indifference of the population.</li> </ul>

The focus group participants, small and medium-sized farmers, identified the priorities for the development of the municipality in the following way:



The needs shown on the Diagram:

- (1) Machinery - Increase access to high-quality agricultural machinery;
- (2) Cheap Loans - Increase access to low interest rate agro loans;
- (3) Legislation - Referring especially to the use of forests, it is difficult for small and medium-sized farmers to obtain a permit for timber. Although timber production is not included in agricultural activities, farmers often state it as a challenging issue, since a large number of the local farmers are also involved in timber extraction and the manufacturing of wood products;
- (4) Roads - One of the most important needs of local farmers is the development of local roads and road infrastructure;
- (5) Education - Raising of the level of qualification of farmers and and their level of knowledge in order to increase the efficiency of their agricultural activities. This also includes access to modern technology;
- (6) Processing Factory - It is difficult for local farmers to sell their products in domestic and regional markets, therefore it is their wish for the municipality to have various processing factories, which will take in their primary products for further processing.

## **5. Conclusions and Recommendations**

Agriculture is the leading economic activity in the Kharagauli municipality. Despite the lack of agricultural land, local farmers are actively involved in different farming activities such as growing crops including corn, beans, grapes and different kinds of vegetables. Ineffective management and the nonexistence of irrigation systems are among the major challenges in the field of agricultural farming in the municipality.

The conditions of the municipality are most favorable for livestock farming, particularly for cattle breeding and beekeeping. Sustainable development is not possible in this field because of the lack of pastures, if modern techniques for feeding livestock and maintenance of hayfields and pastures are used. In addition, high productivity breeds are important for the development of local livestock farming.

**The following main needs were revealed as a result of the study:**

- Delivery of special training courses for farmers in the field of agriculture - Farmers often lack skills and knowledge for modern technologies. They also have difficulty buying high-quality fertilizers and chemicals, because they do not have sufficient knowledge of these industrial facilities. In addition, they are in need of gaining modern information particularly in the fields of livestock farming and beekeeping.
- Promotion of the creation of processing factories (mainly dairy and fruit) in the municipality - Farmers have difficulty selling products in local and regional markets, and therefore, it is their wish for new factories to be created, where farmers will be able to supply the raw product.
- Business consultation for the development of business plans - Local farmers find it difficult to prepare business plans needed for participating in different state, donor/international organization or others' competitions. Therefore, farmers need access to qualified business consultations, through which they will be able to not only design sufficient business plans, but increase the effectiveness of their work.
- Implementation of business loan and grant programs designed for small-sized farmers - There is almost no access to affordable loans for agriculture. Small-sized farmers find it difficult to participate in programs where co-financing or a property mortgage is necessary in order to obtain a loan. Therefore, in conditions where loans are more or less accessible for larger-sized farmers, small-sized farmers are unable to compete.
- Development of nursery farms, pig and trout farming, berry and greenhouse crop production - Local farmers believe that more investment is needed in the municipality for the development of nursery farms, pig and trout farming, berry and greenhouse crop production. According to local farmers, there is high potential for development in these fields in Kharagauli.
- Increase availability of qualified agronomists and veterinarians - Farmers do not have sufficient access to qualified agronomists and veterinarians. Only a few individuals are able to provide qualified agricultural/veterinary services in the municipality, who lack the sufficient resources to meet the high demand. As a result, farmers face problems in the



