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ANALYSIS OF CONDITION AND OBSTACLES IN DEVELOPMENT OF AGRIBUSINESS IN ZEPCE, ZAVIDOVICI AND MAGLAJ MUNICIPALITIES - Condition, obstacles and program's priorities -



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**ANALYSIS OF CONDITION AND OBSTACLES
IN DEVELOPMENT OF AGRIBUSINESS
IN ZEPCE, ZAVIDOVICI AND MAGLAJ MUNICIPALITIES**

- Condition, obstacles and program's priorities -

Zepce, year 2009

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PREFACE

“Analysis of condition and obstacles in development of agribusiness in Žepče, Zavidovici and Maglaj municipalities” (Condition, obstacles and program’s priorities) is part of a project “Establishment of Agroincubator Žepče”.

Project is financed by the Delegation of European Commission for Bosnia and Herzegovina, CARDS 2006, EU support to SME economy and regional economic development in BiH, Call V. Support in co-financing was provided by Federal Ministry of Agriculture, Water Management and Forestry, Federal Ministry of Environment and Tourism, Ministry of Agriculture, Water Management and Forestry of ZE-DO canton.

The members of TOT and associates carried out the Analysis, and we would like to express special gratitude to the representatives of partners’ associations (Association of farmers „Poljoprivrednik“ Zavidovici and Association of farmers „Jedinstvo“ Bocinja), to the representatives of associations and cooperatives that are signatories of Agreement on business-technical cooperation (RAZ Zavidovici, Association of beekeepers „Žepče“ Žepče, ZZ „Magplas“ Maglaj, Association of medical herbs growers „Melissa“ Žepče, association of raspberry growers-members of cooperative Zeljezno Polje Žepče) and to the representatives of municipal departments of agriculture from Žepče, Zavidovici and Maglaj and Ministry of Agriculture, Water Management and Forestry of ZE-DO canton.

The intention of the Analysis is to indicate the condition and problems which the agribusiness sector meets, with the special reflection on the condition in agricultural production, associations and cooperatives as well as on the supporting institutions to the development of agribusiness.

The condition in the above mentioned sector has been analyzed based on the documents which we have obtained from the relevant municipal departments, Ministry of Agriculture, Water Management and Forestry of ZE-DO canton, and on the estimation of

the situation, based on the performed examination of the condition, through the questionnaires for the associations and cooperatives, more specifically, for their members.

The total number of interviewed members of mentioned associations and cooperatives, from municipalities Žepče, Zavidovici and Maglaj, is 450.

Results obtained do not demonstrate a brilliant situation in the sector of agribusiness in Žepče, Zavidovici and Maglaj municipalities, which were the subject of this research.

The Analysis refers to the fact that a lot of work has to be done by the competent state, cantonal and municipal bodies, local development agencies, associations and cooperatives involved in development of agribusiness. There is a lack of initiative, cooperation and joined actions in solving the basic needs in sector of agribusiness, which refer to eliminating the obstacles that obstruct the development of agribusiness and providing the equal opportunities in domestic market in regard to the “black market”.

At the beginning we provide you with an overview of general conditions necessary for the development of agribusiness in Central Bosnia Region, followed by the description of condition of agribusiness sector in Žepče, Zavidovici and Maglaj municipalities and the obstacles that the actors of agribusiness sector meet in this area. We end the analysis with the conclusion and recommendations which could serve as a foundation in creating a policy for small and medium businesses in agribusiness sector. An integral part of the document is The Action Plan/ The List of Project Proposals for development of agribusiness in Žepče, Zavidovici and Maglaj municipalities.

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1. THE ANALYSIS OF GENERAL CONDITION NEEDED FOR DEVELOPMENT OF AGRICULTURE IN CENTRAL BOSNIA REGION

1.1. INTRODUCTION

Natural resources are available land, favourable climate and available water that provide the development of agriculture in Central Bosnia region.

A developed agriculture will increase employment and increase the quality and quantity of food products. The benefit from development of agriculture will be increased by having good influence on other business such as: processing industry, trade, tourism, traffic, energetic, chemical industry etc.

Before entering into a more detailed analysis of condition and obstacles that affect development of agribusiness in Žepče, Zavidovići and Maglaj municipalities, we need to turn up to the existing condition in Central Bosnia Region, in other words to condition where agribusiness is to be developed in these areas.

In previous analysis and strategies that were carried out, there are obvious common points of contacts in defining the SWOT analysis of condition of agriculture in Central Bosnia Region.

Therefore the weaknesses are shown as:

- ↓ Insufficient size of land, unsolved status of farmers,
- ↓ classical production that is incapable of adjusting to the market,
- ↓ ignorance of the actual condition in the field, land without clear title,
- ↓ low efficiency according to the unit of capacity, low level of specialization of production,
- ↓ unsatisfactory and inadequate technical equipment,
- ↓ low functional connection of producers, domestic-state economic space that is supposed to heterogeneous,
- ↓ disorganized essential agro-policy that is supposed to be consistent,
- ↓ unsatisfactory essential and other important legislation,
- ↓ lack of critical mass of stimulating credit resources in short supply,
- ↓ shortage of favourable credit resources, low level of investment,
- ↓ disorganized and uncompleted institutions for support,
- ↓ lack of rural components of development,
- ↓ unsatisfactory involvement of science in development of resources etc

This sector has its satisfactory opportunities for development but they were not utilized enough. Those opportunities are waiting to be utilized inside their own environment but there are OPPORTUNITIES that come from surroundings

- Therefore, the main opportunities that domestic environment provides are:
- Replacing exported with domestic products,
- easier access to the world market,
- domestic processing industry that is developed, possibilities in specialization of production,
- possibilities in introduction of new ways of production,
- possibilities in winning the foreign market with some selected domestic products,
- Construction of the Vc corridor, foreign and domestic investments are still unused and more utilization of domestic science potential.

In regard to agro-production, EXTERNAL THREATS to development of this sector are:

- ⚡ Increase of foreign competition,
- ⚡ World trend in decline of prices followed by increased quality of agro products
- ⚡ Giving priority to importers due to limited domestic support, ineffective domestic system of buying up and distribution,
- ⚡ Reduction in the number of possibilities in receiving external support

There are some other INTERNAL THREATS:

- ⚡ domestic politics-economic contradictions, undeveloped and not united business environment,
- ⚡ constant existence of foreign-trade deficit,
- ⚡ shortage of satisfactory resources for development,
- ⚡ a very slow development of infrastructure,
- ⚡ poor condition of environment and bad treatment of it ,
- ⚡ emigration of young population fit for work etc.

A conclusion can be drawn from all above mentioned that the Central Bosnia Region has its significant unused capabilities in the field of agriculture. So with a rational policy in economics, especially in agro policy, the Central Bosnia Region can be transformed into a significant exporter of domestic agro products.

It is not supposed to happen overnight, but by engagement of entire society and all factors that are parts of agro sector, it is an accessible and realistic goal

These goals of agro policy are defined by the **Law of Agriculture of Federation of BiH:**

- ☐ Increased availability of domestic products in the market I creating condition where a constant and appropriate supply will be offered to consumers of agro products according to their demands, especially in regard to price and quality and also the best of quality for human health.
- ☐ Increasing and development of agro production and export by the reason of strengthening the competition in domestic and foreign market.

- ☐ Providing a stable agro income and providing a satisfactory standard of living to agro producers
- ☐ Technical-technological development of agro sector
- ☐ Providing the harmonisation and integration of agro sector into EU and world market.
- ☐ A rationalised use and preservation of natural resources, environment protection, and development of organic production.
- ☐ Development and preservation of rural areas and preservation of traditional rural values.
- ☐ Providing the satisfactory conditions for solving legal employment status of agro producers.

Even though, the goals that are to be long for achieving are defined clear, a large space is left for creating measures and actions for their achieving.

1.2. GEOGRAPHICAL LOCATION AND TOPOGRAPHY OF CENTRAL BOSNIA ECONOMIC REGION

1.2.1. Space and size of Central Bosnia Region

Central Bosnia Region covers 16 municipalities of ZE-DO Canton and Central Bosnia Canton.

Municipalities in ZE-Do Canton are: Doboj Jug, Kakanj, Maglaj, Tešanj, Usora, Zavidovići, Zenica i Žepče.

Municipalities in (SBK) Central Bosnia Canton are: Bugojno, Busovača, Donji Vakuf, Gornji Vakuf-Uskoplje, Novi Travnik, Travnik, Vitez.

Teslić municipality is located in Republica Srpska and it has the largest area- 846 km².

Very small municipalities are Usora and Doboj Jug and following four municipalities: Zenica, Zavidovići, Travnik and Teslić are of the more than 500 km² size.

Total size of region is 5.295,91 km² that is 10, 34% of the total size of BiH.

1.2.2. Climate

Central Bosnia Region has continental-mountain climate. In some higher areas (height which is 1000 metre above sea level) is continental-alpine climate. The main characteristic of this climate is a severe winter and warm summer (last years the temperature went up to 39 ° Celsius) the main annual rainfall is from 900 to 1.100 mm/m². Snowfall is heavy, particularly in higher areas. This climate is favourable for development of agriculture, particularly for fruit growing, farming and cattle breeding.

1.2.3. Population

Number of inhabitants (estimation): 571.661

Estimation of the age:

- ☐ Age 0 -14 years -109.317 (19, 12%)
- ☐ Age 15-64 years -393.516 (68, 84%)
- ☐ Age above 65 years - 68.829 (12, 04%)

Number of population in Central Bosnia Region is 571.661 (data from the year 2007) that is 16, 62 % less than number of citizen according to census from 1991. Population density is 107, 94 inhabitants /km² (year 2007) that is less comparing to population density in 1991 when it was 128, 26 inhabitant /km². Population fit for work is 68, 84% of the total number of inhabitants. Unemployment is one of main problems for local communities because it is the reason that inhabitants are leaving this region. Average of unemployed people is more than 46 % of population fit for work.

1.2.4 Other characteristics of the Central Bosnia Region

Central Bosnia Region is known for its ramified course of rivers. Rivers belong to the river basin of rivers Bosnia and Vrbas, more exactly the big Black Sea river basin. The course of the Bosnia River is the largest in the region and then course of rivers Lašva and Vrbas comes next.

There are eight lakes in six municipalities of Central Bosnia Region mostly small ones. The total size of lakes is 1, 41 km².

Municipalities in Central Bosnia region are connected by a network of local, regional and highway. Construction of the highway in the corridor V C that is planned to be carried out is going to have a significant importance in development of the Central Bosnia Region and BiH.

Five municipalities of the Region are connected by a railway network. These municipalities: Maglaj, Zavidovići, Žepče Zenica and Kakanj are located around the railway direction Šamac-Sarajevo Ploče. There are two railroad gages at the railroad section Šamac-Sarajevo.

Geo-strategic location of Central Bosnia Region makes possible undisturbed development of these areas.

Central Bosnia Region is located on the natural road that connects Central and East Europe with Adriatic Sea and Mediterranean. South border area of the region (in Kakanj municipality) is only about thirty kilometres far from capital city Sarajevo.

Distance of the north border area (Usora and Doboj Jug municipalities) is about 70 kilometres from highway Zagreb-Beograd. Closeness to the airport in Sarajevo and Tuzla enables appropriate air transportation with all destinations in the world.

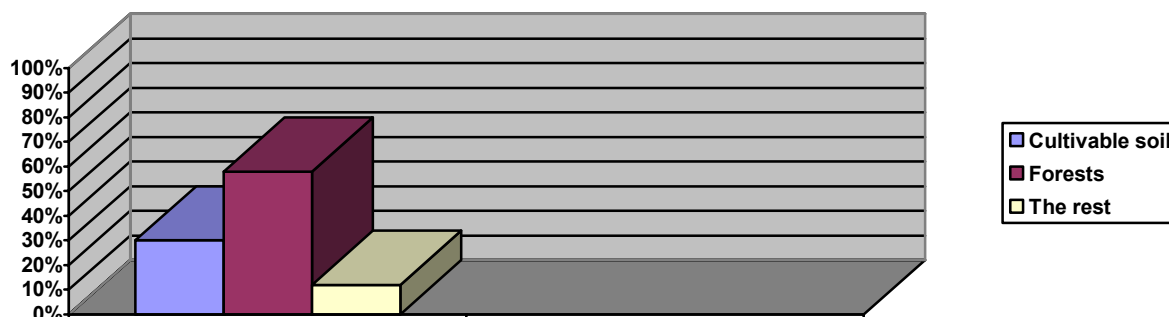
1.3. NATURAL RESOURCES

Natural resources are cultivable soil, forests, minerals and ors.

The total size of territory of Central Bosnia Region is 5.295,91 km², and the total size of the land that is categorized as a cultivable soil is 1.577,77 km² or 29,79 % of region (717,68 km² are tillrd field)

Structure of the land -5.295,91 km².

Cultivable soil 1.577,77 km² or 30%	Forests 3.099,29 km² or 58%	The rest 618,85 km² or 12%.
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Graph 1.3.1. Structure of the land

Minerals and ors:

Central Bosnia Region has its significant mineral resources still unused. They are:

- ☐ Brown coal, estimated quantity is about 2, 3 milliard tons in the area of Zenica, Kakanj, Travnik, i Bugojno and Teslić basin.
- ☐ Lignite, estimated quantity is about 28,5 million tons in the area of Bugojno and G.Vakuf-Uskoplje and in Maglaj municipality that is still not estimated quantity.
- ☐ Dolomite, estimated quantity is 7 million m³ in Vitez basin.
- ☐ Limestone, estimated quantity about at 300 hectares surface area (dept is till not estimated) in Kakanj basin and there is still not estimated quantity in Teslić.
- ☐ Limestone (technical stone) estimated quantity is 10.000.000 m³ in the area of Doboj Jug (Mravići).
- ☐ Iron ore, estimated quantity is more than 100.000 tons in Bugojno basin and a significant quantity in Novi Travnik area.
- ☐ Other mineral resources still not estimated are: granite (N. Travnik, G.Vakuf-Uskoplje), quartz (D.Vakuf, G.Vakuf-Uskoplje), stone (Tešanj, Travnik and Žepče), building stone (D.Vakuf), technical stone (D.Vakuf), marble (N.Travnik), limestone (Zavidovići, Žepče, Busovača), clay deposit and mines – for bricks and material resistant to fire (Busovača), gypsum (D.Vakuf, G. Vakuf-Uskoplje), copper (Teslić), magnesium (Teslić) and a mineral so called diabasis Žepče).
- ☐ In the Central Bosnia Region there are still not estimated quantities of mineral waters from the spring in Tešanj and Žepče, and also thermal spring in the area of Kakanj and Teslić, estimated quantity is 1.800.000 m³ a year.

1.4. AGRICULTURE AND RURAL DEVELOPMENT

Agro resources in Central Bosnia Region are unsatisfactory used. Agriculture was extensive and based mostly on individual farms. Central Bosnia Region has an excellent natural predisposition for growing fruit, vegetable and medical herbs, poultry raising and beekeeping, production and processing of milk and meat. In spite of its potential, agro business is still undeveloped.

There are many reasons for it and we will mention some of them which are recognized by a large number of farmers, institutions, foreign and domestic public organisations that are engaged in these problems.

Domestic production faces unfair competition (illegal import). Farmers meet number of challenges such as: to satisfy quality standards in food production, disposal and distribution of products, accessibility of laboratories for inspection and checking the quality, institution for certification of agro products and by establishing the system of added value, marking the goods and autochthonous products and finally a systematic approach to developing the programmes for agriculture

Medium-term agro development strategy F BiH (2006-2010) points at the following weaknesses in the sector of agriculture:

- ☐ Insufficient size of land,
- ☐ Unsolved status of agro producers,
- ☐ Production structure is classical and maladjusted to the market
- ☐ Ignorance of the real situation in the field,

- ☐ Unregulated and unsolved property rights,
- ☐ Low efficiency according to capacity unit,
- ☐ Low level of specialized production,
- ☐ Insufficient and inadequate technical equipment,
- ☐ Low functional connection of producers,
- ☐ Heterogeneous of domestic- state economic space,
- ☐ Uncompleted a consistent agro policy,
- ☐ Lack of the basic and other important legislation,
- ☐ Lack of critical mass of stimulating sources for development,
- ☐ Lack of favourable credit resources,
- ☐ Low level of investment
- ☐ Undeveloped and uncompleted institution for support,
- ☐ Lack of rural components of development,
- ☐ Unsatisfactory utilization of science in developing the resources

Development of stimulating programmes for this sector, through activities of the state bodies and their cooperation with local communities, require a higher level of cooperation coordination and identification of the roles and competence of all partners involved in development of this sector

Regional Strategy of Economic Development of Central Bosnia Region, year 2009-2015, some measures are anticipated for strengthening the rural development. In this document the five year plan is defined for development of agro sector through the following measures:

- ☐ Building the capacities for an intensive agro production, storage, storage at the refrigerated warehouse and processing the fruit and vegetable
- ☐ Planting fruit trees at the commercial orchards: apple, pear, plum walnut...., (Maglaj, Bugojno etc),
- ☐ Growing the fruit tree transplants- Busovača municipality
- ☐ Protection and expansion of autochthonous sorts of fruit,
- ☐ Growing the barriers: raspberry, strawberry etc (Gornji Vakuf/Uskoplje, Donji Vakuf, Bugojno, Doboju Jug municipality),
- ☐ Planting the bilberry, cranberry in Zepče municipality,
- ☐ Production of industrial starch in the Central Bosnia Region,
- ☐ Installing a regional curing plant (equipment for drying the fruit)
- ☐ Development of agro production in this region by applying the modern methods in production
- ☐ Development of organic production in this region
- ☐ Establishing the dairy clusters
- ☐ Programmes for development of beekeeping in this region
- ☐ Revitalization of mountain area in Teslić, Travnik and Zenica municipality
- ☐ Regional project for destroying (uproot) ambrosia,
- ☐ Establishing a laboratory for making diagnosis as a part of veterinary institute at the Institute "Kemal Kapetanović" in Zenica,
- ☐ Establishing a regional Centre for food, agriculture and veterinary,
- ☐ Creating a programme of intensive agro production in the Central Bosnia Region
- ☐ Drafting a strategy for development of rural areas in Central Bosnia region.

1.5 SWOT ANALYSIS (STRENGTHS, WEAKNESSES, POSSIBILITIES AND THREATS)

According to results of the SWOT analysis, it is obvious that development possibilities in the Central Bosnia Region are based on its strong aspects, It is proved that the following sectors are the most promising in introduction of new machinery and transfer of new technologies: metalworking, wood processing industry, production of building material, paper and ecological and “clean” agro products, commerce and tourism.

Introduction of new technologies in production of energy by observing the principle of sustainable development is also one of development opportunity for this region.

Taking advantage of geo-strategic location of the region for building road and other infrastructures of communication, could be a generator for strengthening the role of the region for a place for exchange of goods, services and knowledge within the entire BiH.

