



# ANALYSIS OF VALUE CHAIN FOR MEAT AND MEAT PRODUCTS



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# 1. Introduction

CREDO Krajina is a project funded by Sweden and implemented by the Development Agency EDA Banja Luka in cooperation with the Association for the Development of NERDA Tuzla.

The project's aim is to improve the competitiveness of SMEs in the Krajina area, in order to create and sustain jobs, reduce poverty and improve the economic status of the area. The project should help create more than 200 new jobs and sustain up to 1,000 jobs in companies / sectors covered by the project interventions. Also, the project should facilitate vertical and horizontal coordination of policies directed towards small and medium enterprises in the project area.

Duration of the Project is 30 months and it consists of multiple phases and components. Priority economic sectors with significant potential for creating new jobs were selected through initial analysis and then representatives of companies from these sectors, through sectoral committees will define priority needs for advisory support and training. In addition, part of the advisory and financial support will be directed towards cities and municipalities that intend to significantly improve local business environment and to establish permanent and effective dialogue with the private sector.

We extend our gratitude to sector experts, members of Sector Boards, participants in workshops, survey, and interviews conducted within the project for their help in implementation of research. We would like to thank especially to Mr. Shawn Cunningham and Mr. Frank Waeltring from Mesopartner for methodological guidance and advisory support in preparation of value chain analysis.



## 2. Research Approach

During the course of this study, we used the technique of Value-Chain-Analysis (VCA), which conceptually interconnects the steps: production, processing, distribution and sales and allows us to analyse each step in relation to the preceding as well as to the subsequent step within the value chain. The value chain is a chain of activities which a product is passing through, and during each of these activities, within the supply chain, the product gains added value. One of the most important aspects related to the application of the value chain approach is based on the fact that measures that have been taken within one part of the value chain have an impact on all of the following steps in the value chain. Some of the measures are irreversible (e.g. subsequently to their slaughtering, cattle cannot be sold as livestock anymore).

The data survey approach within the scope of the value chain analysis for meat products is based on a combination of qualitative and quantitative research methods.

The process started with the identification of the target group of the companies. Baseline studies were conducted with the goal to collect data related to all economic sectors in order to be used for informational purposes and also for the purpose of monitoring and evaluation of the project. The baseline study included a macroeconomic overview of Bosnia and Herzegovina, the Republic of Srpska and the Federation of B&H, the analysis of the economy in the geographical area covered by the project, an investigation of economical support measures implemented in the project area, a sectoral economic and financial analysis. Conclusively, a performance and competitiveness ranking had been carried out including the selection of priority sectors.

The food industry has been identified as one of the most competitive sectors with potential for growth and employment.

By use of a qualitative analysis of the food industry sector in the municipalities covered by the project CREDO Krajina, value chain for meat and meat products has been identified as a sub-sector with significant growth potential.

After the elaboration of the initial study and the identification of the most competitive sectors, a qualitative analysis of the current situation followed. The experts involved in the project carried out interviews



with both companies involved in the value chain of meat and meat products and with other organizations that provide support to companies operating in the value chain of meat and meat products.

Certain difficulties identified during the research relate to the inability to verify the quantitative data (the lack of relevant qualitative data at the project area level - the Krajina region), and the team that participated in the making of this analysis largely focused on the qualitative assessment methods, the opinions of experts in this field and the information obtained during the interviews.

### 3. Overview - Value Chain for Meat and Meat Products

Food industry is of a great importance within the economy of each country. Meat is one of the essential foodstuffs, and plays a significant role in the human diet because of its nutritional properties.

Industrial production and processing of meat in Bosnia and Herzegovina suffered a significant change after the war, as compared to the period before 1992. A recovering of the food industry during the period after 1996 is to be noticed, but significant limitations, which are preventing faster progress still exist.

During the analysis of the value chain for products from beef, pork and chicken meat, the stages of conversion within the chain have been clearly identified and they are generically illustrated in Figure 1. Each value chain has certain characteristics which are presented in more detail and explained later in the publication.



*Figure 1: Generic value chain for production and processing of meat*

According to the data from the Agency for Statistics, the total area of arable surface in Bosnia and Herzegovina covers 1.518,000 hectares or 76 % of total land area. Fallow and uncultivated arable land consists of 478,000 hectares, respectively 24 % of the total land area.