- production and storage process (e.g. produced vegetables are often of low-quality and livestock often suffer from diseases).
- Building of a slaughterhouse and the use of high-yielding species of cattle in the Kharagauli Municipality - The main area of agriculture in the municipality of Kharagauli is livestock breeding. Local farmers believe that it is important to have a working slaughterhouse in the municipality because without this facility the price of meat rises and makes it non-competitive compared to farmers of other municipalities. In addition, the existing cattle in the municipality is mostly of low productivity and should be replaced with a relatively high productivity breed.
  - Animal disease control – The frequency of animal diseases is one of the main obstacles for local livestock development. Consequently, it is important to carry out disease prevention and control activities in the municipality.
  - The fight against counterfeit products - Farmers, especially beekeepers, have difficulty selling their products, because adulterated products are frequently sold on the market. For example, honey producers find it difficult and expensive to produce natural and higher-cost honey when they have to compete with counterfeit and lower-cost sellers. Consequently, it is important that the regulation of counterfeit products is stricter.
  - Drainage and irrigation system installation/maintenance - Approximately 40% of the arable land needs irrigation due to frequent drought. Only a small part of the municipality is covered by an irrigation system. Moreover, due to water logging, about 30% of agricultural land needs drainage. Therefore, suitable irrigation and drainage systems should be installed and maintained.
  - Conduct frequent campaigns of agricultural support programs and projects – Receiving accurate and comprehensive information regarding various support programs and projects is often difficult for local farmers, therefore special informational campaigns should be conducted periodically in Kharagauli for the residents to receive information regarding state/donor/international/other projects.
  - The creation of cooperatives with the participation of small and medium-sized farmers - The creation and operation of cooperatives on the market with joint resources is an important opportunity which small and medium-sized farmers believe would be able to expand their work. Therefore, the support of farmers in this direction is important from the central and local governments, as well as donor/international organizations.
  - Upgrading agricultural equipment, increase of access to technology and implementation of new technologies of production - One of the major hindering factors of the development of agriculture is the low availability of agricultural machinery. In this regard, small and medium-sized farmers actively enjoy the free cultivation state program, but they believe the technology is outdated and in most cases inefficient for the conditions of Kharagauli, while for some villages the machinery is totally unavailable. It is also important for the municipality to have of the necessary amount of machinery and for its availability to be in accordance with seasonal terms. In addition, local farmers need new technologies for the production of different crops.
  - The development of agro insurance products for local farmers - Agro insurance products are almost completely inaccessible for local farmers because of the high premium tax. Therefore, farmers need the assistance of the government and/or private sectors in order to reduce taxes on the premium.
  - Reduction of natural hazards damage - Natural hazards such as drought, hail, landslides, avalanches and floods have negative effects on local agriculture. Hence, there is a need to

take appropriate measures to reduce the damage caused by natural disasters, which will ensure the maintenance of agricultural assets.

- The restoration of windbreaks - This will reduce the potential of soil erosion and contribute to the regulation of temperature periods of hot weather.
- The prevention of hayfields and pastures from erosion - Several methods can be used for this purpose. First of all, it is desirable to establish and implement specific standards for cattle grazing in specific pastures. In addition, it is desirable to introduce rotational grazing.

### Appendix 1 - Guidelines for the in-depth interviews and focus groups

- I. **The main task: assess the performance of the participants in regard to the strengths of their work.**
    1. In your opinion, what are the strengths of your work and in what way are they portrayed?
    2. In your opinion what is the reason for which these strengths exist? Which factors contribute to their existence?
    3. By your observation what factors contribute (might contribute) to the maintenance/development of your strengths and what factors have a negative effect on these strengths?
  - II. **The main task: assess the performance of the participants in regard to the weaknesses of their work.**
    1. In your opinion, what are the weaknesses of your work and what way are they portrayed?
    2. In your opinion what is the reason for which these weaknesses exist? Which factors contribute to their existence?
    3. By your observation what factors contribute (might contribute) to the elimination of your strengths and what factors have a negative effect on the already existing weaknesses?
  - III. **The main task: assess the performance of the participants in regard to the possibilities of their work.**
    1. In your opinion, what are the possibilities which will help you in the development/enhancement of your work?
    4. In your opinion what is the reason for which these possibilities exist? Which factors contribute to their existence?
    2. In your opinion what is needed in order for these possibilities to be realized?
    3. In your opinion who should be responsible for the realization of these possibilities?
  - IV. **The main task: assess the performance of the participants in regard to the possibilities of their work.**
    1. In your opinion what are the risk which might hinder your work in the future?
    2. In your opinion what is the reason for which these risks exist? Which factors contribute to their existence?
    3. In your opinion who should be responsible for the reduction/elimination of these risks?
1. Generally what needs do you see for the development of your field?