The following development possibilities supposed to enable achievement of the regional vision:

“The Central Bosnia Region is going to be a modern European region that is comfortable for living, work and vocation”

Chart 1.1. SWOT analysis of the CB region

SWOT ANALYSIS FOR THE REGION CENTRAL B&H			
S T R E N G T H S	<ul style="list-style-type: none"> + Natural resources (forests, cultivated land, ors, minerals, waters); + Favourable geo-strategic location; + Great potential for development of energetic sector; + Favourable climate condition for development of agriculture; + Economic resources connected to processing industry, agronomy and commerce; + A large number of small and medium businesses; + Production sector is going in for the export (wood processing, metalworking); + Competitive prices and availability of manpower; + Developed system of educative institutions; + Tradition, historical and cultural inheritance; + Natural potential foe development of tourist, sport, recreation and culture centres; + Developed NGO sector; 	<ul style="list-style-type: none"> – Outdated systems of utilization and a bad governance the natural resources; – Bad condition of road, railway and other public infrastructure; – Outdated methods and capacities for exploitation of natural resources in production of energy; – Process of privatization is not satisfactory and it is still slow; – Inadequate and outdated structure of agriculture is inherited; – Low level of investment in production; – Low level of ability of domestic companies to compete; – Unsatisfactory condition for granting credits; – Large export of raw material and semi finished products. Unnecessary and unjustified import; – Insufficient and inadequate promotion of domestic products; – Unemployment rate is very high; – Capacities of educative institutions, related to the level of applying the modern methods during the process of education, are very poor; – Lack of adequate retraining; – Low level of using IT technologies; – Bad condition of infrastructure of locations suitable for development of culture-historical and sport tourism; 	W E A K N E S S E S

O P P O R T U N I T I E S	<ul style="list-style-type: none"> + Building the highway V-C; + Institutional and legislative reforms in BiH; + Support by international community and higher level of power in strengthening the private sector, especially the small and medium businesses; + Applying the trademark for BiH products; + Improving the business skills; + Transfer of scientific and technological accomplishments and educative possibilities; + Inducing the engagement in research, development and creative potential within the companies; + Foreign investment; + Strategic partnership; + Strengthening the existing institution, especially those that are engaged in inspection of quality of products; + Implementation of BiH strategy for environment protection; + Implementation of the strategy for development of tourism in BiH; + Orientation of BiH toward infrastructural development and participation in inter-regional infrastructural projects; + It needs to work out a development strategy toward a fast development of the Central Bosnia Region. It will have a positive influence; + Support by international community in strengthening the democratic social mechanism will improve the partnership between public and private sector in CB Region; + Utilization of available funds for development, primarily EU funds; + Access to European Union (expanding of market); 	<ul style="list-style-type: none"> - Unfavourable business environment in BiH; - Lack of confidence in domestic producers - Procurement of the old and outdated equipment - High price of electricity that increases the price of domestic products; - Unused cultivable soil and neglecting the cultivable soil; - Excessive transformation of cultivable soil into other purposes; - Complicated, expensive and ineffective structure of authorities in BiH; - Authorities are inert in regard to human resources; - Complicated procedure, complex and incompatible legislation in the field of entrepreneurship and construction; - There is not political-economic stability in the region; - Long-term existence of foreign-trade deficit; - Long-term of not applying the monetary policy (Monetary policy committee); - Absence of development strategy of BiH; - Neglected development of infrastructure and environment protection in BiH and air pollution in some areas of the region; - Unsatisfactory access to some fresh capital funds under favourable condition; - Increased social discontent in BiH; 	T H R E A T S
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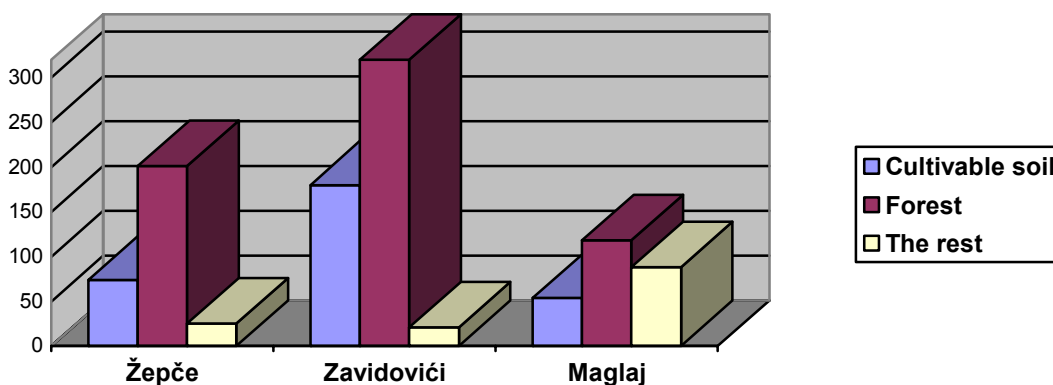
2. ANALYSIS OF THE STRUCTURE OF AGRICULTURE IN ŽEPČE, ZAVIDOVIĆI AND MAGLAJ MUNICIPALITIES

2.1. Analysis of the general condition in agriculture

Žepče, Zavidovići and Maglaj municipalities are medium-developed municipalities of ZE_DO Canton. They are located at the point of intersection of roads and railway directions. Some precise data does not exist on size of cultivable soil that is used for food production

Chart: 2.1.1. Structure of the land-by municipalities (in hectares)

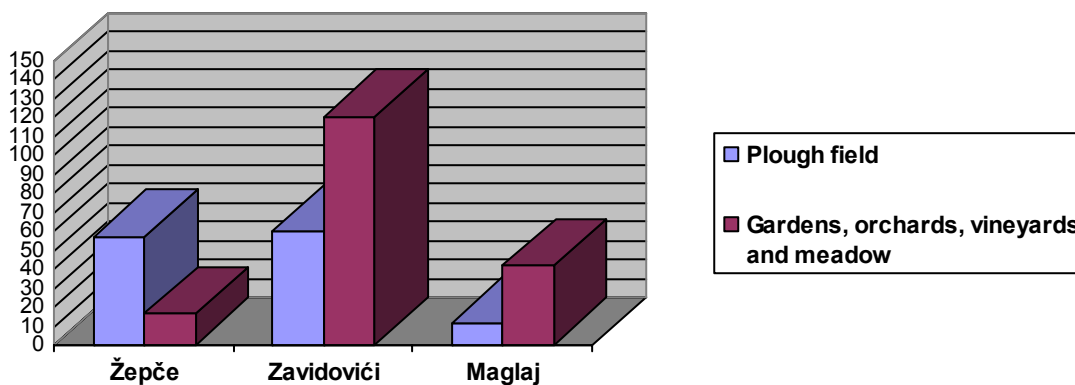
Municipality	Cultivable soil/km²	Forest	The rest
Žepče	73,95	201,00	25,05
Zavidovići	180,00	320,00	21,00
Maglaj	54,00	118,00	88,00



Graph 2.1.2. Structure of land by municipality

Chart: 2.1.3. Cultivable soil (km²) by municipality (in hectares)

Municipality	Plough field	Gardens, orchards, vineyards and meadow
Žepče	57,39	16,56
Zavidovići	60,00	120,00
Maglaj	12,00	42,00



Graph 2.1.4. Cultivable soil in Žepče, Zavidovići and Maglaj municipality (in hectares)

Special possibilities for development of these municipalities are based on geographic location are reflected in:

- ☐ Planting and exploitation of the forest (wood processing sector is well-developed);
- ☐ Utilization of water power (natural resources in water);
- ☐ Production of ecologic food (unpolluted area, satisfactory climate condition, favourable geographic location);
- ☐ Collecting the medical herbs and forest products;
- ☐ Development of hunting tourism;
- ☐ Rural development of the most municipalities;

Obstacles that obstruct development of municipalities are reflected in:

- ☐ Small size of cultivable soil, a lot of untilled and unused land,
- ☐ Traditional food production,
- ☐ Lack of knowledge for development of tourism,
- ☐ Purchasing power of the population is not satisfactory,

3. CONDITION OF AGRICULTURE IN THE AREA ŽEPČE MUNICIPALITY

Žepče municipality has not a tradition in agriculture and mostly it was an additional activity. Engagement in agriculture was not of importance because all production was intended for individual producers' own needs and cattle feeding.

In the post war period, there is a growing presence of the following production: cattle rising, fruit growing, agriculture and greenhouse production. Analysis of agriculture in last ten years shows that agro and animal traditional production is expanded but some new culture and production are not introduced. New cultures are not accepted in area of Žepče municipality. Farmers in Žepče mostly choose traditional agriculture since they can secure a market for this kind of production.

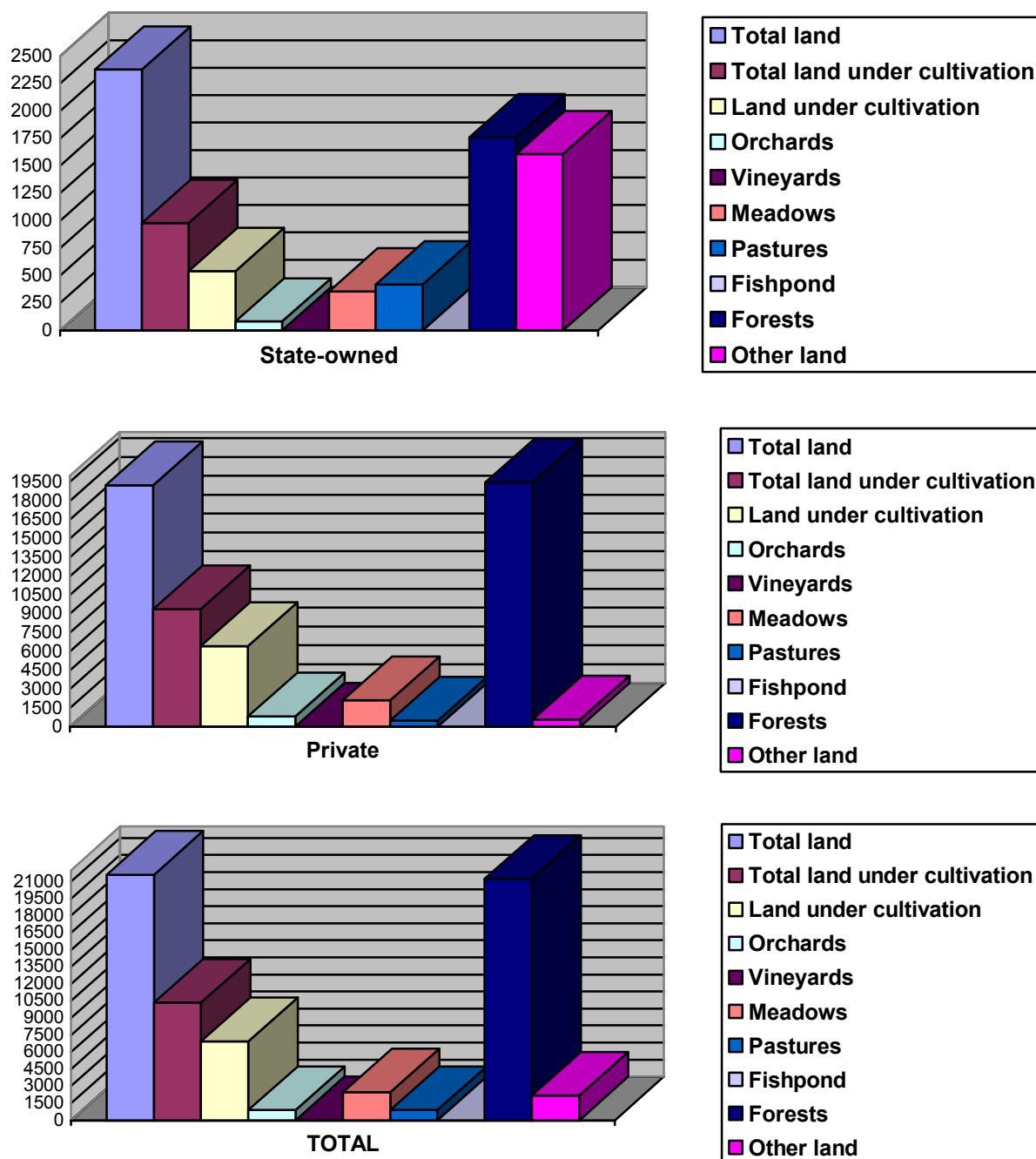
Small family farms are characteristic in Žepče, where farmers grow vegetable and animal breed knowing that they have a market secured at the domestic level. Disposal of goods in a wider domestic and foreign market is possible only by establishing connection with experts, associations, cooperatives, research institutes and universities.

Good practice in surrounding countries shows that networking is the easier and best way to achieve the goals

Chart 3.1. Survey of land condition in Žepče municipality (in hectares)

Owned by	LAND UNDER CULTIVATION (in hectares)								forests	other land	total land
	total	Cultivable soil					Pastures	Fishpond			
		That is	Land under cultivation	Orchards	Vineyards	Meadows					
Municipality	Žepče										
State-owned	2.377	979	541	82	-	356	419	-	1761	1606	3.367
Private	19.234	9.370	6.420	830	-	2.120	494	-	19473	578	20.051
		10.349	6.961	912	-	2.476	913	-	21.234	2.184	23.418

***source of data: real estate registry of Žepče municipality**

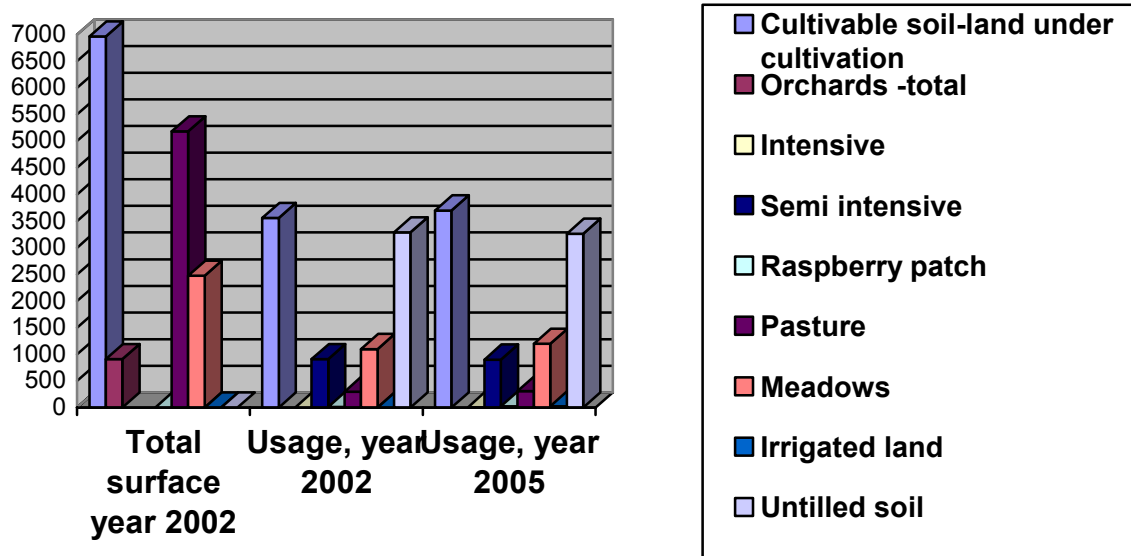


Graph 3.2. Survey of land condition in Žepče municipality
(State-owned, private, total land)

Chart 3.2. Structure of land used

category	Total size year 2002 - hectares	Land used in 2002 - hectares	Land used in 2005- hectares	Note
Cultivable soil-land under cultivation	6961	3556	3697,6	Size of cultivable soil is reduced in 2005. Some business centres and apartment building were built on it during the time period 2002-.2005. Category of land has been changed for apartment buildings in real estate registry, at request of the interested party. Above mentioned land can be calculated based on data in housing department of Žepče municipality. This data was published in the Strategy of development of Žepče municipality and those changes are +/- 10% comparing to present situation in 2008/2009.
Orchards - total	912			
Intensive		0,5	10	
Semi-intensive		911,50	902,00	
Raspberry patch		15	27	
Pasture	5180	300	310	
Meadows	2476	1100	1200	
Irrigated land	-		30	
Land	-	-		
Untilled soil		3285	3263,4	

*Source of data: Statistics report on land at the end of spring sowing in 2002 and 2006.



Graph 3.3. Structure of cultivated land

3.1. TYPE OF PRODUCTION

a) Husbandry, truck farming

In 2008, about 400 hectares were planted with: wheat, barley, corn, potato. Potato and corn were planted at about 70% of the total size of land.

Truck farming cultures were planted at about 110 ha.

Clover mixture was planted at about 400 ha (lucerne, clover).

In Žepče municipality there is small number of parcels that are larger than 2 ha of a high quality cultivable soil at one location. The problem is land divided in small parcels that kept farmers from systematic production for a wider market and do not provide a minimum of social security to agro producers. If there is possibility for those parcels to be joined the base for a more secure agro production.

The most dominant branches of production are:

- ☐ Cattle raising – it shows that livestock is increased (milch cow, breeding sow)
- ☐ Plants production is increased: fruit and berries production, greenhouse production, grain production that was and still is a significant branch of production and the corn is dominated since it is needed for cattle feeding (cattle raising and agriculture are very much connected).

Grain sowing has a long tradition. For that reason, some large areas could be sown with the agro cultures that make a higher profit, for example the brewers' grits.¹

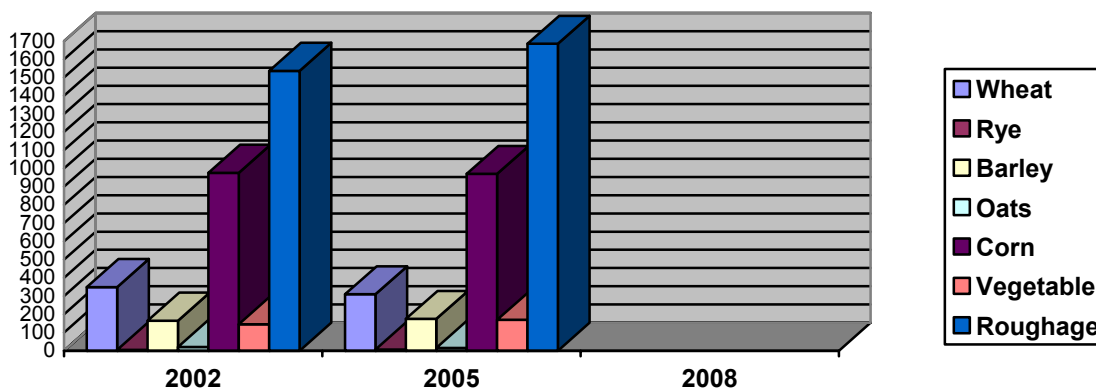
Chart 3.1.1. Sorts of cultures²

Grain			
Cultures	Year 2002 ha	Year 2005 ha	Year 2008 ha
Wheat	350	310	No data
Rye	5	7	No data
Barley	165	175	No data
Oats	21	16	No data
Corn	976	970	No data

Other plants			
Cultures	Year 2002 ha	Year 2005 ha	Year 2008 ha
Vegetable	146	170	No data
Roughage	1536	1685	No data

¹ Brewer's grits is used in brewing and it is the most used grain in production of beer.

² Data base on different cultures: Form DV-POLJ for the year 2002, 2005 and 2008- Strategy of development of Žepče municipality 2007-2011 –Report on activities of Žepče municipal department for economy and agriculture for the year 2008.



Graph 3.1.2. Sorts of cultures

Agro producers, who are engaged in greenhouse production, find a market for their products in Žepče municipality and satisfy that market up to 80% of its needs. They sell their products to retail trade and wholesale trade through OPZ Agrofarm and with the help of skilled staff of the Agro-incubator Žepče.

b) Fruit growing

Fruit growing in Žepče municipality is a very important branch of production that is accepted by a large number of domestic producers.

During the time period 2002-2005 the number of intensive orchards is increased, especially orchards of apple and pear and increasing number of orchards of plum, the sort called "Čačanske rodne". These are commercial orchards that have a large number of trees at a small area with the primary goal-intensive fruit growing.

Orchards planted after 1997: cca 20 ha apple and pear, cca 180 ha walnut, cca 20 ha plum and cca 35 ha barriers (raspberry, strawberry, blackberry and bilberry). It is very easy to find a market in our area.