The most grown crops are corn and wheat. Areas sown under wheat show a growing trend for the reference period 2011 to 2013 (with an increase in 2013 compared to 2011 by 15.8 %) and the area planted under maize shows a downward trend (with a decline in 2013 compared to 2011 by 3.3 %). During 2013, higher yields were recorded for all the observed cultures compared to 2011 and 2012.

Arable products are imported in large quantities (mostly wheat and maize) and in 2013 the total import amounted to more than 541,000 tons during the same period whereas exports were slightly higher than 46,000 tons (Source: Agency for Statistics of Bosnia and Herzegovina).

One of the main characteristics of the value chain for meat and meat products is underdeveloped animal production and trend of a decreasing number of livestock, as shown in Table 1. It is evident that the number of cattle in 2012 is less than in 2005 by about 3.3% whereby the quantity of pigs decreased by approximately 17.6 %. On the other hand, the production of poultry is increasing with a slight decline in 2011, but an 87.6 % increase of the number of poultry between 2004 and 2012 is noticeable.

	2005	2006	2007	2008	2009	2010	2011	2012
<b>Cattle, total</b>	459790	514869	467986	459218	457743	462000	455000	445000
<b>Cows and heifers</b>	334389	356586	343100	339068	340874	320000	306000	295000
<b>Pigs, total</b>	653943	709648	543764	502197	529095	590000	577000	539000
<b>Sows and gilts</b>	198574	130057	127138	95662	100460	82000	81000	69000
<b>Poultry, total</b>	10339886	13331564	14989229	16184730	18741442	21802000	18703000	19401000
<b>Hens</b>	3482984	3518446	3890665	3806508	3942098	3773000	3646000	4321000

*Table 1: Number of livestock in the period 2005-2012, Source: Agency for Statistics of Bosnia and Herzegovina*

Livestock farms in Bosnia and Herzegovina can be divided into three sectors (Source: FAO, The meat and dairy sector in Bosnia and Herzegovina, 2012):

- Farms in households - (bovine 1 cow; pigs: one sow, 1-3 pigs for fattening, poultry: 1-20 hens, broilers 1-50)
- Small farms - all other farms, for example, those that mainly produce for sale, but are still below the size that is commonly considered to be economically sustainable for a full time farm in Western Europe
- Commercial farms - (cattle: over 20; pigs: more than 20 sows, about 200 fattening pigs per cycle; birds: over 500 laying hens, broiler chickens for fattening in 1000 per cycle)

Because of its poor livestock fund Bosnia and Herzegovina imports live animals, so the total import in 2012 amounted to just over 50 million Euros with an increase in comparison to 2009 by 5.2 %. The bulk of import of live animals originates from Serbia (42 %). On the other hand, the total export of live animals from Bosnia and Herzegovina is a little more than 2 million Euros for 2012. (Source: [www.trademap.org](http://www.trademap.org)).

As far as the slaughtering industry is concerned there is a decrease in the number of slaughtered cattle, which is directly correlated to the decrease of the number of cattle and pigs in livestock fund. The number of slaughtered pigs had grown in 2011 and 2012. The largest increase was recorded in relation to the number of slaughtered poultry and this growth is continuous since 2005. Between 2005 and 2012 the number of slaughtered poultry had risen more than 4 times.

Year	Cattle, total		Pigs, total		Poultry, total	
	Number of slaughtered animals	Net weight (t)	Number of slaughtered animals	Net weight (t)	Number of slaughtered animals	Net weight (t)
2004	140626	19313	132238	8207	11750022	16316
2005	154934	23583	144559	8850	8527654	11957
2006	134205	20881	153181	10009	10468900	14346
2007	142841	23809	138208	9011	14945000	19688
2008	154078	26335	133291	8507	21302000	28869
2009	145995	23363	144418	9717	24039000	33219
2010	151995	23390	129475	2001	26977000	37569
2011	139126	22424	230837	16569	32782000	46302
2012	134961	22960	221040	15695	37698000	53836

Table 2: Amount of slaughtered animals in slaughterhouses in Bosnia and Herzegovina, Source: Agency for Statistics of Bosnia and Herzegovina

One of the reasons for the reduced number of slaughtered cattle is the continued growth of import of meat and edible parts of animals, increasing by more than 59% from 2009 to 2013. The largest amount of meat is imported from Germany, Netherlands, Austria and Croatia. Some of the main reasons for the increase in the volume of imports of beef are: the possibility to procure sufficient quantities of certain categories of beef quality, high level of quality according to the requirements of meat processing companies and favourable price of imported beef in relation to meat produced in the domestic market.