Žepče has its tradition in growing plums named "Požegača" that became "ill" and autochthonous sort of apples (Kanjuška, Rumenika, Petrovnjača, Srčike, Kraljica, Zvečarka Divljaka, Budalača, Šarenika, Šemanuša, Đulabija, Petrivnjače). Nowadays, these sorts we can find a little here and there and they are real treasure that is difficult to preserve due to inadequate managing and the use of them is still not defined

It is important to mention that there is possibility to improve and preserve autochthonous some sort of fruit, primarily the "Karamut" pear that is used for production of the brandy. The Karamut pear trees are real treasure but there are not many of them. The pear tree, disregarding its age, bears fruit every year (average is 200 kilos per a tree, that is enough for 15 litres of brandy).

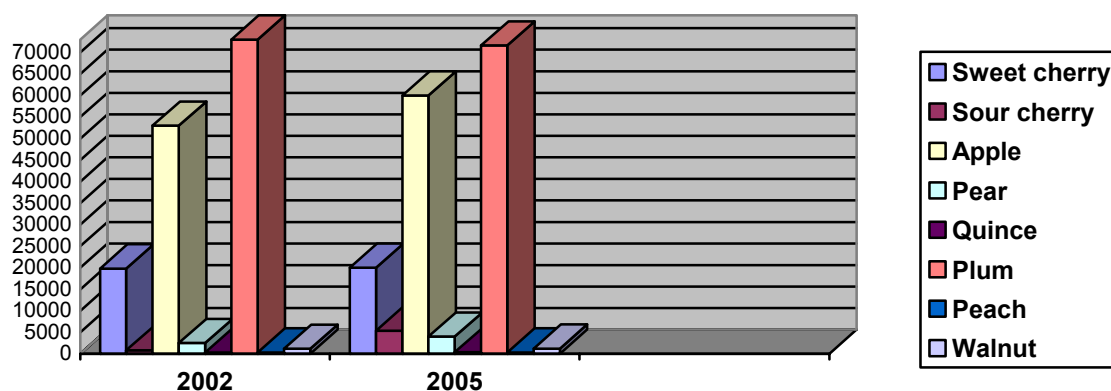
In the last years, apple became more important fruit, since 150 ha are planted with new apple trees. Plum has its successful comeback and it is not only about the sort called Mađarica but also Čačanka and others

The other sorts of fruit are possible to grow only by applying the complete ("encircled") production, that means to produce and secured a market for goods.

A good example is raspberry growing with a secured market and increased size of land that became 35 ha starting from 27 ha in the beginning. Raspberry and strawberry growing is a known symbol of fruit growing branch in Žepče municipality. Raspberry called "Vilamet" and "Miker" in Željezno Polje is a significant branch of agriculture of that area. The Klas Company from Sarajevo buys up the whole production through the Association of raspberry producers from Željezno Polje.

Chart 3.1.3. Sorts of fruit cultures- high-fruit tree

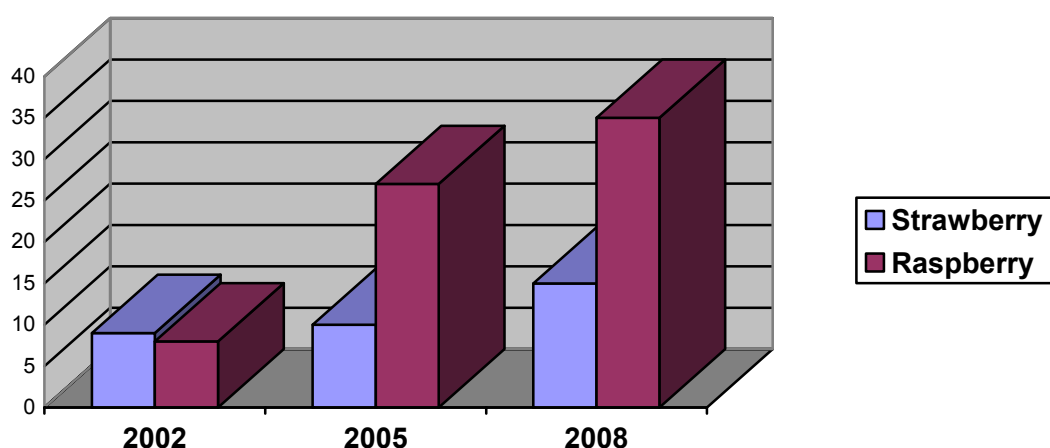
Fruit growing :high-fruit tree		
Sort of fruit	Year 2002 Number of trees	Year 2005 Number of trees
Sweet cherry	19815	20000
Sour cherry	800	5400
Apple	53000	60000
Pear	2500	4000
Quince	300	360
Plum	210000	71600
Peach	320	330
Walnut	1160	1200



Graph 3.1.4. Sorts of fruit cultures- high-fruit tree

Chart 3.1.5. Berrylike fruit

Berrylike fruit			
The sort	Year 2002	Year 2005 ha	Year 2008 ha
Strawberry	9	10	15
Raspberry	8	27	35



Graph 3.1.6. Sorts of fruit culture –berrylike fruit

c) Cattle breeding

A cattle breeding is increased recently. There are some new companies and individual farms registered in this field of production (hog raising –Barbarić farm, young bull raising - Sarajlić farm, milk cow breeding- Pranjaš farm, egg laying hen and chicken - Koka farm, young bull raising Klas Pervan). Previous tradition in cattle breeding for farmers' own needs is changed and the indicator of it is a significant number of individual farmers who increases their livestock according to the needs of market.

These dairy factories are buying up milk from Žepče municipality area- Sarajmilk from Maglaj and ZIM from Zenica.

Veterinary station from Žepče with its three veterinarians and tree technicians is in charge of the state of health of livestock.

3.2. INSTITUTIONAL SUPPORT TO AGRICULTURE

The number of registered agro production is very small. It is about five (5) of them. Farmers register their activities mostly for the reason of obtaining credit and stimulating funds. Farmers who are engaged in a big production are registered as enterprises: Koka farm, Barbarić farm, Sarajlić farm).

Farmers are still working as independent producers without any joint activities with other farmers. However, some associations of farmers and cooperatives were establish in last few years and they are nucleus that gathers individual producers. Recognition of the benefit of it (mutual support, obtaining stimulus and receive education needed) gives an encouraging forecast in this field.

There are several associations and cooperatives of farmers in Žepče:

- ☐ Association: „Proizvođači maline-kooperanti“ (Raspberry growers and members of cooperative)
- ☐ Association of fruit growers “Voćar” – fruit and greenhouse production,
- ☐ Two associations of beekeepers: “Pčelari” and “Žepče”,
- ☐ Association “Eko boss” – medical herbs
- ☐ Association “Melissa” – medical herbs
- ☐ General cooperative of farmers “Agrofarm”,
- ☐ Cooperative of farmers “Poljar” Željezno Polje.

It is necessary to strengthen the advisory-expert support to farmers and help them, through support of associations, cooperatives, municipal and cantonal offices, in applying new technologies and in growing new agro cultures and raising new breeds and also in starting new ways of agro production that are profitable. It is also necessary to point to importance of soil analysis and recommend use of some specific fertilizers, planting new sorts, raising pure breeds, new market-oriented way, networking and cooperation.

3.3. FINANCIAL SUPPORT TO AGRICULTURE

Žepče municipality obtains a significant stimulus for agriculture. According to Decision on Stimulating Resources, the most of applications are to be delivered to municipal offices that process them and forward them to the competent cantonal and federal ministry. Some of them have been delivered direct to those ministries. For that reason, procedure of realization of stimulating funds is carrying out during the whole year. It is worth to mention that the number of request is increased every year so that increases the value of the stimulating funds which get to Žepče.

In 2008 application for stimulus were delivered to federal and cantonal ministries of agriculture, waterpower engineering and forestry.

Chart 3.3.1. Review of stimulus obtained (cantonal stimulating resources)

Stimulus for:	Number of applications	Stimulus obtained- in KM
Heifers	152	50.340,00
Breeding swine	53	23.200,00
Irrigation drop by drop	5	6.347,31
Berrylike fruit	95	25.910,72
Purchasing the greenhouse	9	20.542,79
Greenhouse production	12	11.342,93
Purchasing the equipment	23	26.088,59
Flocks of sheep	69	(federal stimulus)
Buying up fruits	1	4.137,39
Constructing the stables	1	15.000,00
Total number of requests processed and forwarded by municipality offices:	305	182.909,00 KM
Total number of applications:	420	

***Source: Report of municipal department for economy for the year 2008**

420 requests from Žepče applying for stimulating funds of Cantonal ministry for agriculture, a stimulus obtained amounts to 182.909,00 KM.

Comparing to the year 2008 (total amount was 162.099,08 KM), in 2009 obtained stimulating fund were increased for 20, 000, 00 KM. stimulus for medical carts were not included, and also stimulus given directly to the associations and cooperatives.³

Chart 3.3.2. Review of requests and stimulus obtained (federal stimulating funds)

Stimulus for:	Number of requests	Stimulus obtained-in KM
Beekeeping	16 –Municipality offices	7.600,00
Young bulls raising	3 - Municipality offices	Realized in 2009 after completing of the fattening
Investment project- planting the many -years lasting plantation nursery	23 - Municipality offices (in the year 2008 a total number of 130 was realized)	5.670,00
Rural development	20-Municipality offices total 23)	82.919,00

³ **Report of municipal department for economy for the year 2008**

Other investment projects ones	2 Municipality offices (total 7)	107.260,00
Total number of applications processed and forwarded by municipality offices	64	203.449,00
Total:	76	

***Source: Report of municipal department for economy for the year 2008**

76 applications were delivered to the Ministry of agriculture, waterpower engineering and forestry of F BiH and stimulus of 203.449,00 KM⁴ obtained. Comparing it with the previous year, with the exception of many-year lasting plantation, the stimulating funds were increased. The programme predicts stimulus for planting the many-years lasting plantation not until 2009.

Regarding the many-years lasting plantation, 140 applications are delivered in this year (data obtained by cantonal ministry of agriculture, waterpower engineering and forestry).

Considering the fact that land needed for obtaining the stimulus is 2.000 of one sort, and the average of land under cultivation is 2.000 m², we expect some significant stimulating funds.

Municipal stimulus⁵

According to the law of agriculture, a programme proposal was made on stimulating resources of Žepče municipality in 2008. Anticipated resources were 120.000,00 KM. While making programme, they took care of stimulus not to be duplicated. For that reason the most of the funds were directed to the planting that was not predicted in previous stimulus, but exception is for registered buyers. All existing branches of agriculture in Žepče were considered.

Chart 3.3.3. Review of requests and stimulus obtained (municipal stimulating resources)

Stimulus for	Number of applications	Stimulus obtained
Milch cows	49	49
Breeding swine	42	42
Female calf	35	35
Greenhouse production	20	20
Planting-sowing	87	85
Medical herbs and strawberries	10	10
Co- financing of the projects	5	3
Beekeeping –production of honey	38	38
Co-financing of soil analysis	3 application for 230 beneficiaries	2 applications for 120 beneficiaries
Co-financing of organized visits of associations to the fairs in the field of agriculture	4	1

***source: Report of municipal department for economy for the year 2008**

⁴ Report of municipal department for economy for the year 2008

⁵ Report of municipal department for economy for the year 2008

Number of applications delivered in 2008 was 184 and 8 of them were refused. The total number of stimulus beneficiaries in 2008, at all levels, is 519 agro producers.

It is predicted in the 2009 budget of Žepče municipality to stimulate agro production, as follows:

<input type="checkbox"/> Vegetable and herbs	55% of stimulus predicted
<input type="checkbox"/> Cattle breeding	33 % of stimulus predicted
<input type="checkbox"/> Programme's activities	10% of stimulus predicted

3.4. OBSTACLES IN AGRICULTURE- ŽEPČE MUNICIPALITY⁶

☐ **Lack of actual and realistic data on use of land in Žepče municipality**

According to real estate registry, the *912 area of cultivable soil was registered as orchards. It is an unreal data base. Nowadays there is a much larger area of orchards.

* The above mentioned area (912 ha) has not been changed in real estate registry since 1968.

☐ **There is a very small number of individual farms that are larger than 2 ha of high-quality cultivable soil at one location.**

It raises difficulties in production for a wider market and provides a minimum of social security to farmers

Small parcels of land are insufficient for development of cattle breeding.

It raises difficulties in production of high-quality fodder needed and obstructs development of cattle raising. We have low prices of domestic products and unsecured market due to uncontrolled import. Local population is not educated in cattle raising and feeding according to modern technologies. Lack of financial resources for constructing some larger buildings obstructs increasing of the livestock. Interest rate of credit intended for agriculture is high and there are a small number of credits. Most of the population, due to difficult economic situation are looking for job in other places and leaving this area. Many households have been run by old people.

☐ **Condition of infrastructure-equipment at a family farms**

Mechanisation is mostly out of date. Tractors are different make and power and mostly with no additional equipment. Some of a modern mechanization can be found only in areas that are in agro business and have much larger land (Lupoglav, Brankovici, Vinište). Motor cultivators, which can be seen at the farms, are mostly obtained by donations and they are used by only one household.

☐ **Poor support of donor's resources for agriculture**

Support is mostly provided to returnees' settlements and help in self-employment of returnees in a small quantity (donation in cattle, mechanisation and greenhouses). These are donor's organisations: LAMP, UMCOR, CROSSROADS, SIDA. In most of the cases the equipment was sold by beneficiaries.

☐ **High criteria for obtaining stimulus (federal and cantonal)**

⁶ Strategy of Žepče municipality development 2007-2011

Every year criteria is higher for raising female calves, bulls, fruit growing, greenhouse production and fertile swains) due to reason of not applying new technologies, gathering small parcels into big ones and cultivation of large area of land. In that way support is provided to serious producers but also the care has to be taken of those who start agro production and did not have opportunity to prove themselves. Some special funds have to be predicted for them.

3.5. NEEDS FOR DEVELOPMENT OF AGRICULTURE

- ☐ Agro resources of this environment have to be in production of food function.
- ☐ It is necessary to build a basic infrastructure that will have function of development of agriculture;
- ☐ It is necessary to create a milieu for a continued education of farmers to be able to apply new technology;
- ☐ It is necessary to connect agro producers and unite them due to joined winning a market;
- ☐ Favourable financial resources have to be provided for investment in primary agro production intended for processing;
- ☐ Developing of additional activities at family farms;
- ☐ Protecting and valorising autochthonous products and win market for trade mark products.
- ☐ Strengthening the cooperative sector by networking of existing cooperatives and associations followed with education of managerial staff in the field of management;
- ☐ It needs to raise awareness of population of importance of agriculture as the one of profitable field of business for development of Žepče municipality;
- ☐ Establishing an advisory-expert service in all field of agriculture at the municipal level and by utilizing existing personnel from Žepče municipality and cooperation with associations/cooperatives and also with SME's sector in food production;

3.6. PROPOSALS OF MEASURES FOR IMPROVEMENT OF CONDITION IN AGRICULTURE IN ŽEPČE MUNICIPALITY

- ☐ To increased expert support to farmers and help them in applying new technologies in growing new agro cultures and pure bred raising;
- ☐ To develop cattle breeding. There is a growth in quantity of livestock (milk cows, and breeding swain);
- ☐ To develop and support agro production that is being increased: fruit and berrylike production and greenhouse production;
- ☐ To develop beekeeping production due to obtaining apian products.
- ☐ Intensify the broadening in vegetable and herbs growing and traditional cattle raising;
- ☐ To facilitate that some of new agro culture and productions are accepted by domestic farmers;
- ☐ Development and preserving some domestic and autochthonous fruit sorts, in the first place Karamut pear and Kanjuška apple but also some other sorts that became domesticated;

- ☐ Making products – a secured domestic and foreign market for products;
- ☐ To develop small family farms in the future – growing agro cultures and pure bred that a market is secured for it.
- ☐ To develop and support medical herb production and its processing that was increased in last few years in primary production, distilling it and obtaining the essential oil and other products.

4. CONDITION OF AGRICULTURE IN ZAVIDOVIĆI MUNICIPALITY

Zavidovići municipality is located at 521 km². This territory is a natural entirety with its 21 local community connected between themselves.

Some special development opportunities result from geographical location of this municipality.

Planting and logging of forest, use of waterpower, production of ecological food, collecting the medical herbs and forest fruit, and production of constructing material are recognized as priorities and first of all possibilities for successful development of Zavidovići municipality..

In the Strategy of economic development of Zavidovici municipality 2006-2011, it is mentioned that obstacles for municipality development are natural characteristics of the terrain as a factor that limits development of infrastructure, a lot of uncultivated land and a lot of land that is not used in a proper way

4.1. CURRENT CONDITION OF AGRICULTURE IN ZAVIDOVIĆI MUNICIPALITY

1. Unused natural resources in the way that it is attainable since there is a solid potential for development of agriculture;
2. Small parcels owned by local farmers;
3. Uncultivated land due to inadequate condition for development of agriculture in Zavidovići municipality.
4. Good but unused opportunity for building a reservation for wild animals in Zavidovići municipality.
5. Rural settlements as a good base for development of agriculture haven't got an appropriate infrastructure (roads, water, sewerage system);
6. Non-existence of municipal department for agriculture that puts out of action the development of agriculture in this area;

Zavidovići municipality posses 180 km² of land and 60 km² of it are plough fields;

Agricultural resources are not used in a proper way. Farms are divided in small parcels, and agriculture is not treated in appropriate way; There is a lot of land that is untilled or not used up to its maximum of potential. Different types of land available make a framework for many different patterns and concepts of entrepreneurship.

Chart 4.1.1. Structure of the land (in ha)⁷

	Private property		State owned		
TYPE	Tilled	Untilled	tilled	untilled	Total
Plough field	2000	5691	No data	No data	7691
Orchards	1300	-			1300
Lawns	2923	-			2923
Pasture	3208				3208
High cultivated (greenhouses)	1				1
Barren soil		2120			2120

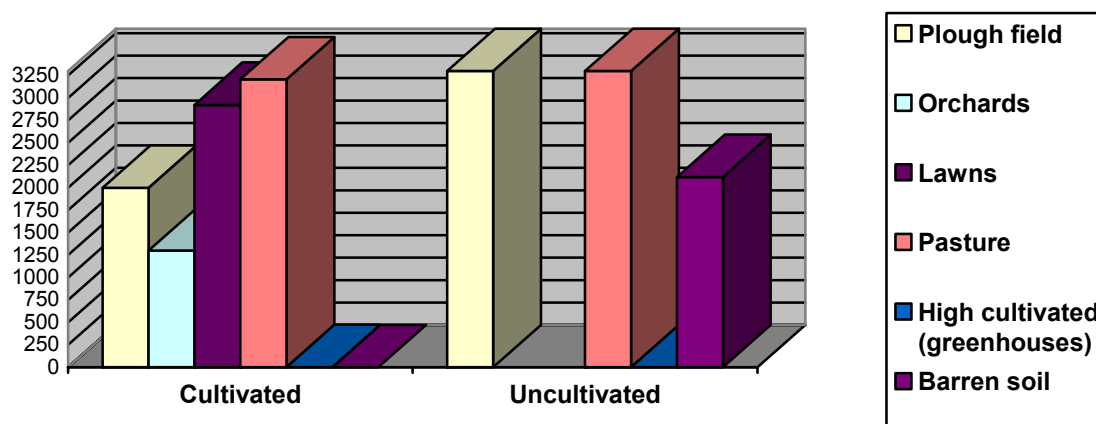
Graph 4.1.2. Structure of land utilizing (in ha)⁸

Chart 4.1.3. Sorts of agro culture in Zavidovići municipality

Agro culture	Private (in ha)	State owned (in ha)	TOTAL
Grain	900	No data	900
Industrial plants			
vegetable	1100		1100
Tea herb and seasoning herbs			
Grass	No data	No data	
Berrylike fruit	60		60
Cattle fodder	600		600

⁷ Strategy of Zavidovići municipality economic development 2006-2010⁸ Strategy of Zavidovići municipality economic development 2006-2010

Table 4.1.4. Survey of the live stock in Zavidovići municipality

Sort	Private (head/pcs)	State owned (head/pcs)	TOTAL
Cattle-Cow, bull	6800	No data	6800
Swine			
Sheep	1500		1500
goat	700		700
poultry	40 000		40 000

4.2. INFRASTRUCTURAL SUPPORT

4.2.1. Agricultural associations and cooperatives

Chart 4.2.1.1. Association registered in Zavidovići municipality

Name	Association of farmers	Association of cattle breeders	Association of beekeepers	Association of fruit growers	Other associations	Number of active members
Association of citizens	1					253
Association of citizens-beekeepers			1			110
TOTAL	1		1			363

***source : Development strategy of Zavidovići municipality**

Chart 4.2.1.2. Cooperative registered in Zavidovići municipality

Name	Cooperative of farmers	Cooperative of cattle breeders	Cooperative of beekeepers	Cooperative of fruit growers	Other cooperatives	Number of active members
PZ“MALINAR”	1					55
PZ“GOSTOVIĆ”	1					40
TOTAL	2					95

***Source: Development strategy of Zavidovići municipality**

Agriculture as a special sector mainly is based on small individual production.