Exporter	2009	2010	2011	2012	2013
<b>Total import</b>	59,174.11	55,892.55	65,971.91	68,983.04	94,305.63
<b>Netherlands</b>	4,779.76	6,560.8	10,477.91	17,386.11	19,918.6
<b>Germany</b>	6,312.78	8,722.13	10,879.25	10,378.79	16,457.67
<b>Poland</b>	2,015.59	275.63	1,505.56	1,650.75	10,507.76
<b>Croatia</b>	12,193.91	14,459.81	10,393.19	6,501.13	10,481.41
<b>Austria</b>	5,947.1	7,633.93	10,918.74	9,113.71	9,532.05
<b>Hungary</b>	2,052.16	1,253.87	3,159.74	5,894.64	6,923.36
<b>Italy</b>	2,362.63	3,345.92	3,246.62	3,180.2	3,909.64
<b>Turky</b>	2,572.73	1,698.94	3,256.67	3,716.71	2,456.61
<b>Argentina</b>	6,313.5	2,744.96	698.58	559.06	2,144.92

Exporter	2009	2010	2011	2012	2013
<b>Serbia</b>	962.26	1,192.87	834.27	852.2	2,056.08
<b>Brazil</b>	8,330.52	2,189.19	682.06	471.98	1,800.86
<b>Australia</b>	1,877.2	1,311.11	2,706.71	1,888.68	1,477.13
<b>Slovenia</b>	668.28	1,549.08	2,207.01	1,456.36	1,383.02

Table 3: Import of meat and edible parts (in thousands of Euros), Source: [www.trademap.org](http://www.trademap.org)

On the other hand, export of meat and edible parts of animals also had an upward trend until 2013, when there was a fall of about 24%, primarily due to the inability to export to Croatia, which became a member of the European Union. By comparison, the export-import ratio is very low at around 7.65%, if we look at the year 2013.

Importer	2009	2010	2011	2012	2013
<b>Total export</b>	4,292.18	6,755.84	8,387.21	9,402.96	7,135.67
<b>Serbia</b>	911.35	1,383.4	2,988.15	4,213.57	4,925.26
<b>Montenegro</b>	800.21	1,540.04	1,046.07	948.62	1,898.73
<b>Macedonia</b>	138.39	102.42	256.31	105.75	115.19
<b>Croatia</b>	2,354.03	3,518.37	3,971.04	4,023.06	100.88

Table 4: Total export of meat and edible products (in thousands of Euros), Source: [www.trademap.org](http://www.trademap.org)

Looking at trade, in compliance with customs tariff numbers, according to data for 2012 it is evident that the greatest value of imports with over USD 86 million accounts for products from Chapter 2: Meat and edible offal. The largest part of this group is related to beef. As far as the import of live animals is concerned, the main part refers to the import of cattle. In the chapter that is dealing with food products from meat, it is evident that most of the import refers to sausages and canned products. In relation to export during the observed period, the highest export value was recorded for canned products, poultry meat and edible meat offal of poultry, sausages and live poultry. Compared to the year 2011 export growth has been recorded for canned meat products and poultry meat. (Source: [www.trademap.org](http://www.trademap.org)).

Observation of trade with neighbouring countries for the year 2012 has shown that the biggest import of live animals (cattle) is from Serbia, while the largest amount of meat and edible meat offal import as well as the largest amount of meat products import (sausages and meat canned products) is apportioned to Croatia. The biggest export volume of meat and edible meat offal is allocated to Serbia and Croatia, with a

dominating export share of poultry meat. Speaking about export of meat products (sausages and canned meat products), BiH export these products to all neighbouring countries, but predominantly to Serbia and Croatia.

Country	Croatia		Serbia		Macedonia		Montenegro	
Type of product	Import	Export	Import	Export	Import	Export	Import	Export
<b>0102 Live animals cattle</b>	11309	0	23385	0	0	0	0	0
<b>0103 live animals pigs</b>	9350	0	581	0	0	0	0	47
<b>0105 live animals poultry</b>	363	16	87	1357	53	287	17	938
<b>0207 Meat and edible offal</b>	6779	4896	449	4524	352	0	0	886
<b>0210 Meat and edible products, salted or brined</b>	1409	277	377	895	608	136	1423	335
<b>1601 Sausages</b>	17261	3184	10157	787	3904	2680	2205	632
<b>1602 Canned products</b>	12902	2205	7286	4985	454	460	299	2002

Table 5: Trade exchange of Bosnia and Herzegovina (000 USD) in 2012, Source: [www.trademap.org](http://www.trademap.org)

The most significant slaughter facilities for chicken meat in the Krajina region are:

- Perutnina Ptuj S ltd Povelic, Srbac
- Jezerka ltd Maslovar, Kotor Varos

The most significant capacity for slaughtering pigs and cattle in the Krajina region are:

- MI - Dim Dim ltd Klasnice, Laktasi
- MI Tulumovic ltd Laktasi
- Slaughterhouses by Laza and Son Banja Luka

The most significant processing capacity for meat products in the Krajina region are:

- MI - Dim Dim ltd Klasnice, Laktasi
- MI Tulumovic ltd Laktasi
- MI - Trivas ltd Prnjavor
- MI Natura Vita ltd Teslic

The main selling channels for meat and meat products in Bosnia and Herzegovina are large supermarket chains, i.e. key accounts. In north-western B&H several supermarkets with foreign ownership operate, such as: Agrokor (Konzum, Konzum Super, Konzum Maxi), Delhaize Group (Tempo, Delta Maxi), Intermarkete (Interex), Mercator (Mercator Ltd. Sarajevo and M - BL Ltd. Banja Luka), Energotus (TUS). Some of the biggest domestic supermarkets are: Bingo Tuzla, Hiperkort Derventa, and Fortuna Prnjavor.