Number of individual producers registered is 36 and they are in milk production, meat production (young cows fattening), beekeeping and medical and seasoning herbs growing).

Specific kinds of agro production are the base for a solid development of agriculture (berrylike growing, trout fattening, production of honey, medical herb growing, and collecting forest fruits).

It is to be predicted that agriculture will mostly be run by households, but all kind of support needs to be provided by association of farmers and other centres for the reason of improving the production capabilities.

In the frame of this goal, development of infrastructure of household, initiative in agriculture will be of importance but also improvement and diversification of food processing industry that is a base for increasing the validity of agro sector.

4.3. FINANCIAL SUPPORT TO AGRICULTURE

4.3.1. Municipal plan of stimulating resources for the year 2009 (Department for economy and entrepreneurship)

90.000,00 KM is predicted according to programme of municipal stimulating resources to stimulate autumn sowing of wheat, spring sowing of corn, milch cows and egg-laying hens.

In the time period 2007/2008 Zavidovići municipality set 297.000,00 KM aside: for development of dairy: 210.000,00 KM of revolving resources and 87.000,00 KM of irretrievable funds.

Financial resources are given:

- ☐ to stimulate sowing of corn (fodder) by purchasing seeds and fertilizer;
- ☐ for financing agro producers for purchasing milk cows;
- ☐ for purchasing (so-called) lacto- freeze for milk;

4.3.2. Proposal of measures for improving the current condition in agriculture in Zavidovići municipality⁹

- ☐ carrying out educative programmes for farmers;
- ☐ establishing One-stop shop – “unique window” for agro business and farmers;
- ☐ establishing sub centres in the area of Zavidovići municipality (improving and providing a larger number of public utility services, creating an image of village as a place for good living);
- ☐ establishing a local development fund for agriculture;
- ☐ realization of project called Greenhouse Workshop for farmers that is an experimental way (on the spot);
- ☐ networking of producers and manufacturers (to work out on agriculture map of Zavidovići municipality, networking the small and market oriented producers with manufacturers and channels of distribution, improving the quality of products);
- ☐ planned improvement of honey products (eco honey) in Zavidovići municipality;

⁹ Development strategy of Zavidovići municipality

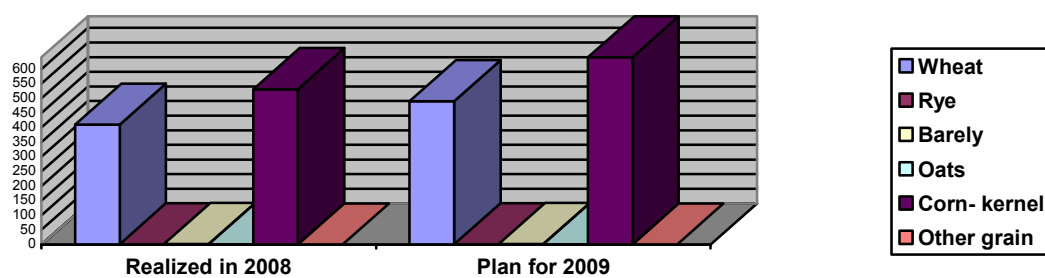
- ☐ organized buying up of medical herbs and collecting forest fruits;
- ☐ constructing the refrigerated warehouse and facilities for drying fruit and vegetable in Zavidovići municipality;
- ☐ organized buying up of milk and processing of milk and dairy products;
- ☐ establishing the cluster of berrylike fruits;
- ☐ infrastructural support for existing associations and cooperatives;

4.3.3. Plan of agriculture development growth (estimation)

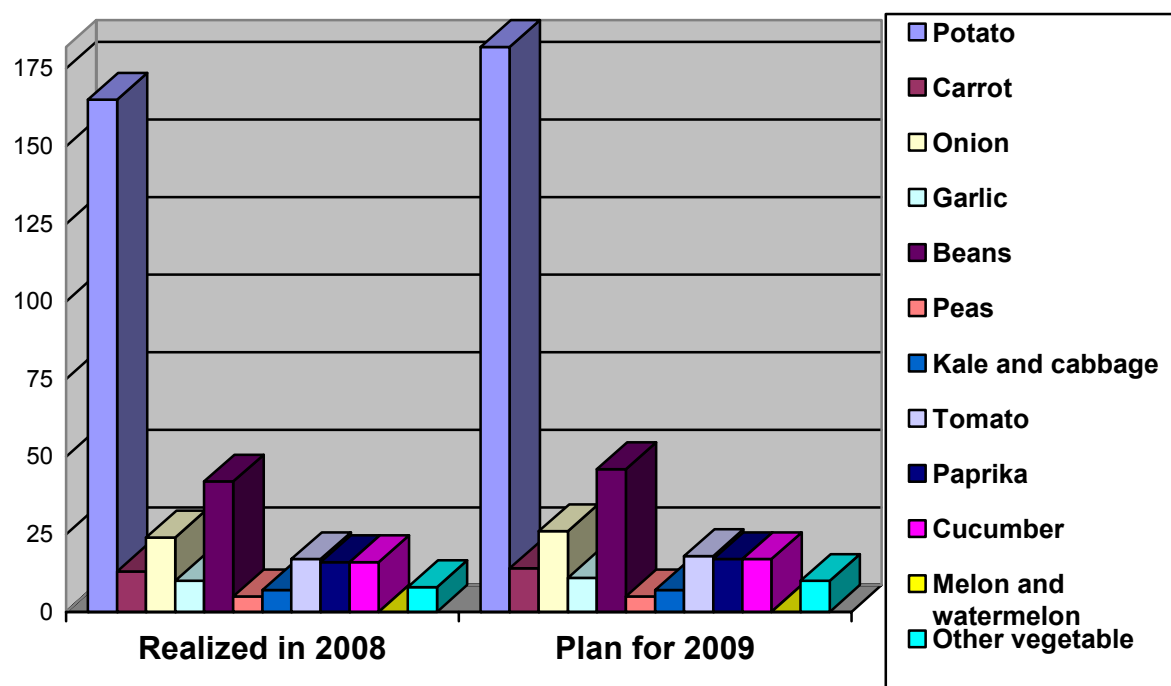
Here we can be guided by index in the following chart:

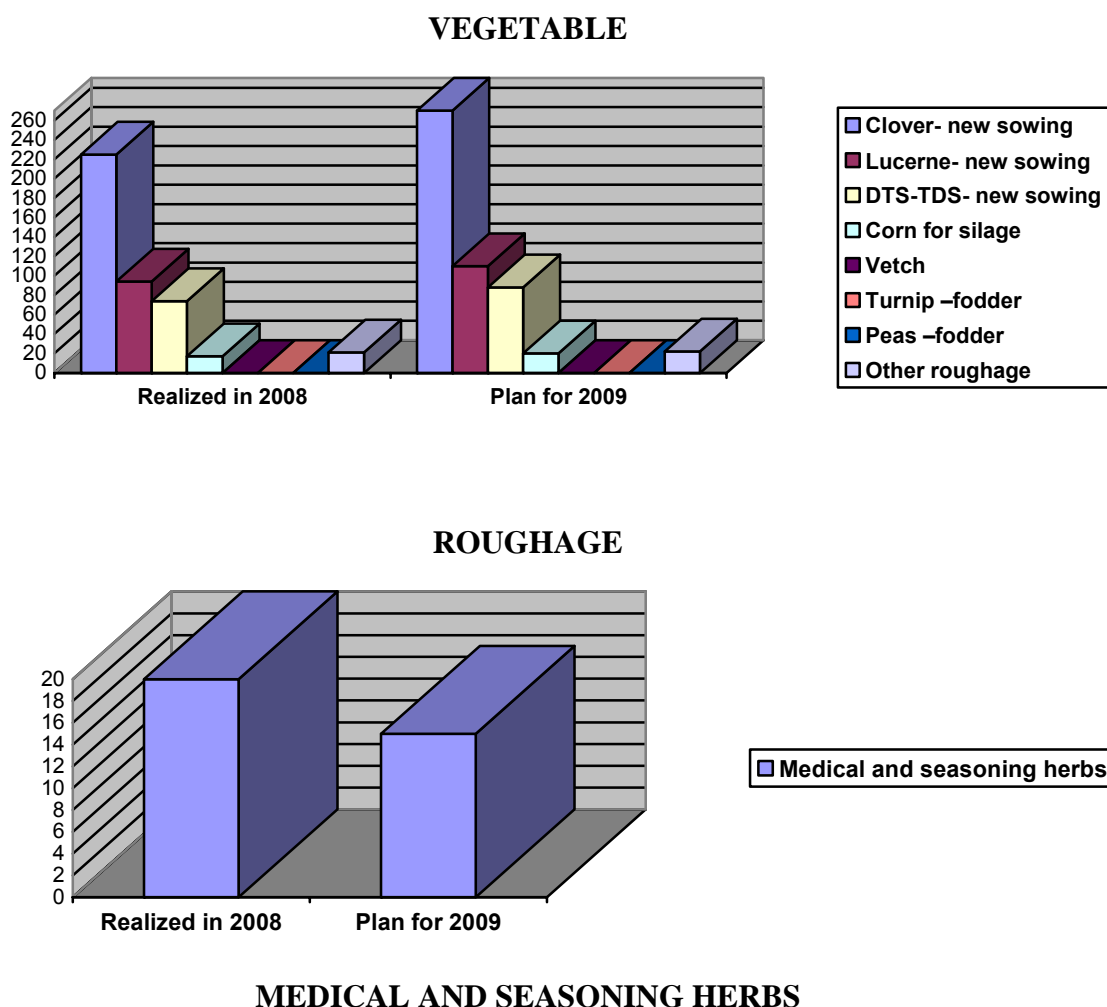
Chart 4.3.3.1. Survey of planted/sowed agro culture according to plan of Zavidovići municipality

number	Agro culture	Realized in 2008 ha	Plan for 2009 ha	Index 2009/2008 %
1.	Wheat	410	490	19,5
2.	Rye	1	1	-
3.	Barely	2	2	-
4.	Oats	1	1	-
5.	Corn- kernel	531	640	20,5
6.	Other grain	-	-	-
	Total grain	945	1134	20,00
7.	Potato	165	182	10,30
8.	Carrot	13	14	7,70
9.	Onion	24	26	8,30
10.	Garlic	10	11	10,00
11.	Beans	42	46	9,50
12.	Peas	5	5	-
13.	Kale and cabbage	7	7	-
14.	Tomato	17	18	5,90
15.	Paprika	16	17	6,20
16.	Cucumber	16	17	6,20
17.	Melon and watermelon	-	-	-
18.	Other vegetable	8	10	25,00
	Total vegetable	323	353	9,30
19.	Clover- new sowing	225	270	20,00
20.	Lucerne- new sowing	94	110	17,00
21.	DTS-TDS- new sowing	74	88	18,90
22.	Corn for silage	17	20	17,60
23.	Vetch	-	-	-
24.	Turnip –fodder	-	-	-
25.	Peas –fodder	-	-	-
26.	Other roughage	21	22	4,80
	Total roughage	431	510	18,30
27.	Medical and seasoning herbs	20	15	-25,00
	Total			
	TOTAL SOWING	1719	2012	17,00



GRAIN





Graph 4.3.3.2. Survey of agro cultures planted in Zavidovići municipality (grain, vegetable, roughage, medical and seasoning herbs)

4.3.4. Opinion of obstacles to development of agriculture (municipal department of economy and entrepreneurship of Zavidovići)

The fundamentally obstacles identified to development of agriculture in Zavidovići municipality are:

- ☐ non-existence of municipal department or a clerk that would be engaged in agriculture issues;
- ☐ unsatisfied utilization of cantonal and federal stimulus by association, cooperatives and individual farmers;
- ☐ splitting of parcels cause difficulties for a larger production;
- ☐ certification issue- complicated procedure obstructs development of organic production;
- ☐ lack of knowledge on agro production has an negative impact on development of agriculture at family farms that are still applying old methods of growing and breeding

5. CONDITION OF AGRICULTURE IN MAGLAJ MUNICIPALITY

Agro production makes its contribution in the whole economic situation in Maglaj municipality. 934 ha is under cultivation from the total size of 5360 ha cultivable soil. A large number of population fit for work is unemployed. One of the solutions to reduce unemployment is to engage unemployed people in agro production. There is a large area of cultivable soil unused and a high unemployment rate. It leads to a conclusion that agriculture makes possibilities for employment and realizing the profit in the formal sector. Agro production cannot provide job for all of them, but it can provide it for a certain number of people.

In primary production mostly small farmers are engaged. The size of their farms is 0,2 -1 ha. These are small production units and cannot provide marketable surplus (subsistence farming) but only to satisfy needs of households. Since the farms are small, it is necessary to direct production to a high added value production per a land unit, such as: greenhouse production of vegetable and berrylike fruit. 78% of total size of land is untilld and 75% of those looking for job are direct or indirect owner of the cultivable soil.

Like other municipalities, agriculture of Maglaj municipality has a similar problem that is small parcels and land split. Farmers have opportunity to increase their land by purchasing or renting so they could be competitive in the market. Modernization of mechanization and applying a modern technology at small farms will increase productivity and profit too.

5.1. TYPE OF PRODUCTION

a) Cattle breeding

Cattle breeding are still undeveloped.

Head of cattle breeding is of the most significance branch of cattle breeding. Beside the products of head of cattle breeding system (milk, meat) its importance is in complementing with agro production.

Total production of milk in 2007 is 285.513 litres that was processed by the dairy Sarajmilk Maglaj. It was less quantity comparing to the year 2006. It is worth to mention that the dairy factory has its 30 milk suppliers.

The main reason for reduction in milk production is increase in price of fodder that was not followed with the price of milk and price of meat in the market. Market prices of buying up and at the outdoor market place are set under the influence of export and they are not suitable for domestic production conditions. The structure of family farms engaged in cattle breeding is poor, considering the size of the land and the number of milk cows. Farmers with production capacity of five and more milch cows do not posses enough land. Sowing is carried out at several different and distant parcels that are on the average 0,5 ha. It causes more expensive production and a bad position of farmers.

Within breed structure in the area of municipality, beside the domestic mongrel stock, the most bred stock is so-called Simental. Thanks to it, production of milk is intensified and in a bigger production per a cow. Beside significant stimulating investment by federal, cantonal and local institutions, the number of agro farms engaged in milk and meat production was not increased. Active producers are mostly those who started production in 1998 with the help of credits and stimulus and modernized their production. Nowadays they are known in milk and meat production. In the area of Maglaj municipality, cooperative of farmers "Milk-Maglajka" is already known by organized production and buying up the milk and also by procurement of fodder for its members and suppliers of milk. This cooperative buys up milk for dairy company Saraj-Milk. It organized buying up milk in 2008 in the area of Novi Šeher. Farmers are satisfied and interested in this way of selling that can be proved by number of cattle medical cards. Maglaj municipality is one of those where IFAD project will be implemented..

b) Poultry- meat production

Meat production (poultry) is organized within the formal sector. It has been carried out for many years and it proves long-lasting market sustainability beside all negative market impacts that accompany this production. However the production by informal sector with principles of unexpected surplus at a family farms, is not sustainable from the aspect of market sustainability.

Chart 5.1. 1. Poultry- production of eggs-formal sector

Address	Sort of flock upbringing	Private farms poultry/pcs	State owned land poultry/pcs	Total
D.Ulišnjak	Egg-laying hens	8.000	0	8.000
Poljice	Egg-laying hens	8.000	0	8.000
Total		16.000	0	16.000

c) Agro production

In Maglaj municipality growing grain takes up 236 ha of the total agro production. Dominant grain is corn that is grown at 190 ha and small grain presence is in decline and takes up 46 ha. Cultivation of unused land in the next period will be mostly conditioned by cattle breeding development in the area. Also the enormous increasing of the prices of production materials will have an effect on planting of agro cultures.

As for family farms production, there is not surplus of agro products for market. Agro products are grown for their own needs and the main reason for it is not good quality of seeds and poor technology.

Even though processors show interest in outdoor vegetable production for their needs, farmers were not interested in it.

Greenhouse production is increased. Nowadays there are ten farmers in Maglaj who increased greenhouse production and they grow vegetable at more than 300 m².

Beside a greenhouse that is 780 m² large and owned by cooperative of farmers "Magplas" Maglaj and it is unused, an individual agro producer from Tujnica place, bought the equipment for greenhouses total size 1000 m². At the moment 200 m² is set. He obtained a subvention for his project.

c1) Fruit growing

In this area apples, plum and pear are the most planted fruit trees. Nowadays there are intensive orchards at 25 ha planted by donations and financial support by domestic and foreign donors. Area of orchards is increasing year after year.

Berrylike fruit (raspberries and strawberries) are grown in a small quantity. Farmers were selling raspberries to Klas Sarajevo Company, since they made contract with the company. They have to find market for strawberry by themselves since strawberry growing is too expensive to be sold for processing.

c2) Medicinal herbs

Association "Cow – How" was the first that started medical herb growing at plantation, mainly the lemon balm (*Melissa Oficinalis* L.) and peppermint (*Mentha Piperita* L.).

Production of medical herb was carried out at 5 ha, and the entire quantity produced was sold to a registered producer. Since the market oversupply for lemon balm, there is a plan for planting another kind of medical herb at 1 ha. There is an increased interest in this production and thanks to business cooperation with Agro-incubator from Žepče, medical herb producers had success in 2008 and 2009 in obtaining essential oil from lemon bulb and they sold it in a foreign market. There is a plan for increasing the production and investment in equipment needed for distilling

5.2. INFRASTRUCTURAL SUPPORT

5.2.1. Association of farmers and cooperatives

In the area of Maglaj municipality there are eight associations of farmers and cooperatives. But it is in doubt their sustainability due to indifferent attitude of their members. Cooperation between associations and cooperative of farmers is on the low level and the main reason of it is the competition between them.

At present, cooperative of farmers ZZ Milk Maglajka is the most well known by its activities and results. It has the largest number of milk suppliers. It is in buying up milk business for dairy factory Sarajmilk Maglaj and procurement of fodder for its members. Cow-How association had been active for some time. In the beginning it contributed to development of agriculture in planting medical herbs at plantations. For

some unknown reasons, this association lost its good image among local producers and often complaints have a negative impact on entire activities of this association.

The Association of Entrepreneurs and Employers from Žepče has implemented the Establishing the Agro-incubator Žepče project. Partner in implementing the mentioned project was Association of Farmers “Jedinstvo” Bočinja. Other associations and cooperatives from Maglaj were involved in implementation of the project.

Chart 5.2.1.1. Survey of registered associations/cooperatives in Maglaj municipality

Name	Cooperative of farmers	Cooperative of cattle breeders	Cooperative of beekeepers	Cooperative of fruit growers	Association of farmers
“Magplas”	X				
“Milk Maglajka”		X			
„Jedinstvo Bočinja“					X
„Agrar Čobe“					X
„Bistrica“ Ravna					X
„Farmer“ Liješnica					X
„Pčelar“			X		
„Poljoprivrednik“ Novi Šeher					X

Several projects were implemented through associations and cooperatives supported by donors who provided raw material and investment resources. Within those projects and based on contract, connections between producers and manufacturers are established.

5.3. FINANCIAL SUPPORT

Special importance is given to agro production. It is proved by fact that Maglaj municipality planned 100.000,00 financial resources for 2008 in its budget for primary production subvention and co financing project in agriculture. Recently agro producers were supported by federal and cantonal financial resources.

The pattern of inducing agro production is high-grade and diverse that enables agro producers to modernize and enlarge their farms. Financial support is planned in accordance to a modern agriculture that depends on funding that can be used for increasing agro production and cattle breeding and also for investment in constructing and reconstruction, procurement of mechanization and livestock, purchasing the land etc.

5.3.1. Stimulus in primary production

Production in Maglaj municipality is very poor and not competitive.

Primary production needs to be supported by local community as much it is possible. The system of support has to be adapted to goals set in Municipal Development

Strategy. Farmers have to be obligated to report in advance agro production that he applies for stimulus with it. Main reason of it is having insight into number of potential beneficiaries. Beneficiaries of stimulus are obliged to replace traditional technologies with new ones. The stimulus has to be coordinated at all levels of its providing for the reason of better efficiency and for establishing a harmonisation in primary agro production.

In previous time period, Maglaj municipality set aside a little of financial resources in its budget for development of agriculture and those resources were spent mostly for co financing projects implemented by association and cooperatives, for travelling expenses (organized visits to the fairs), financial support to the veterinary station for the reason of health care of animals etc.

In 2007 farmers realized their right to obtain 95.521,00 KM of federal and cantonal stimulating resources. 176 applications were submitted. The most of applications submitted obtained financial support for cattle breeding

In 2008 municipal budget predicted 100.000,00 KM for agriculture and that amount considerably improved condition in primary agro production.

Chart 5.3.1.1. Stimulus provided for primary agro production, time period 2005-2007

Year	2005	2006	2007
Number of applications	155	121	176
Stimulus obtained KM total	89.547	91.682	95.521
Cattle breeding	42.280	41.300	61.835
Fruit growing	31.805	16.428	13.321
Vegetable growing	15.462	15.392	12.757
Modernization of farms			3900
Regressing the interest			3708
For associations and cooperatives		18.562	

It can be seen in the chart that cattle breeding is a dominant branch of agriculture in Maglaj municipality.

Chart 5.3.1.2. Outdoor market –local (farmers' /produce market)

Type of market	Address	Capacity	Weekly	Daily
Flea market D.O.O. "Kuraja"	Novi Šeher	No data	No data	X
Flea market D.O.O. "BHS – HAZI"	Novi Šeher			X
Farmers' market	Novi Šeher			X
Farmers' market	Novi Šeher			X
Flea market KJP Maglaj	Maglaj			X
Farmers' market	Maglaj			X

Number of markets and their locations are important since the agro products are sold there. Those agro products are mostly surplus produced at family farms.

These are data of Department of economy of Maglaj municipality after carrying out analysis in the field of agriculture:

- ☐ 80% of cultivated land is not in use;
- ☐ 45 people have job in a formal sector of agriculture;
- ☐ 75% of registered people who are looking for job are direct or indirect owner of cultivable land;
- ☐ According to available agro resources (land), there is possibility for 1200 jobs in a formal sector of agriculture, sustainable economically (1 job=4ha);
- ☐ Daily average of egg production is only 0,74/one citizen ;
- ☐ Only 0,33 chicken/one citizen is bred –meat production,
- ☐ There is one milk cow/12 people –milk production;
- ☐ There is one sheep/5 people –milk production;
- ☐ There is 1 goat/97 people- milk production;
- ☐ There is one bull/ 28 people- meat production;
- ☐ There is 1 goat/73 people –meat production;
- ☐ There is one swine/ 43 people- meat production;
- ☐ 24 people are tilling 1 hectare- vegetable growing;

5.4. SUGGESTION OF MEASURES FOR IMPROVING THE PRIMARY AGRO PRODUCTION

a.) Subvention of agro production

Municipal offices confirmed that there is an interest for increasing the primary production and for that reason 100.000,00 KM was set aside in the budget for development of agriculture. The plan of spending those resources has been made for achieving the goal of harmonization with programmes on the higher level of power and to stimulate agro producers through their opportunity in obtaining stimulus, to use own resources and start primary agro production.

If it rouses interest of rural population for primary agro production, it would improve development of agriculture, so it needs to be continued in the following years.

b.) Supplying of credits

Nowadays the farmers find difficult to obtain credit to start agro production. Obtaining credit is the key question of agriculture so it has to be solved through two reciprocal and linked segments. The first one is institutional care of credits and the second one is the way of their use.

To establish a sector's credit institution, some financial resources need to be found and set aside and put under supervision. That supervision could be realised by establishing a fund for development of agro sector. Those resources should be provided according a plan and used according a system of revolving and at a 3% interest rate a year and cooperative of farmers will be in charge of recommendation on supplying credits. Cooperatives would be a main guarantor for paying off those credits.

c.) Establishing a technical school class for education in agriculture

Since the Development Strategy of Maglaj municipality predicted 25 project in the field of agriculture, it is also predicted a school class for education in agriculture.

d.) Preventive setting aside of financial resources for a diagnostics

Financial resources need to be set aside for the veterinary station in Maglaj for making some preventive diagnosis of domestic animals for the reason of preventing and spreading of disease and also for preventing the human health from animal diseases.¹⁰

5.5. Suggestion of measures for improving the existing condition of agriculture in Maglaj municipality¹¹

1. Creating a data base on agro mechanization ;
2. Planting of tobacco- experimental production;
3. Providing education needed in agro production (vegetable and fruit growing)
4. Constructing of mini processing capacities for fruit and vegetable processing (curing house-for drying, equipment for making jam and juices);
5. Building mini processing capacities for slaughtering and processing of meat of neat cattle and poultry;
6. Constructing a wholesale market for agro products;
7. Constructing of mushroom farms;
8. Honey production
9. Strawberry and raspberry growing;
10. Production of planting material;
11. Collecting the forest fruits and medical herbs;

¹⁰ Report of Department for economy, finances and development of entrepreneurship of Maglaj municipality

¹¹ I Report of Department for economy, finances and development of entrepreneurship of Maglaj municipality

6. DEVELOPMENT PLANS IN THE FIELD OF AGRICULTURE IN ŽEPČE, ZAVIDOVIĆI AND MAGLAJ MUNICIPALITY

6.1. PROJECTS OF AGRICULTURE IN ŽEPČE MUNICIPALITY

According to Development strategy of Žepče municipality, 4 strategic goals are defined in the field of agriculture.

Žepče municipality adopted 20 measures for accomplishing the strategic goal - competing economy. 7 of them are related to agriculture.

Projects ¹²

- ☐ Inducing development and applying the modern technologies, innovations and knowledge facilitates activities of entrepreneurship;
- ☐ Support in using of knowledge and innovation in entrepreneurship through commercialisation and networking with development institutions.
- ☐ Improve the level of rationalization of exploiting raw material and energy power sources in production and education;
- ☐ Encouraging development of rural areas by development of family farms and crafts by creating a programme of family farms development (projects in development of agriculture) and family crafts;
- ☐ It is necessary to make programmes of utilisation of natural resources: minerals, ores, medical herbs, forest fruits etc);
- ☐ Ecologic production;
- ☐ Joining the cooperatives;
- ☐ Constructing-organizing the wholesale market, refrigerated warehouse, farmer's produce market for local products;

List of projects for implementation of strategic direction for development of Žepče municipality:

- ☐ SC1.P1 Establishing a guaranty credit reserves for entrepreneurs;
- ☐ SC1.P8 Project of support for entrepreneurs –innovators;
- ☐ SC1.P12 Making strategy of rural development;
- ☐ SC1.P13 Agro-incubator (refrigerated warehouse, advisory service);
- ☐ SC1.P14 Ecologic growing of fruits, vegetable and medical herbs in an unpolluted rural area;
- ☐ SC1.P15 Protection and expanding the production of autochthonous fruits;
- ☐ SC1.P16 Greenhouse production of vegetable and kind of fruits through by becoming associated, education and informing the producers;
- ☐ SC1.P17 Starting production of modern mini by improving breed structure of cattle and breeding a high purebred for milk and meat production;
- ☐ SC1.P18 Creating an autochthonous bred- intensifying genetic process by breeding a high-quality of breeding material at the mini farms;
- ☐ SC1.P19 Creating the standard projects for cattle breeding, vegetable and fruit growing and food industry for the reason of economic strengthening of family farms;

¹² Strategija razvoja općine Žepče 2007-2011. godine

- ☐ SC1.P20 To analyse possibilities of rural areas, intensifying the primary agro production with reason of reducing the untitled land and creating a base for development;
- ☐ SC1.P21 Establishing a guaranty credit reserves for agro producers;
- ☐ SC3.P15 To analyse condition of rural areas (economy, human resources, infrastructure, environment);
- ☐ SC3.P19 Support for cooperative of farmers;
- ☐ SC3.P21 Constructing of vegetable and cattle market;

6.2. PROJECTS IN AGRICULTURE IN ZAVIDOVIĆI MUNICIPALITY

Four strategic goals are defined in Development strategy of Zavidovići municipality. For achieving the strategic goal of competitiveness, Zavidovići municipality adopted 13 measures. Six of those measures are directly related to development of agriculture.

A developed agriculture

- ☐ Development of attached infrastructure for family business, cooperatives and clusters;
- ☐ Improvement of financial instruments for development of agriculture through networking of parties interested in it;
- ☐ To provide training and education for agro produce;

A developed tourism

- ☐ Promotion of tourist resources;

A developed rural area in Zavidovići municipality;

- ☐ Development of rural infrastructure;
- ☐ Creating a satisfactory condition for sustainable development of ecology;
- ☐ Harmonize the existing infrastructure with sustainable development of ecology;

5 programmes were drafted and relevant projects defined in development strategy of Zavidovići municipality;

Modernization of processing industry, support for SME sector, projects:

- ☐ One-stop shop for production business and farmers;

Development of tourism:

- ☐ Promotion of rural tourism;

Development of agriculture in rural areas:

- ☐ Establishing the clusters for berrylike fruits;
- ☐ Organizing the buying up of milk and its processing;
- ☐ Strengthening the existing cooperatives and associations of farmers;
- ☐ Constructing the refrigerated warehouse and curing plant house (drying);
- ☐ Organizing a commercial growing (plantation) of medical herbs and collecting the medical herbs and forest fruits;

- ☐ Networking of agro producers and processors;
- ☐ Providing some educative seminars in the field of agro production;
- ☐ Constructing the greenhouse workshop;
- ☐ Establishing the Local development fund for agriculture;
- ☐ Establishing the sub centres in the area of municipality;
- ☐ Establishing a program of support in organizing some cultural and sport events in the village;

6.3. PROJECTS IN AGRICULTURE- MAGLAJ MUNICIPALITY

9 strategic goals are set in the Development Strategy of Maglaj municipality. 4 of them are directly related to agriculture:

Cilj 1. Polycentric development of economy and entrepreneurship will create conditions and define way of self-employment within households- agriculture, cattle breeding, handicraft and souvenirs production, providing services in rural tourism, crafts (production and services);

- ☐ Development of milk production in the next medium-term time period;
- ☐ Development of tourism in rural areas;

Goal 2. Partnership and human resources;

- ☐ Strengthening of association associations and cooperative of farmers;

Goal 3. Planning a development budget (such as: providing help in the process of certification of domestic products);

Goal 4. Taking care of local community environment, especially protection of environment;

- ☐ Adoption of new regional planning documents of Maglaj municipality and a rational management in building and farmland.

For accomplishing Strategic Plan, 14 mutually connected programmes were made.

Defined projects that have an impact on agriculture:

- ☐ Production of industrial starch (a fast increasing of cultivable land by growing potato that is a raw material supported by local transport);
- ☐ Activating business premises to do the work of business (refrigerated warehouse, grain elevator) ;
- ☐ Making a card of soil characteristic (quality) of Maglaj Municipality ;
- ☐ Establishing the new cooperatives of farmers ;
- ☐ Constructing the sections for production of fodder, making mixture of fodder concentrate for feeding and fattening of cattle and calfs ;
- ☐ Establishing of mini farms for production of meat-fattening the neat cattle ;
- ☐ Establishing of mini farms for production of meat– fattening the chicken ;
- ☐ Establishing of mini farms for milk production- milc cows breeding ;
- ☐ Constructing the mini farms for production of eggs;
- ☐ Planting the Commercial orchards;
- ☐ Commercial growing of medical herbs;
- ☐ Outdoor growing of vegetable;
- ☐ Greenhouse production of vegetable;
- ☐ Greenhouse production of flower;

- ☐ Production of planting material;
- ☐ Collecting the medical herbs and forest fruits;
- ☐ Planting strawberries and raspberries;
- ☐ Development of beekeeping- production of honey;
- ☐ Commercial production of mushrooms;
- ☐ Constructing of wholesale market for agro-products;
- ☐ Constructing of mini processing capacities for slaughtering the cattle and processing of meat of neat cattle and poultry;
- ☐ Constructing of mini processing capacities for vegetable and fruit processing (curing house-for drying, equipment for making jam and juices);
- ☐ Education for agro production;
- ☐ Tobacco planting;

7. REVIEW OF OBSTACLES TO DEVELOPMENT IN ŽEPČE, ZAVIDOVIĆI AND MAGLAJ MUNICIPALITIES

We categorized obstacles as follows: finances, infrastructure, funds, knowledge/education etc. no any of these categories is exclusive, they are all included to each other. So the categorisation is divided b: land, demography, mechanisation, finances, education, legislation, infrastructure etc.

OBSTACLES- THE MAIN PROBLEMS IN AGRICULTURE			Žepce	Zavidovići	Maglaj
OTHER	1.	Mine fields	X		
	2.	Due to bad whether condition, outdoor vegetable growing became very risky	X	X	
	3.	There is not tradition of intensive agro production	X	X	X
	4.	Villages are unorganized	X	X	
	5.	Existing skilled staff of municipality is not used enough for planning the development of agro system	X	X	
	6.	Milk producers are split – average is less than two cows by one farmer			X
LAND	7.	Real estate register shows unreal data of use of land	X		X
	8.	Parcels are divided into small ones and they are not located next to each other	X	X	X
	9.	Land properties are kept up well (mowing/haymaking) but not tilled, (disregarding the private or state ownership)	X	X	X
DEMOGRAPHY	10.	Migration to other areas due to economic situation	X	X	X
	11.	Many households consist of old people, incapable for work	X	X	
MECHANISATION	12.	Mechanisation is old and fell into disrepair	X		
	13.	In many cases, tractor have not additional equipment	X		
	14.	A small number of population have additional machines	X		

FINANCES	15.	Lack of support for agriculture. Support is in the most of cases provided for returnee's settlements and rarely are used for a proper purpose or often sold	X		
	16.	Criteria for obtaining stimulus are more rigorous every year (federal and cantonal stimulus). It means that access to donations becomes more unfavourable)	X		
	17.	High prices of production materials (imposition of VAT on agro products)	X		
	18.	Low prices of domestic products and insecure market due to uncontrolled import	X		X
	19.	Indifferent attitude of dairy factories toward buying up milk and irregular payment of debt for milk they received	X	X	X
	20.	Lack of financial resources for constructing some larger buildings that are needed for increasing the livestock	X		X
	21.	High interest rate of credits intended for agriculture (even though there is a lack of those credits)	X	X	
	22.	Impossibility in obtaining credit since you need endorser for it from those who are employed at public companies and institutions (financial instability)	X		
	23.	Poor economic situation and unstable political situation..	X		
	24.	Expensive registration for farmers (for associations and cooperatives).	X		
	25.	Slow way of restructure and qualifying of agro producers for obtaining pre-access funds from EU and implementing top-priority development programs before BiH access to EU.	X		
	26.	Bad planning of development budget (private entrepreneurship & certification of agro products)			X
	27.	Networking of agro producers and manufacturers			
EDUCATION	28.	It is very difficult to keep tradition in fruit growing due to ignorance of how to keep it	X		
	29.	Population is not educated in cattle breeding and feeding according to modern technologies	X	X	X
	30.	Absence of marketing that would answer these questions: what to produce? How? Whom to sell?	X	X	X
	31.	Lack of cultivable soil. A lot of land is not used in a proper way according to the climate conditions		X	X
LEGISLATURE	32.	Domestic agro-food staffs are not protected enough. There is an uncontrolled import of goods that is much cheaper than domestic (it decreases competition of domestic production)	X		X
	33.	Establishing a large number of associations and cooperatives for their own interest not for strengthening the agriculture	X		
	34.	Absence of directives for development in entire country. In other words, measures of agro policy of the county are incomplete	X	X	X

	35.	Economic profile and legal status of agro producers are not defined by law			X
	36.	Support by Federation of BiH and cantons for milk production are mostly social/cost characteristic not characteristic of development			X
INFRASTRUCTURE	37.	Inadequate and incomplete basic infrastructure that supposed to do the work for development of agriculture (expert-scientific institutions, agro services, storehouses, refrigerated warehouses, institutions intended for a specific financial purpose	X	X	X
	38.	Lack of buying up stations, collecting centres and refrigerated centres needed for agriculture	X	X	X
	39.	Infrastructure and processing capacities in agriculture are incomplete	X	X	X
	40.	Absence of expert-advisory service in the field of agriculture at the municipal level	X	X	X
	41.	Poor connection and networking with other municipalities (bad traffic communications)		X	

8. ASSOCIATIONS AND COOPERATIVES IN ŽEPČE, ZAVIDOVIĆI AND MAGLAJ MUNICIPALITIES

8.1. Data base of associations/cooperatives from Žepče, Zavidovići and Maglaj (Current condition, plans of future development)

Opinion and attitude of association/cooperatives toward obstacles in development of agriculture (obstacles/suggestions)

8.1.1. Association of fruit grower the Voćar Žepče (fruit growing and greenhouse production)

Members/co operators	Current land	Land planned by projects	Equipment/mechanisation	Projects
30	-11,1 ha of orchards 10 ha apples (50 T yield) -1 ha pears, new - planted -1000 m ² strawberries - 3000 m ² greenhouses (vegetable and flower)	- Planting 20 ha of plums - Planting the experimental vineyards; - constructing the greenhouses for production of fruit transplant	No data	Development of fruit growing in Žepče municipality can be proved by growing some specific sorts of fruit

Association of fruit growers the „Voćar“ Žepče recognized the following obstacles that obstruct development of agriculture in Žepče municipality, that are specific and related to activities of this association and also to fruit growers.