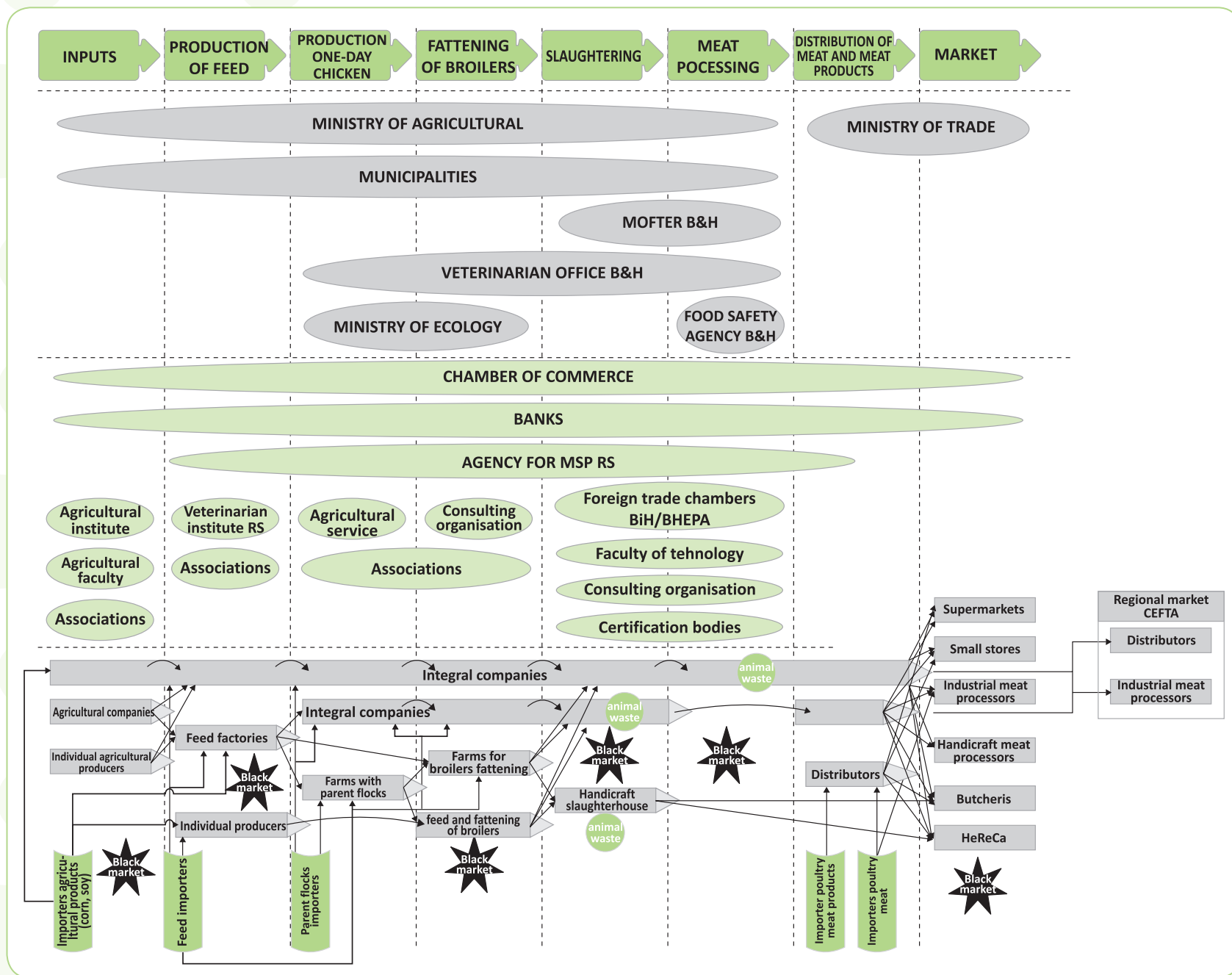


Figure 2 Value chain for poultry meat and poultry meat products

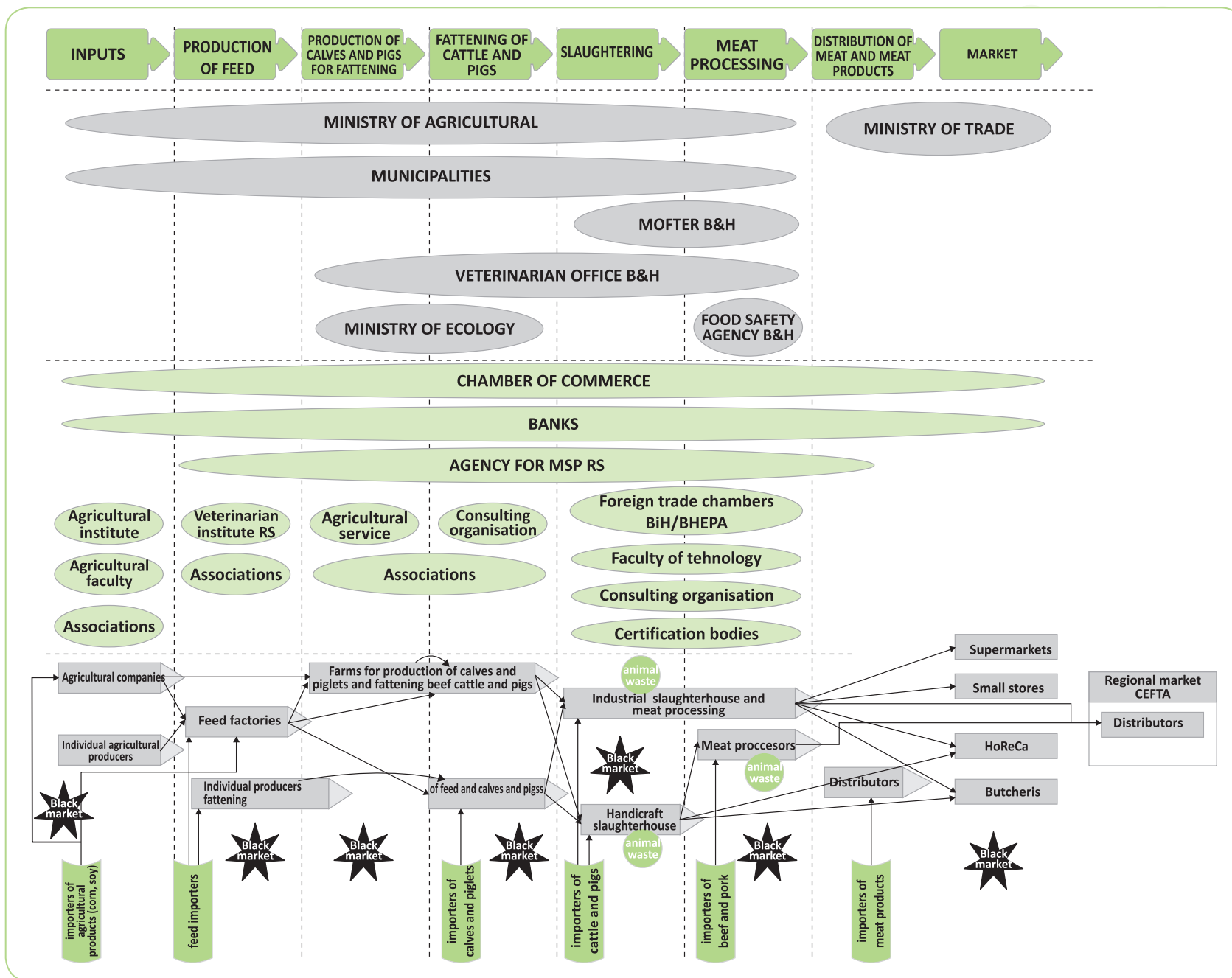


Figure 3 Value chain for beef and pork meat and meat products





## 4. Industry Competitiveness (Porters Diamond)

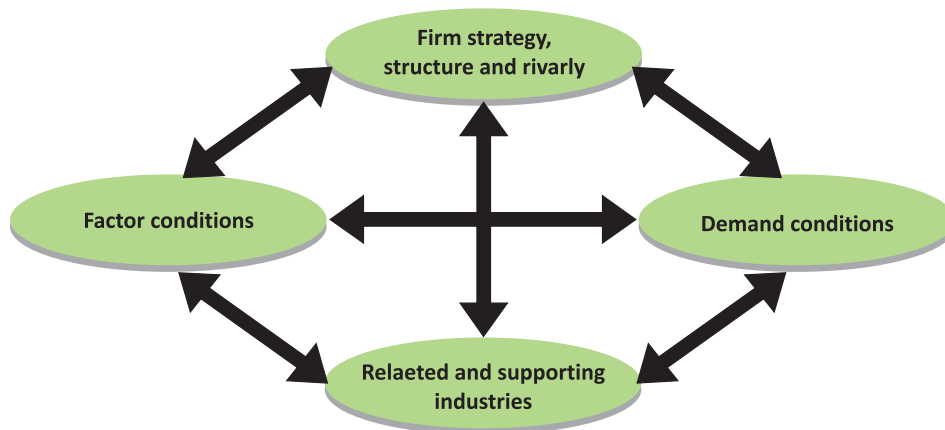


Figure 4: Porters diamond of competitive advantages, Source: Porter (1998a:72).

The four broad attributes that shape the environment in which local firms compete, promote or impede the creation of competitive advantage are illustrated in Figure 4. The four dimensions depicted in that figure all exert a force on each other, with different contexts and countries' diamonds exerting different kinds of forces on each other. The following table describes the different factors of production as originally described by Porter (1998a:77).

Factor type	Description
<b>Factor conditions</b>	Cover natural resources, climate, location, unskilled and semi-skilled labour, debt capital.
<b>Advanced factors</b>	Include modern communications infrastructure, highly educated personnel such as graduate engineers and computer scientists, university research institutes in sophisticated disciplines.
<b>Generalised factors</b>	Include the transport system, debt capital, well-motivated and qualified employees who can be engaged in a wide range of industries
<b>Specialised factors</b>	Involve narrowly skilled personnel, infrastructure with specific properties, knowledge bases in particular fields and other factors with relevance to a limited range or even just to a single industry

Table 6: Different factors of production Source: Adapted from Porter (1998a:77)

Porter (1998a:77) explains that for each economic activity goods are produced with a combination of factors that reflect the factor endowments of the entity in question. Thus, goods that can be produced with a relatively high proportion of labour to capital tend to be manufactured in countries where labour is relatively abundant.