Obstacles:

- ☐ Land composition is poor with nutrients, especially in deep layer;
- ☐ High risk of bad weather caused by frost, hail and drought;
- ☐ Lack of water needed for watering of fruit trees;
- ☐ Competition that comes from areas with a better climate condition;
- ☐ Lack of support after planting;
- ☐ There is not a common market and every producer is independent in selling its product at the local market;
- ☐ Purchasing of production materials is carried out within the association, but it is not obligatory. Most of the purchase are limited due to inaccessible market so members often go to R Croatia and farer to purchase equipment and production materials

Suggestions:

- ☐ More stimulus for installing equipment for reducing damages caused by natural disaster;
- ☐ Land split (more stimulus for enlarging farms);
- ☐ Lack of processing capacities for agro products from Žepče municipality;
- ☐ Development of mutual activities within the Agro-incubator Žepče.

8.1.2. Association of raspberry growers-members of cooperative in Žepče (berrylike fruit, raspberry)

Members/co operators	Current land	Equipment/mechanisation	Projects
152	-250 dunums of raspberry patch of Bilara and Miker sorts -cca 120 T of raspberry; buying up is organized and agreed in advance until 2014 with the Klas Company, Sarajevo.	Producers possess a small number of it. It is not enough for expanding of production;	Increasing raspberry patches, procurement of mechanisation, equipment for irrigation, sprinklers and nets for protection from hail.

Obstacles:

- ☐ Raspberry growers meet some big problems when it comes to tilling and protection of the plantation since only some of farmers possess mechanisation and irrigation systems and no one possesses nets for protection from hail and modern sprinkles. .

Suggestions:

- ☐ We believe that with modernisation and education insure a larger yield and sustainable economic staying in the villages.
- ☐ Investment in infrastructure is indispensable (equipment, refrigerated warehouse, nets for protection from hail).

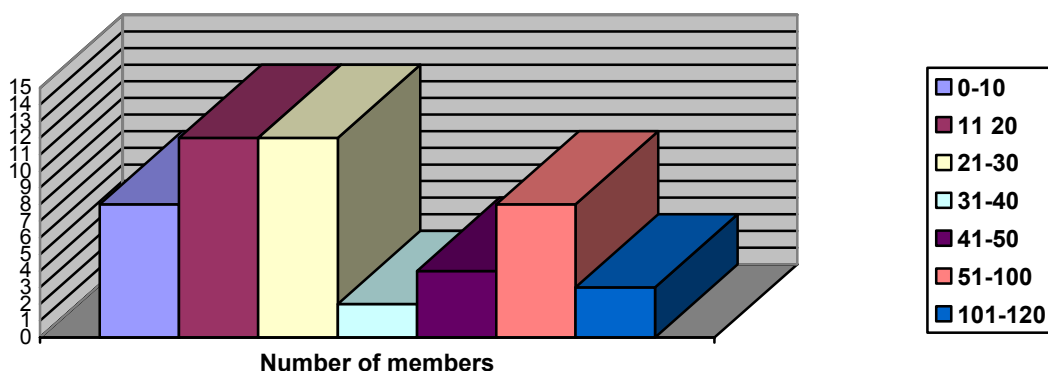
8.1.3. Association of beekeepers « Žepče » Žepče

Members/co operators	Current number of beehive	Number of new beehives planned	Equipment/mechanisation	Projects
49	1852 (bee families)	Cca. 900	Some, at the members of cooperative	Bottling of honey plant

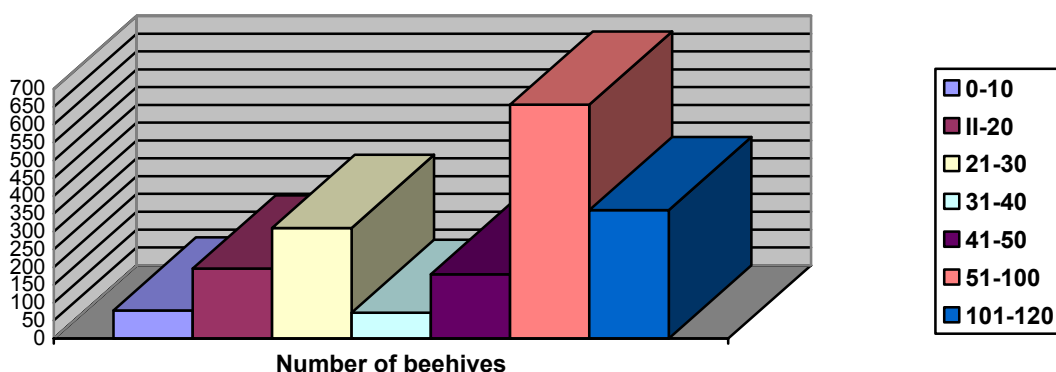
Chart 8.1.3.1. Number of beehives

Number of beehives divided in 6 categories		
Number of beehives, from-to	Number of members	Number of beehives
from 0 – 10	8	78
from 11 – 20	12	196
from 21 – 30	12	310
from 31 – 40	2	72
from 41 – 50	4	180
from 51 – 100	8	656
from 101 – 120	3	360
from 0 – 120	49	1852

***source: data base of Association of Beekeeper from Žepče**



Graph 8.1.3.2. Number of members with beehives by categories



Graph 8.1.3.3. Number of beehives by categories

Obstacles:

- ☐ Beekeeping as an activity/business hasn't had a significant share in the sector of agribusiness. Therefore, it has marginalized, what caused a decrease in the number of beehives. However, considering the granted subsidies on federal and municipal level, up till now, this has increased interest for involving in beekeeping activity, and has increased the number of beehives.
- ☐ All beekeepers have all appropriate equipment for beekeeping and storage for their products and sale. They sell products under their names so our municipality doesn't have a recognized production of bee products. In the next period will work on unique label on bee products for the entire municipality, with an indication of beekeeper's name.
- ☐ There is no a common market. Honey is been sold by producers at the local market.
- ☐ There is no any procurement by associations.

Suggestions:

- ☐ In the next time period, this association will describe to its members the way how to raise bees and how to sell their products. Previous way of beekeeping and selling wouldn't be possible in the near future.
- ☐ The Association is supposed to be in charge of production and disposal of goods, and beekeepers will be co operators who will produce according to instructions of Federal ministry of agriculture. It is needed to provide bottling plant premises and equipment for those activities but also storage for bee products.
- ☐ Providing joint access to the market under a common label within Agro-incubator Žepče. .

8.1.4. General cooperative of farmers "Agrofarm" Žepče

General cooperative of farmers the Agrofarm Žepče was established in February 2005 as an service that helps to farmers of this region, but even wider. In the beginning it was an organisation with 5 members of cooperative that started with activities in education of farmers who were mostly former workers of industrial giants that employed more than 70% of population. It is located in the renovated building of Agro-incubator in Žepče, Stjepana Radica Street.

Members coo- operators	Current land	Equipment/mechanisation	Projects
166	Members of OPZ "Agrofarm" Žepče possess 398,81 ha of cultivable land	Members of OPZ "Agrofarm" Žepče possess 38 tractors with attached equipment, 8 with no attached equipment, 12 motor cultivators,, 5 delivery trucks or tracks, and 2 combine harvesters.	<ul style="list-style-type: none"> - Procurement of distilling equipment for medical herbs processing; - Procurement of new greenhouses for vegetable growers; - Building of mini processing facilities for fruit and vegetable processing in Žepče municipality. -Establishing the buying up stations for fruit and vegetable in the distant rural areas. - Eco-production of fruit, vegetable and medical herbs in unpolluted rural areas.

OPZ „Agrofarm“ helps its members in procurement of production materials and equipment needed. Their skilled staffs provide advisory services. Members sell their products in the market through the cooperative of the farmers.

8.1.5. Association of medical herbs producers „Melissa“ Žepče

This association carries out its activities in the three neighbouring municipalities: Zavidovići, Maglaj and Žepče, where the branches of this association are located. The association has 90 individual producers of medical herbs.

Average of the land by one producer who is a member of association was 1200 m² in the previous time period. Total size of land planted with different kind of medical herbs is 17.000m² (17 ha) and it is owned by members of the association.

Some of the objects of this association are:

- a) joint presentation in the domestic and foreign market, organized presentation at the fairs, exhibitions and other kind of manifestation that are linked to medical herb production;
- b) establishing of cooperation with agro services and institutes on municipal, cantonal federal and state level;
- c) to animate and educate the existing and future medical herbs producers;
- d) to increase production of existing sorts of medical herbs and seasoning herbs and start production of new sorts.**
- e) to help its members in collective and individual certification of production according to principles and standards; to promote organic food and other agro cultures
- f) establishing and strengthening the cooperation with other domestic and foreign organisations for the purpose of development and strengthening of this kind of agro production;
- g) creating the satisfactory condition for production according to European standards;
- h) cooperation with associations and cooperatives for the benefit of the members;
- i) to find an opportunity for procurement of production material, mechanisation and other equipment needed under favourable conditions for its members;

8.1.6. Cooperative of farmers « Poljar » Željezno Polje

Members/co operators	Current condition	Condition planned
200	Cca. 180 ha Fruit growing-apples, pears, raspberries -27 ha; Nuts - 16, 40 ha and plums -2 ha. Cattle breeding (head of cattle and sheep) 100 head of domestic autochthonous bred:	Expanding up to cca 500 ha Building of a 50 tons capacity refrigerated warehouse. Establishing an agency for making plans of development in the field of agriculture.

They are organized in winning the market and in that way they sell most of their products at a satisfactory price. Obstacles in cattle breeding are in land split within the family farms and disease of sheep – brucellosis in the area of activities of these cooperatives.

8.1.7. Association of milk producers « Mljekar » ZE-DO canton

Members/ co operators	Current condition
60	Cattle breeding, agriculture (fodder) Total number of head of cattle 1200; Market known; The buying up of milk is organised -" ZIM" Zenica. Other data not available.

8.1.8. Association of beekeeper « Pčelar » Zavidovići

Member/co operators	Current number of beehive	Number of beehives planed	Equipment/mechanisation
100	cca. 3000	cca. 1000	At individual co operators

About 40 members of the association have about 30 beehives each, that gives a picture of a very serious association. Beekeepers that have more than 30 beehives are stimulated by Administration of ZE-DO Canton with 10 KM per a beehive. Those beekeepers have 2042 beehives total.

Beekeepers, whose hobby is honey production, have less than 30 beehives and unfortunately they are in the group of those stimulated

Total number of them is 60 and the number of beehives is almost 1000.

8.1.9. Cooperative of farmers « MALINAR », Zavidovići

Members/co operators	production/08	Planned:
116	60 tons of raspberries 170 dunums planted 17 ha of land	Increase the number of membership up to 130 and increase the land under cultivation-raspberry. Production of raspberries- 100 tons;

Cooperative of farmers "Malinar" Zavidovići is registered as a cooperative with 60 founders. Now it has 116 members, together with producers and co operators. In 2008 they produced 60 tons of raspberries. It is planned to keep the same area of land under cultivation of raspberry as last year. In 2010 this association will be have 130 members and produce 100 tons of raspberries. Raspberries are planted at 17 ha of land.

Obstacles: The association is carrying out its activities very well. The only problem that they have is no agronomist and a technician who would be at the service of raspberry growers at any time.

8.1.10. Association of farmers « Poljoprivrednik » Zavidovići

The association of farmers “Poljoprivrednik” Zavidovići (greenhouse production of vegetable, production of milk, young bull fattening, production of medical and seasoning herbs);

Obstacles:

- ☐ Low stimulus or no stimulus that makes products not competitive toward agro products from neighbouring countries;
- ☐ Low level of development of agriculture in Zavidovići municipality due to bad policy of agriculture development;
- ☐ High costs of production;
- ☐ Non-existence of municipal department of agriculture that would be a service for farmers in achieving their rights and satisfying their needs.
- ☐ Cultivated land is split. Low standard of living of many families.

Suggestions:

☐ A plan needed for expanding agro production in Zavidovići municipality; There is a disposition for expanding the planting of raspberries in this municipality. It is not a planned “reaction” but attitude of some individuals.

- ☐ Plan of expanding the cranberry and bilberry growing

In the frame of this suggestion, some preliminary activities were completed in carrying out the education and presentation of the project where our members showed interest in growing those cultures. We intend to deliver our idea to municipality offices to be taken into consideration. We are expecting their financial support.

- ☐ Finding the market for medical and seasoning herbs (support to existing producers);
- ☐ Improvement and development of organic production, certification;

8.1.11. Association of farmers “Jedinstvo” Bočinja

Members/ co operators	Current land	Land planed / projects	Equipment/mechanisation	Projects
68 members -20 producers of milk	1500 m ²	-5 new hectares of orchards: apple, pear, plum, nut and sour cherry -constructing of a farm, capacity 20-25 cows -procurement of 20 greenhouses	-there are three places for buying up milk in Maglaj municipality ; -other mechanisation at individuals and insufficient for a larger production;	Planting new orchards ; development of beekeeping; greenhouse production- procurement of greenhouses;

The Jedinstvo Bočinja association has its twenty milk producers who have one or two cows each. They sell their products by themselves because buying up is not organized. If it happens that livestock and production of milk is increased the association would organize the buying up and disposal of milk. Since the area is favourable for fruit growing, this association's staff is thinking of rousing interest by population for fruit growing in the following years. Before the war, fruit growing was one of main farmers' activities, but during the war the most of orchards were destroyed. Those that are left are neglected because a small number of pre-war inhabitants returned to Bočinja.

With the help of REZ-a Zenica, the greenhouse production started. 24 members completed an educative programme and received a certificate. The same organisation donated 11 greenhouses, total size 1.100 m², so association/members at the moment have all together 20 greenhouses, total size 2.000 m².

Due to poor disposal and the unstable market, growing the medical herbs is stagnating year after year. The situation in this field is improving after the Agro-incubator is established

The association, together with its members, possess about 1000 ha cultivable land. In 2009, it was planted about 25 ha of corn, 30 ha were pastures with grass, and about 10 ha vegetable.

Since the members of this association are mostly returnees, a small number of them possess mechanisation for tilling the soil. To improve production in this area, it is necessary to procure attached machines: sowing machine, corn picker, soil milling machine etc.

Obstacles:

- ☐ Lack of infrastructure, mechanisation and equipment for development of greenhouse production, cattle breeding and beekeeping;
- ☐ Returnees in Bočinja do not possess enough money for purchasing of equipment and starting or expanding production;
- ☐ Small number of livestock;

Suggestions:

- ☐ Based on a pool conducted, we came to a conclusion that a large number of our members are interested in planting new orchards. We are able to plant 5 ha of orchards with apple, pear, plum, nut and sour cherry trees.
- ☐ Our members are interested in expanding the greenhouse production, and new members in starting this kind of production. At the moment, 20 members are interested in greenhouse production.
- ☐ Building an animal farm capacity 20-25 milc cows with their progenies. Project covers constructing of a modern stable, procuring of purebred heifers and equipment needed for the animal farm. This farm will be a nucleus of development in this field of production for other co operators.

8.1.12. Association of beekeeper Maglaj

Member/co operators	Current condition
55	Number of beehives: 1860 and it has been increasing every year; Procurement of production materials is carried out by association. No other data

9. RESEARCH CONDUCTED IN THE FRAME OF THE PROJECT NAMED "ESTABLISHMENT OF AGROINCUBATOR ŽEPČE"

RESULTS OF POLL CONDUCTED

Data are gathered based on answers of the members of associations/cooperatives who were polled. This is a survey of information divided by type of production.

9.1. Production of honey- beekeeping (Association of beekeepers Žepče)

Total number of those polled: 30 co operators

Time period of beekeeping: 2001-2008

Chart: 9.1.1. Current condition of beehives

Total number of beehives for 2008	979
*total quantity of honey for 2008 /kg.	4440,50
Total number of beehives for 2009	847
Honey supply in 2008/kg.	835

* Year 2008 was an extremely bad for beekeeping with a very low return by a beehive that was 4, 50 kg.

Chart 9.1.2. Data base on honey production at members

Number of beehives	Honey kg	Propolis, a king of resin kg	Beeswax kg	Pollen kg	Queen bee bred pcs
40	200,00		12,00		40
10	45,00		3,00		10
11	55,00		3,30		11
25	112,50		7,50		25
40	200,00	1	12,00		40
25	100,00		7,50		25
20	80,00	1	6,00	1	20
90	280,00	1	60,00	5	90
9	40,50		2,70		9
30	150,00		9,00		30
17	85,00		5,10		17
80	360,00	0,5	24,00	5	80
65	260,00		19,50		65
13	58,50		3,90		13
70	315,00	0,5	21,00		70
100	500,00	3	30,00	15	100
28	126,00		8,40		28
15	75,00		4,50		15
85	425,00	2	25,50		85
20	95,00		6,00		20
10	45,00		3,00		10
25	100,00		7,50		25
65	325,00		19,50		65
15	75,00	0,5	4,50		15
10	45,00		3,00		10
34	153,00		10,20	2	34
27	135,00		8,10		27
979	4440,50	9,5	326,70	28	979

***Source: Data base of the Association of beekeepers Žepče**

Table: 9.1.3. What field needs support?

Answers	Number of answers
The cure-protection of bees from illness	5
Education and advisory services a.) advices for a better honey production	5
Professional literature	1
Support of experienced beekeeper	1
Diferikacija produkta od meda	1
Equipment and technology	1
Money	1
All together	1

***source: Questionnaires of the Agro-incubator Žepče project**

Table 9.1.4. Remarks and suggestions for improving the condition for development of beekeeping?

Remarks on condition in	Number of answers	Suggestions	Number of answers
To undertake all legal measures against beekeepers who are not members of associations for the reason of prevention of contagious bee diseases. Those beekeepers are not enough educated in it and don't regularly prevent diseases; To educate the above mentioned beekeepers;	1	More lecturers for beekeepers (during the winter) Education of beekeepers, especially of the beginners in this business;	5
To ask management to become more active	2	More support in supplying beekeepers with medicine for bees;	4
Insufficient number of beekeepers' meetings	3	Applying an obligatory membership for all who have more than 5 beehives. To continue activities of the Association of beekeepers;	2

*Source: Questionnaires of the Agro-incubator Žepče project

Table 9.1.5. What are the most often problems that members of association (beekeepers) meet?

Answers	Number of answers
Poor grazing/ finding place for gazing becomes more difficult	6
Bad weather conditions	5
Beginners	4
Lack of buying up	2
Procurement of medicine	2
Disposal of honey becomes more difficult	1
Lack of equipment for beekeeping	1
Bees disease	1
Lack of possibility of education	1
Inexperience	1

*sours: Questionnaires of the Agro-incubator Žepče project

Table 9.1.5. What measures are needed for improvement of beekeeping development?