Under demand conditions, it is necessary not to interpret demand in a broad way. From an innovation system perspective we want to understand what is driving the changes in demand. To determine this, it is often necessary to engage with the “customers” and especially the sophisticated customers of a given sector. Customers with very demanding requirements can provide valuable insights into their standards and their direction. Very often these demanding customers are even willing to assist their suppliers to reach a certain level of performance. This is helpful for innovation practitioners as firms are generally more willing to engage in experimentation when they are more certain of gaining new business or retaining a market.

## 4.1 Structure and Strategy of the Leading Companies

The Krajina region has always been famous for its broiler poultry production, as well-known companies like „Agrokomerc,, from Velika Kladuša and „Živinoprodukt,, from Srbac continue to exist since former SFR Yugoslavia times. Today, the leading companies in the Krajina area within the value chain of chicken meat are those companies which to a higher extent have established a rounded production cycle within the scope of their own processes inside their companies or based on outsourced processes to their subcontractors. Most of the meat processing farms, but also the biggest chicken farms are located in the area of the municipalities Srbac, Prnjavor, Derventa and Gradiška. Most of these farms are subcontractors for companies in the Krajina region, but also some of them are supplying other big slaughterhouses in the Federation of Bosnia and Herzegovina, first of all the companies „Madi,, Tešanj and „Akova,, - MI Ovako Sarajevo.

Leading companies in the value chain of poultry meat are Perutnina Ptuj S Ltd. Srbac, which is 100% owned by the Group Perutnina Ptuj Slovenia and Zivanic DS Ltd. from Prnjavor.

The company Perutnina Ptuj S Ltd. Srbac was established by purchasing the slaughterhouse, Živino-produkt Srbac by Slovenian Perutnina Ptuj Group and today it employs over 200 workers in poultry slaughterhouses. Products of the Company Perutnina Ptuj S Ltd. Srbac are whole chicken, ready-made chicken meat and edible parts as well as semi prepared products of poultry meat for grilling.

The company Perutnina Ptuj S Ltd. Srbac is covering its activities within the value chain part to some extent with the fattening of broilers at their own farms, partially through the fattening of broilers in cooperation with subcontractors as well as by acquiring broilers from other companies. It is placing the products on the market by using two distribution channels, namely through its subsidiary companies Perutnina Ptuj - BH Ltd. Breza and Perutnina Ptuj Ltd. - Trn Laktasi. The company Perutnina Ptuj - BH Ltd. Breza has a plant for processing of poultry meat and production of poultry meat products and partly uses meat from Perutnina Ptuj S Ltd. Srbac for the purposes of processing, while the second part is distributed on the market, mainly the Federation of BiH. The company Perutnina Ptuj ltd - Trn Laktasi deals with the distribution and sale of poultry meat and poultry meat products.

According to the data obtained during the interview, the main identified strengths are: rounded production cycle, large production capacity, the company's own knowledge and tradition in the business as well

as the affiliation to the large group of Perutnina Ptuj. Weaknesses identified during the interview are: infrastructure deficiencies within the slaughtering plant, high operating costs and problems related to the recovering of receivables.

Company Zivanic DS Ltd. was established in 2002 with headquarters in Smrtici in the municipality of Prnjavor and covers several segments of the value chain for poultry meat and poultry meat products, namely: crop production, animal feed production, cultivation and exploitation of hence, fattening of broilers on their own farms and also in cooperation with subcontractors.

Company Zivanic DS Ltd. is not possessing its own slaughterhouse, but the service of slaughtering and processing of poultry meat is performed by the company Jezerka Ltd. in Kotor Varos. The products that are distributed through the market to the end-consumers are whole chicken, dressed chicken meat and edible parts under the brand Njam-Njam. One of the products is mechanically deboned chicken meat which is mainly sold to other meat processing and serves as raw material for the production of meat products. The products are sold mainly at the market of Bosnia and Herzegovina, and to a lesser extent on the market of Serbia and Montenegro.

The main strengths identified during the interview include: rounded production cycle, a good knowledge of the local market, the fact that this company is family owned - lower operative costs and more flexible management. Weaknesses of the company Zivanic DS identified during the interviews: the lack of a proper facility for poultry slaughtering, distance to the main markets of consumption of poultry meat in Bosnia and Herzegovina (Federation of BiH), lower working capital as compared with large competing companies and the high rate of unpaid receivables.