Answers	Number of answers
To increase number of beehives	6
Education	5
Expert-advisory service	4
Literature, fairs, exhibitions;	3
More members of association, To become more active	3
To find a place for selling	2
To impart knowledge to others	2
More stimulus by the state	2
Afforesting for a better grazing	2

*source: Questionnaires of the Agro-incubator Žepče project

Legend:	
1	No
2	Yes

Table 9.1.6. disposal of honey and bee products

I sell bee products					
super-markets	small shops	wholesale	private buyer	home sale	organize buying up
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	2	2	1
1	1	1	1	2	1
1	1	1	2	2	1
1	2	1	1	2	1
1	1	1	1	2	1
1	2	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	2	1
1	1	1	1	1	1
1	1	1	1	2	1

*source: Questionnaires of the Agro-incubator Žepče project

9.2. Growing of berrylike fruit- raspberries (Association Producers of Raspberries –co operators) Željezno Polje/Žepče)

Total number of polled: 71 co operators

Time period of activities: 2001-2008

Size of raspberry patch: 12,3 ha

Previous season/return in kg: 71 965 kg

Table 9.2.1. current time, availability of equipment

Mechanisation/equipment	Number of members:
Drop by drop system	33
mechanisation	11

***source: Questionnaires of the Agro-incubator Žepče project**

Table 9.2.2. mechanisation needed –procurement in the next time period

Mechanisation/equipment	Number of members:
Net for protection from the hail	57
Irrigation system	
Mechanisation	24
Irrigation system	21
Others	8

***source: Questionnaires of the Agro-incubator Žepče project**

Financial resources needed for investment -from 2.000 to 25.000 KM; an average is about 10.000 KM per a producer (9710 KM).

Table 9.2.3. What is the other field of agriculture you want be engaged in ?

Field of production	Number of members :
Cattle breeding	35
Fruit growing	24
Greenhouse production	21
Beekeeping	16
Others	4

***source: Questionnaires of the Agro-incubator Žepče project**

9.3. Production of meat and milk (producers from Žepče, Zavidovići and Maglaj municipality)

Table 9.3.1. Data base of producers from Žepče, Zavidovići and Maglaj municipality

Description	Žepče	Zavidovići	Maglaj	TOTAL
TOTAL number of producers	167	1	37	205
TOTAL number of milc cows	474	10	118	602
Average number of milc cows per one producer	2,84	10	3,19	2,94
TOTAL real quantity of milk delivered per one producer	504.869,00	14.205,00	149.618,00	668.692,00
Average of quantity of milk delivered per one producer	3023,17	14.205,00	4.043,75	3.261,91

*source: Questionnaires of the Agro-incubator Žepče project

Table 9.3.2. Data base of cattle and poultry breeding condition in Žepče, Zavidovići and Maglaj (those polled)

Species	Quantity	Species	Quantity	Species	Quantity
Cattle	9	Swine		sheep	73
Cow and heifer	67	Sows		Sheep for breeding	228
Calf up to 1 year old	49	Suckling pig up to 20 kg		Lamb up to 1 year	130
Elder young cow	20	Suckling pig more than 20 kg		Lamb	74
Bull	24	Boar		Ram	29
TOTAL	166	TOTAL		TOTAL	534

Species	Quantity	Species	Quantity	Species	Quantity
Goat		Hors		Poultry	106
Goat for breeding	14	Zebrebad		Chicken and rooster	121
Young goat up to 1 year	2	Mare		Egg-laying hen	64
Female goat		Studhorse		Turkey	
Male goat		Hors		duck	
TOTAL	16	TOTAL		TOTAL	291

Fish breeding -Carp	2 persons
Beekeeping/number of beehives - 416	9 persons

9.4. Production of medical herb

41 producers planted *Melissa Officinalis* L at 75.000 m² of land. Medical herbs are grown in Žepče, Zavidovići and Maglaj municipalities. Most of producers are members of the association of medical growers "Melissa" Žepče and its branches in Zavidovići and Maglaj, and also section of medical herbs of association of farmers the Poljoprivrednik Zavidovići. The average of land planted per one producer is 1829, 26 m². The annual swath of the above mentioned land is about 10 tons.

In June 2008 a pilot project was implemented-an organized processing (distilling) of medical herb the lemon bulb. All together 17 growers took part in it. About 40 tons of green mass of lemon bulb was distilled. 8,7 kg of essential oil was obtained.

In July 2009 distilling of lemon bulb (*Melissa officinalis* L.) was carried out at experimental farm of UPiP Žepče. The equipment for distillation was purchased for the Agro-incubator Žepče for the purpose of providing distillation services. 16 members of cooperatives took part in distillation of medical herbs. From 25, 5 tons of green mass 5, 86 kg of essential oil was obtained.

At the "Ljekobilje Ilić" Dolac Zavidovići that is a register business, distillation of medical herb *Melissa officinalis* L. was carried out. From about 40 tons of green mass 8,50 kg of essential oil was obtained.

9.5. Data gathered from members of OPZ « Agrofarm » Žepče polled

Number of members:/co operators: 166

166 members/co operators were polled. 151 persons gave their answers but 14 of them did not.

9.5.1. Possessing of agro mechanisation

166 members/co operators were polled. 159 persons gave their answers but 7 of them did not.

Agro mechanisation	Yes	No
Total	68	91

Kind of agro mechanisation	Total/ people that posses it
Tractor with attached equipment	38
Tractor with no attached equipment	8
Motor cultivator	12
Tilling machine	3
Delivery truck of a truck	5
Combine harvester	2
TOTAL	68

9.5.2. Possession of agro buildings/facilities

166 members/co operators were polled. 159 persons gave their answers but 7 of them did not.

Agro buildings/facilities	DA	NE
Total	102	57

Kinds of buildings /facilities	Total/ people that posses it
Greenhouse	9
Stable-auxiliary facilities	45
stable	40
Farm of egg laying hen	1
Farm for hog raising	1
Building for cattle breeding	1
Stable and greenhouse	1
No answer	4
TOTAL	102

9.5.3. What kind of production you were engaged in?

166 members were polled. 14 of them did not provide answers. 152 persons gave answers. From those who answered, 22 persons were not engaged in agro production before (for of them all still not interested in it), but 130 were engaged in agro production.

Agro production	Yes	No
Total	130	22

Kinds of agro production	Total/ people that posses it
Farming	17
Fruit/vegetable growing	28
Cattle breeding	28
Greenhouse production	8
Farming and cattle breeding	8
Production of consume eggs	2
Medical herbs	3
Cattle breeding/ fruit growing/ vegetable growing	7
Greenhouse production (fruit and vegetable growing)	1
Farming and vegetable growing	1
Production of nursery plants and humus	2
Poultry breeding	1
Cattle and poultry breeding	2
Scions, ornamental plants and roses	1
Production of milk	1
Farming, vegetable growing, cattle breeding	1
Medical herbs/ vegetable/fruit	1
Fruit growing/beekeeping	1
Farming, cattle breeding, fruit and vegetable growing	7
Medical herbs and greenhouse production	2
Fruit and vegetable growing, farming	2
Cattle and hog breeding, beekeeping	1
Beekeeping	5
TOTAL :	130

9.5.4. What kind of production would you like to be engaged in?

166 members/co operators were polled. 157 persons gave their answers but 9 of them did not.

From 157 those who answered, 4 of them are not interested in agriculture, 153 are interested to be engaged in agro production in the future.

Agro production/in the future	Yes	No
Total: 157	153	4

Kinds of agro production	Total/people who are interested in
Farming	9
Fruit/vegetable growing	45
Greenhouse production	18
Farming and cattle breeding	8
Production of consume eggs	1
Medical herbs	10
Cattle breeding/ fruit growing/ vegetable growing	7
Greenhouse production (fruit and vegetable growing)	8
Grain and vegetable growing	3
Cattle breeding and horticulture	1
Cattle breeding, fruit growing and agro tourism	1
Humus and medical herbs	1
Poultry breeding	4
Fruit and vegetable growing (cucumber so-called cornishon –kornišon)	1
Bio production	2
Scions, ornamental plants and roses	1
Production of milk	1
Farming, vegetable growing, cattle breeding	1
Medical herbs/ vegetable/fruit	3
Fruit growing and beekeeping	2
Farming, cattle breeding, fruit and vegetable growing	6
Medical herbs and greenhouse production	4
Fruit and vegetable growing, farming	5
Roughage and medical herbs	2
Cattle breeding and beekeeping	1
Cattle breeding, greenhouse production	1
Fruit growing and poultry breeding	1
Beekeeping	6
TOTAL:	153

9.5.5. Cultivated land – agro culture sown at members

GRAINS at ha		ROUGHAGE at ha		MEDICAL HERBS at ha	
Wheat	5,45	Clover	1	Lemon bulb	0,3
Barley	1,2	Silage corn	4,4	marigold	0,1
Oats	3,2	Pasture	5,4		
Corn	27,2	Meadow-mowing the grass	1,4		
TOTAL	37,05	TOTAL	12,2	TOTAL	0,4

AGRO CULTURE SOWN OUTDOOR at ha		ORCHARDS at ha		OTHER CULTURE at ha	
Potato	10,8	Apple	4,3	Viticulture	0,6
Paprika	2,21	Pear	2,5	Other cultures	8,0
tomato	1,8	plum	7,7		
Carrot	1,1	Nut	5,26		
Lettuce	1,103	Sweet cherry	1,06		
Cucumber	1,005	Sour cherry	0,001		
Cabbage	1,308	Strawberry	0,97		
Onion	1,18				
Leguminous plants (beans)	1,5				
TOTAL	22,006	TOTAL	24,091	TOTAL	8,6

9.5.6. Possessing of mechanisation by members

Kinds of agro machines	Total / persons who possess
Tractor	20
Means of transportation	9
Building or business premises or storage	2
Attached mechanisation	17
Combine harvester	1
TOTAL	49

9.5.7. Agro facilities possessed by members

Kinds of facilities	Total/ persons who possess
Stables	32
Greenhouses	4
Storages	11
Hayloft	2
TOTAL	49

9.5.8. Data on family members get involved in agriculture

PERMANENTLY		PERIODICALLY	
NUMBER OF FAMILY MEMBERS	NUMBER OF THOSE POLLED	NUMBER OF FAMILY MEMBERS	NUMBER OF THOSE POLLED
No one	2	No one	19
One member	2	One member	6
Two members	15	Two members	9
Three members	15	Three members	6
Four members	10	Four members	6
Five members	2	Five members	1
Eight members	1		
Those who did not answer	2	Those who did not answer	2

***Average of family members involved in agriculture is 3,918 members (from 2 to 8 members)**

9.5.9. Data on distance of households in km:

Distance of households from:	From-to	Average
Centre	2 - 35	16,20
Main road	0 – 8	2,226
School	1 - 23	4,017
Health care facilities	2 – 23	6,955
Shop	0-23	1,959
Bus station	0,05 - 23	2,464

9.5.10. Water supply for households:

	Water supply	Well	Rain collectors	Private wells
No answer	3	3	3	3
There is	33	12	0	16
There is not	13	34	46	30

9.6. SHORT-TERM AND LONG-TERM CREDITS- debts of farmers

The purposes of restricted loans are: adaptation, purchasing, fattening of young bulls, beekeeping, purchasing of mechanisation-tractors, constructing or renovation of facilities needed for cattle breeding-young bulls, swine, fish breeding
The amount of credit is from 4.000 to 50.000 KM. Each farmer needs 19.625 KM on the average.

Interests rates are vary from 0% do 4%. In most cases agro producers ask for a delay payment up to two years. Time limit for payment of the credit is between 2 to 20 years, and average is 8, 3 years.

9.7. MARKET –disposal of products**Table 9.7.1. Disposal of products- fruit production**

Location of disposal	Number of answers
Outdoor market of agro product	5
Dealer	2
Cooperative	3
Manufacturer	6
Others	5

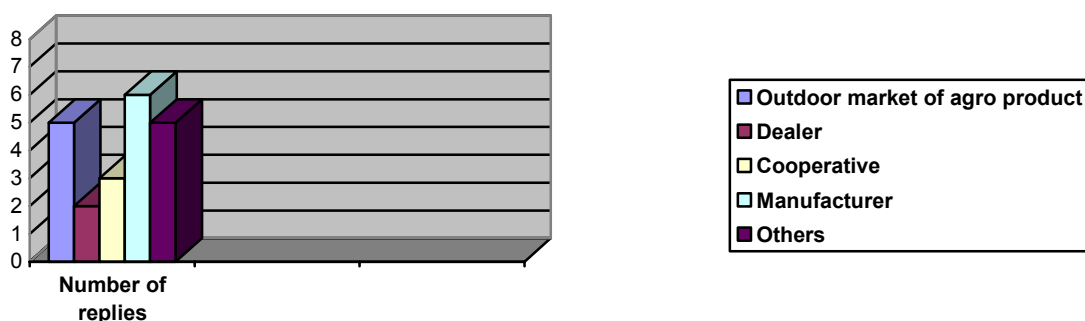
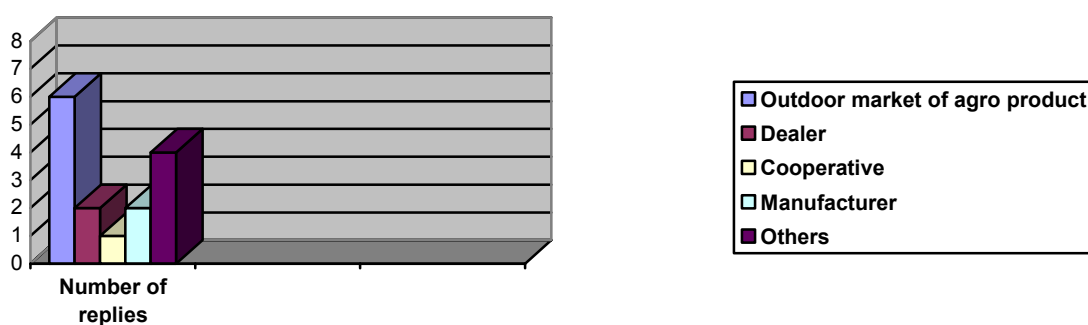
**Graph 9.7.2. Disposal of products- fruit production**

Table 9.7.3. Disposal of products- truck farming production

Location of disposal	Number of answers
Outdoor market of agro product	6
Dealer	2
Cooperative	1
Manufacturer	2
Others	4

**Graph 9.7.4. Disposal of products- truck farming production****Table 9.7.5. Disposal of products – husbandry production**

Location of disposal	Number of answers
Outdoor market of agro product	3
Dealer	2
Cooperative	1
Manufacturer	2
Others	3

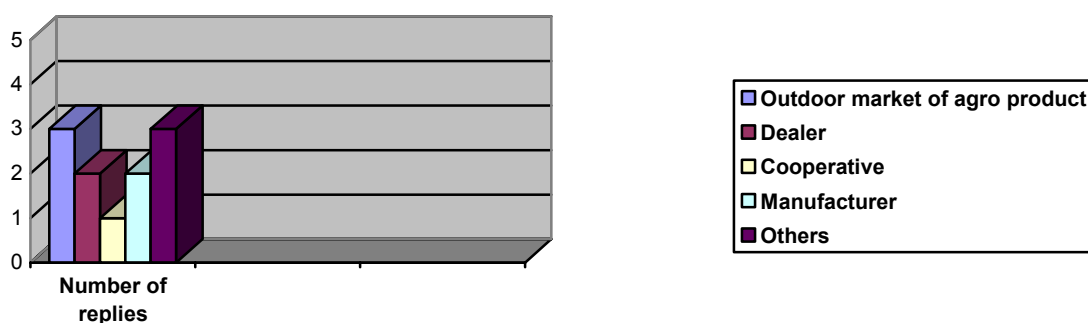
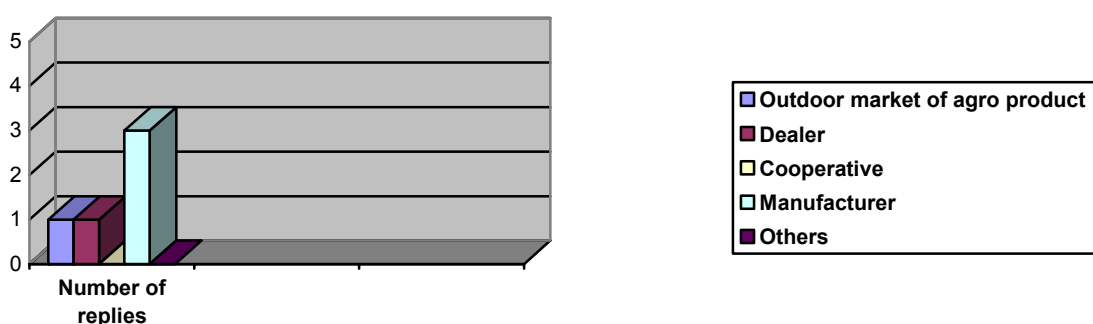
**Graph 9.7.6. Disposal of products – husbandry production**

Table 9.7.7. Disposal of products – viticulture products

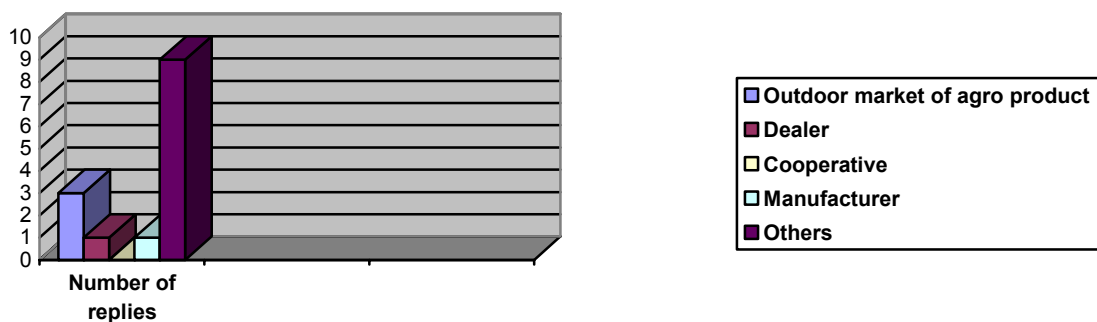
Location of disposal	Number of answers
Outdoor market of agro product	1
Dealer	1
Cooperative	0
Manufacturer	3
Others	0



Graph 9.7.8. Disposal of products – viticulture products

Table 9.7.9. Disposal of products – beekeeping products

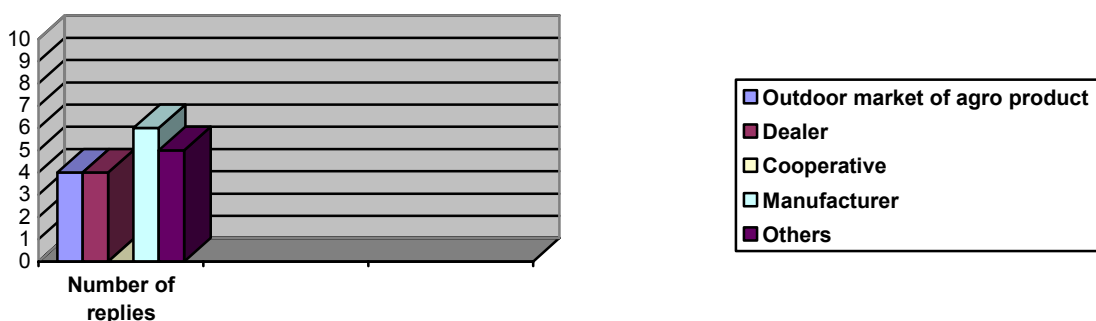
Location of disposal	Number of answers
Outdoor market of agro product	3
Dealer	1
Cooperative	0
Manufacturer	1
Others	9



Graph 9.7.10. Disposal of products – beekeeping products

Table 9.7.11. Disposal of products – meat and meat products

Location of disposal	Number of answers
Outdoor market of agro product	4
Dealer	4
Cooperative	0
Manufacturer	6
Others	5

**Graph 9.7.12. Disposal of products – meat and meat products****Table 9.7.13. Disposal of products –milk and dairy products**

Location of disposal	Number of answers
Outdoor market of agro product	4
Dealer	2
Cooperative	0
Manufacturer	2
Others	8

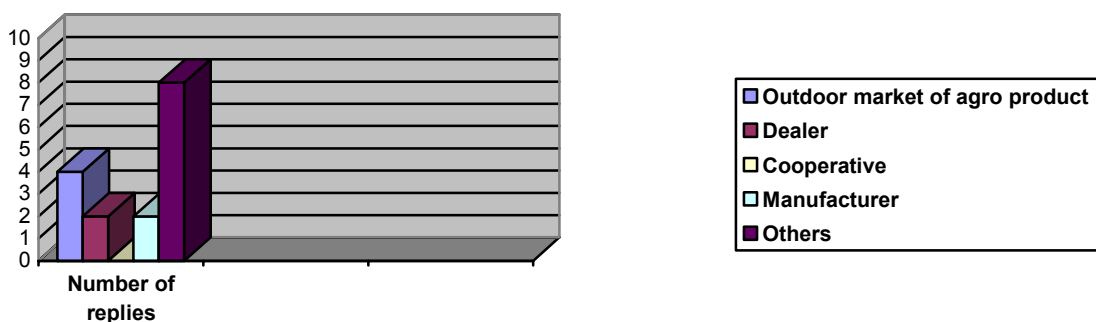
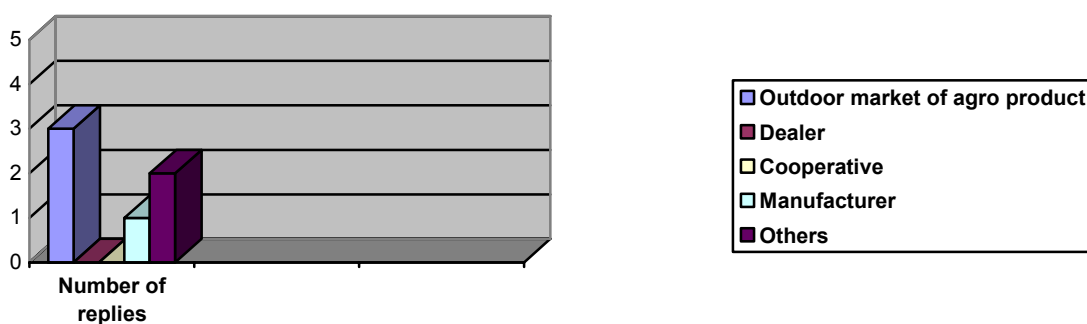
**Graph 9.7.14. Disposal of products –milk and dairy products**

Table 9.7.15. Disposal of products – nursery plants

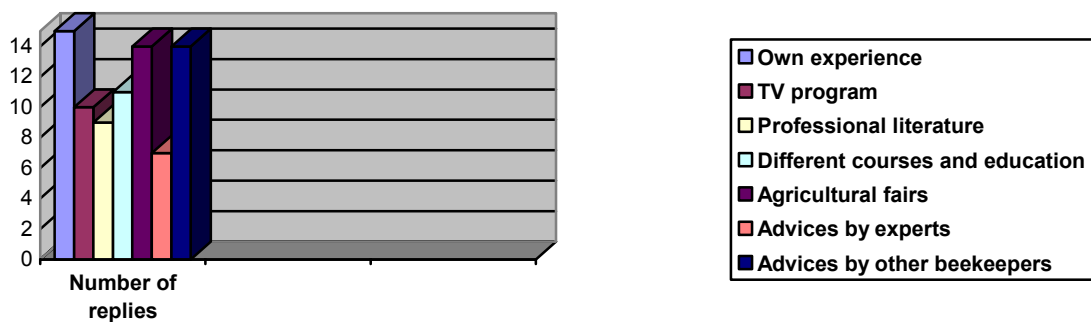
Location of disposal	Number of answers
Outdoor market of agro product	3
Dealer	0
Cooperative	0
Manufacturer	1
Others	2

**Graph 9.7.16. Disposal of products – nursery plants**

9.8. Way and methods for development of agro production

Table 9.8.1. Way and methods for development of agriculture

Way and methods	Number of answers
Own experience	15
TV program	10
Professional literature	9
Different courses and education	11
Agricultural fairs	14
Advices by experts	7
Advices by other beekeepers	14

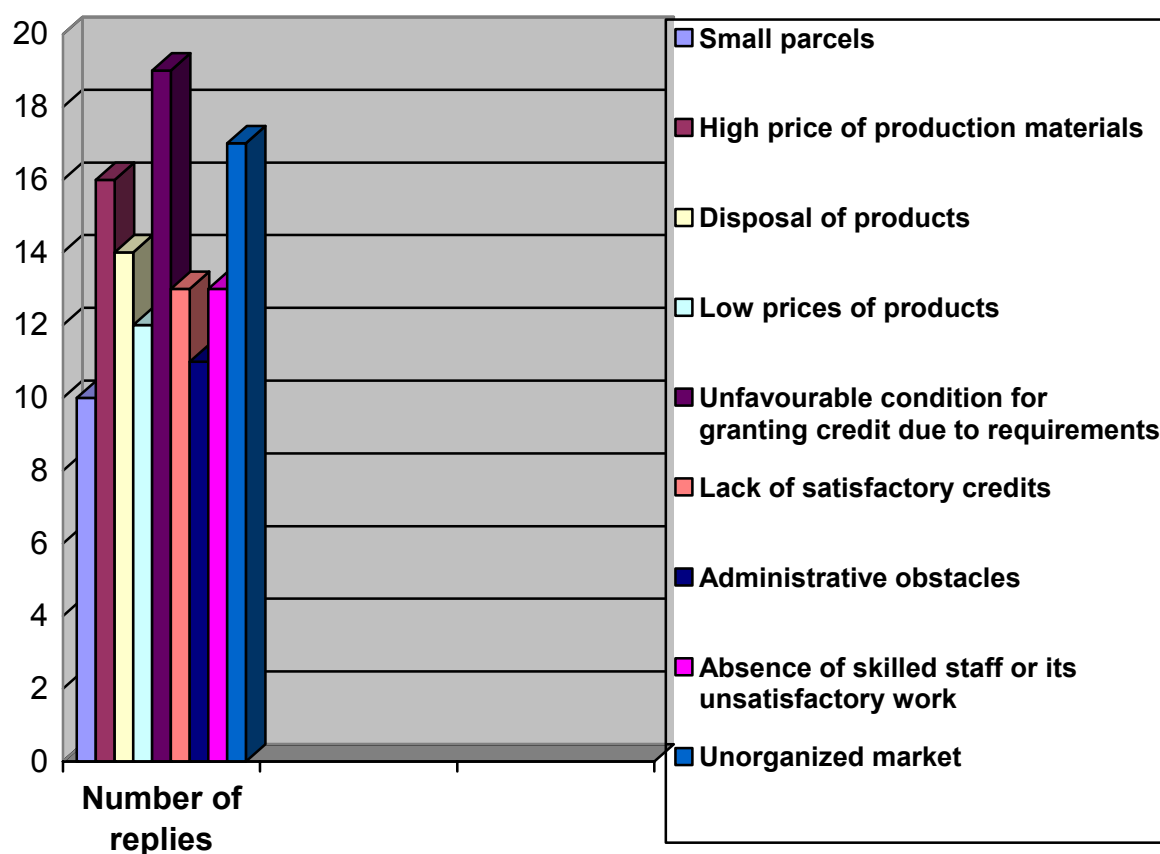


Graph 9.8.2. Way and methods for development of agriculture

9.9. Identified obstacles in development of agro production

Table 9.9.1. Identified obstacles in development of agro culture

Obstacles identified	Number of answers
Small parcels	10
High price of production materials	16
Disposal of products	14
Low prices of products	12
Unfavourable condition for granting credit due to requirements	19
Lack of satisfactory credits	13
Administrative obstacles	11
Absence of skilled staff or its unsatisfactory work	13
Unorganized market	17



Graph 9.9.2. Identified obstacles in development of agro culture

10. CONCLUSIONS AND RECOMMENDATIONS

10.1. Conclusions

- The basic problem off agro sector is that cultivable soil is untilld. Besides, there is a tendency in decreasing of land under cultivation. It is caused by a poor agrarian policy of municipalities, cantons, entities and state too. Unused natural resources in Žepče, Zavidovići and Maglaj municipalities are a factor of a poor local policy in this field. Total degree of utilisation is only 30%.
- Land split makes difficult to achieve profitability in agro production. Available information shows that the average land of farm is 2-4 ha and mostly at 7-8 separated parcels.
- There is not an official data on land use, number of land owners and farms because agro limitation was not carried out. Number of owners is increasing but size of property is getting smaller. Land split is a limited factor for a serious production and management in a modern agriculture.
- During the war a drastic decreasing of live stock took place. After to war in the field of cattle breeding, the live stock was restored and increased in the frame of the project supported by international funds and also by cattle breeders themselves. However the current number and breed of cattle is still too small comparing with pre-war time period.
- Production of milk in Žepče, Zavidovići and Maglaj municipality is an engine of entire agriculture and it creates conditions for many farms to be engaged in it. This production needs to be treated as a strategic determination. Simulative measures will increase number of producers a buying up milk has to be improved than it so far.
- Omnipresent growing of medical herbs could have a significant contribution in economic situation in Žepče, Zavidovići and Maglaj municipalities. It is needed to increase planting and joined wining of the market, to continue with finalization of medical herbs products (essential oil) and define new products- soap, cosmetic cream etc.
- A large part of agro production is intended for own needs of producers and it not intended for the market competition that would considerably have impact on an average yield of profit. It means: giving up an excessively wide

production and turning to specialized production for the market where an organized buying up must exist.

- The main problems in increasing production of fruit and vegetable are: lack in organisation in buying up, shortage of modern distribution infrastructure (buying up centres, mini refrigerated warehouses, refrigerator trucks, storages, modern market centres etc). The most important in vegetable and fruit production is high-grade organising of buying up and clustering the entire chain of production: production- buying up- processing- disposal (creating a group of business organisation associated with common interest of the entire chain of so- called cluster companies.
- To establish a qualitative fruit and vegetable nursery plant production that would preserve autochthonous sorts and introduce new ones that are suitable for this climate
- It is necessary to apply the common and individual certificates of domestic products for a better disposal in foreign market, develop and promote eco production since we have unpolluted land
- It is necessary to increase the modern mechanisation (motor cultivators, tilling machines, mowing machines, tractors etc) at family farms. That would speed up process of tilling the soil and enable better condition for work. Many would be stimulated to stay and work at the farms, especially young population that leave villages and go “where one can earn a living”. Modernisation of rural infrastructure is needed (transport, water supply).
- To create a qualitative policy of financing of agro production through different ways of stimulus- establishing the Agro-bank, municipal funds for development etc). it is needed a qualitative policy of subvention of agro production by local authorities. The benefit from special fund- producers would set some amount of profit aside during the time period of a successful business, so during the difficult time of business they could make satisfactory loans and similar financial support.
- Education and training of agro producers must be permanent and continued.
- Passing better laws and other regulations (tax and financial exemptions) by relevant institution would help in better development of agriculture. .
- To create a satisfactory environment for establishing and development of cooperatives and associations those are autonomous, economically capable

and led in a democratic way. It is necessary to work on modern ways of networking of different public and private companies and organisations those are linked with entire chain of certain agro product (medical herb cluster, processing of vegetable and fruit cluster etc).

10.2. Recommendations

- ☐ Agricultural resources in this environment have to be immediately utilized for production of eco food.
- ☐ To create conditions for a positive agro business environment (municipal exemptions and stimulus for already existing agro business);
- ☐ To establish municipal development funds for agriculture (access to free capital).
- ☐ To protect and valorise the autochthonous products and create a trademark for winning the market;
- ☐ To strengthen the sector of cooperatives by creating a network of the existing cooperatives and associations through institutional strengthening and qualifying for their management;
- ☐ To carry out a permanent education and training of farmers by establishing a municipal centre for training and establishing the connection with scientific institutions- faculties, institutes etc;
- ☐ To improve municipal agriculture development strategy through joint activities of farmers, cooperatives, SMEs in the field of agriculture and competent municipal department for agriculture;
- ☐ To take into consideration the above mentioned conclusions as particular recommendation that are made at joint working meetings with associations, cooperatives and individual farmers;

ACTION PLAN /THE LIST OF PROJECT PROPOSALS

11. ACTION PLAN /THE LIST OF PROJECT PROPOSALS

No	Activity	Project bearer	Time limit	Objective and comment
1.	Procurement of equipments for medical herb distilling;	Association of farmers Zavidovići OPZ "Agrofarm" Žepče, Agro-incubator Žepče, UIP Žepče	First half of 2010	To fasten processing and distilling of medical herb-lemon bulb and equalize the quality of processing by applying new technologies, employing the workers for work at equipments;
2.	Procurement of lacto freeze for the needs of milk producers in Zavidovići municipality;	Development agency Zavidovići	Continued	To protect the dairy as a branch of economy and enable free transportation of milk to buying up stations –dairy factories. To develop quality of production of milk in Zavidovići municipality;
3.	Procurement of an irrigation system for 20 ha of land in Željezno Polje.	Association of raspberry producers –members of the cooperative Željezno Polje	Continued	To develop production of berrylike fruits and in that way the progress will be made in quantity and quality of production,
4.	Procurement of nets for protection from hail for producers who have raspberry patches at 20 ha in area of Željezno Polje;	Association of raspberry producers Željezno Polje	End of 2010	To reduce exposing of berrylike fruit patch to destroying by hail
5.	Procurement of mechanisation – mechanical ring	Association of raspberry producers –members of the cooperative Željezno Polje	End of 2010	To develop production of berrylike fruit and in that way the progress will be made in quantity and quality of production,
6.	Procurement of a refrigerated chamber –mini refrigerated warehouse, 200 tons capacity for the needs of producers of raspberry and other berrylike fruits.	Association of raspberry producers Željezno Polje.	Continued	To preserve products for the season when the prices in the market are higher;

7.	Procurement of a refrigerated delivery truck for transport of products (vegetable and fruit	Agro-incubator Žepče, UPIP Žepče	Continued	To facilitate transportation of fruit and vegetable from producers to the refrigerated warehouse at Agro-incubator Žepče or other processing centres that are far;
8.	Procurement of greenhouses for about 30 producers of vegetable;	Agro-incubator Žepče, OPZ "Agrofarm", Association of fruit growers Žepče	Continued	To increase number of producers in greenhouses in Žepče municipality. To develop greenhouse production (quantity and quality) through a strong competition;
9.	Procurement of a equipment for mini packing factory for agro products and medical herbs;	Agro-incubator Žepče, UPIP Žepče, Development agency Zavidovići, Association of medical herbs grower "Melissa" Žepče	Continued	To develop the processing – finalisation of production flow – ready product intended for the market and consumers;
10.	Constructing of a section for drying the vegetable and fruits for Central Bosnia Region:	Agro-incubator Žepče- UPIP Žepče Development agency Zavidovići	Continued	To develop the processing – finalisation of production flow – ready product intended for the market and consumers.
11.	Constructing the experimental farms for mushrooms growing in Zavidovići municipality;	Development agency Zavidovići	Continued	Increased number of employed people through new kind of productions that is economically profitable;
12.	Establishing a One stop-shop window for agriculture in Zavidovići municipality;	Development agency Zavidovići	Continued	To provide information on agriculture in one place
13.	Establishing clusters of berrylike fruit in Žepče, Zavidovići and Maglaj – a regional	Agro-incubator Žepče- UPIP Žepče,	Continued	Development of berrylike fruit by applying the knowledge,

	importance	Association of raspberry producers, Željezno Polje., RAZ Zavidovići ,		experience and modern technology. They are needed for entire development and progress of this area;
14.	Planting of new plum orchards in Žepče municipality	Association of fruit growers;	Continued	Expanding of fruit growing production;
15.	Enlarging and planting new raspberry patches in Zavidovići municipality	Development agency Zavidovići Association of farmers the Poljoprivrednik Zavidovići	Continued	Farmers showed interest in it but beside agro-climate privileges some financial resource are needed for planting materials – about 5000 pieces in Zavidovići (500-600 pcs/per dunum);
16.	Planting the bilberry and cranberry experimental patches in Zavidovići municipality	Development agency Zavidovići Association of farmers the Poljoprivrednik Zavidovići	Continued	Producers are interested in it. It would create a better economic base for families interested in it in Zavidovići municipality.
17.	Enlarging of raspberry plantations at 200 new dunums in the area of Željezno Polje.	Association of raspberry producers Željezno Polje.	Continued	Expanding the existing production, but also the quality and quantity of products;
18.	Constructing a mini processing factory for fruit and vegetable Žepče municipality	Agro-incubator Žepče, UPIP Žepče, OPZ “Agrofarm” Žepče, Udruženje malinara Željezno Polje.	Two-years plan	To develop the processing – finalisation of production flow – ready product intended for the market and consumers.
19.	Procurement of new head of cattle – milch cows;	Association of milk producers Maglaj	Continued	Development of cattle breeding and number of milk producers increased; Quantity of milk increased for needs of dairy factory

				in the area (dairy factories in Zenica and Maglaj);
20.	Procurement of new bee families for Žepče, Žepče, Zavidovići i Maglaj municipalities	Association of beekeepers of Žepče, Zavidovići and Maglaj ,	Continued	Increased number of beehives, quantity and quality of honey but also number of producers;
21.	Establishing of buying up stations in the further rural areas, for vegetable and fruit	Agro-incubator Žepče, UPIP Žepče, OPZ Agrofarm Žepče, Associations from Zavidovići and Maglaj	Continued	Expanding of vegetable and fruit growing also in rural areas of Žepče, Zavidovići and Maglaj.
22.	Planting the new experimental vineyards in Žepče, Zavidovići and Maglaj.	Agro-incubator Žepče, RAZ Zavidovići and Association of farmers Zavidovići	Continued	Introducing new ways of agro production-innovative approach in those mentioned municipalities;
23.	Forming a stand for local products at the city vegetable market in Zavidovići	Development agency Zavidovići Association of farmers the Poljoprivrednik Zavidovići	Continued	To find easier way of finding local market; To insure daily supply and demand for agro products;
24.	Introduce an agriculture program at technician school in Zavidovići and Maglaj	Development agency Zavidovići Maglaj municipality	2011/ 2012	To interest young population in agriculture; Strengthening of human resource through acquiring the knowledge and skills in educational system;
25.	To work out a strategy toward rural development in areas of Žepče, Zavidovići and Maglaj municipalities;	Agro-incubator Žepče- UPIP Žepče, RAZ, Municipal authorities of Žepče, Zavidovići and Maglaj	Two-years plan	Development and a continued progress of rural areas of Žepče, Zavidovići and Maglaj municipality;

26.	Protection and expanding the production of autochthonous sort of fruit in Žepče, Zavidovići and Maglaj municipalities;	Association of fruit growers Žepče, Association of farmers the Poljoprivrednik Zavidovići And Association Jedinstvo Bočinja	Continued	Expanding of fruit growing and preserving autochthonous sorts;
27.	Eco production of fruit, vegetable and medical herbs in an unpolluted rural environment;	Association of medical herbs growers the Melissa Žepče, OPZ “Agrofarm” Žepče, Agro-incubator Žepče-UPIP Žepče.	Continued	
28.	Establishing the municipal development funds for agriculture in Žepče, Zavidovići and Maglaj municipalities.	Agro-incubator Žepče-UPIP Žepče, RAZ Zavidovići; Žepče, Zavidovići and Maglaj municipalities;	Continued	To enable an easier access to financial resources for agro producers under satisfactory conditions;
29.	Launching an initiative for establishing the Agro-bank in Central Bosnia Region;	Agroincubator Žepče-UPIP Žepče, RAZ Zavidovići,	Continued	To enable an easier access to financial resources for agro producers under satisfactory conditions;