As far as the production of beef and pork meat, including products of beef and pork meat, in the Krajina area is concerned, there is no outstanding company to be mentioned particularly in comparison with the other competitors.

A specificity that has been noticed within the product range refers to the production of canned meat products, performed by the company MI - Trivas Ltd. Prnjavor. The company employs about 70 workers and its portfolio includes the following groups of products: sausages, smoked meat products, canned meat products, bacon and melted animal fat. Because of the available technological equipment for the production of canned products, the company MI - Trivas Ltd. provides service production in the field of can manufacturing for other trademarks (Podravka, Perutnina, Konzum, ZP Komerc etc.).

The products manufactured under this trademarks are distributed on the markets of CEFTA agreement signatory countries.

The main strengths identified during the interview are: the existence of an effective quality management system and HACCP, a wider range of offered products in relation to the competitors, experience in the service industry for external trademarks. Weaknesses identified during the interview: outdated technology solutions, insufficient capacity for the production of smoked products, inadequate marketing and promotional activities, the lack of skilled workers (butcher) and a large share of manual labour in production.

The Company MI Dim-Dim Ltd. from Laktasi has its own slaughterhouse for slaughtering of cattle and pigs available as well as capacities for the production of meat products. The company employs about 70 workers and supplies the butcher shops within the chain stores Konzum, Delta Maxi, Hipercort, TUS, etc. with fresh meat. In 2013, the company MI Dim-Dim Ltd. signed a contract for service production of salami products for the CEFTA market area with Croatian company PIK Vrbovec.

The main strengths of the company identified during the interview are: tradition and experience in the business, good geographical position and good road infrastructure, equipped with its own slaughterhouse and processing raw materials, good infrastructure conditions for production. Weaknesses identified during the interview are: lack of adequate marketing and promotional activities, insufficient installed capacity to produce fermented dry sausages.

## 4.2 Factor Conditions

Subsidies for the agriculture and food industry are channeled through the Entity Ministries of Agriculture and the Regulation Act for Subsidies, which is passing resolutions for each year separately. The total subsidies amount for 2012 is slightly higher than KM 151 million, which, compared with the year 2011, results in an increase of 10.1%, but compared to the year 2010 in a decrease of 5.7%.

Year	2008	2009	2010	2011	2012
<b>Federation BiH</b>	80 068 922	71 126 748	79 393 279	74 636 608	78 215 847
<b>Republic of Srpska</b>	80 000 000	81 547 605	81 186 160	62 862 495	73 169 194
<b>Total</b>	160 068 922	152 674 353	160 579 439	137 499 103	151 385 041

*Table 7 Overview subsidies for agriculture (Source: Agriculture Report for Bosnia and Herzegovina for 2012, MOFTER Bosnia and Herzegovina)*

The structure of subsidies according to the data obtained during the interview is inadequate. Manufacturers of livestock for slaughter are stressing insufficient subsidies for fattening pigs and beef cattle and as a result of this, they are unable to compete with prices of imported livestock and meat imports.

According to the data obtained during the interview, the envisaged subsidies for the year 2014 for the Republic of Srpska are ca. BAM 60 million, which is significantly less than in 2012. The greatest part of the subsidies is planned for milk production premiums (ca. 33.3%), while subsidies for meat production premiums are significantly smaller (ca. 4%)

Subsidies provided by the Ministry of Industry, Energy and Mining of the Republic of Srpska for exporting enterprises during 2013 were dedicated to companies' development projects for enhancement of their competitiveness, establishment of quality systems and increasement of employment. Due to their inability to export their goods, only a smaller part of the companies within the value chain for meat and meat products is generally able to apply for this type of subsidies.

Interviewed enterprises in the Republic of Srpska pointed out that the reduction of the tax base and the restoration of the non-taxable portion of the income facilitated their business to some extent.

One of the major problems, companies dealing with the slaughtering of poultry and livestock and with meat processing are facing, is the disposal of their animal waste. A particular problem is disposal of slaughterhouse waste due to the large amount of waste that is produced.

In BiH there are no incinerators which could serve as a place for the disposal of this kind of waste. Despite the fact, that the disposing of animal waste on unauthorized dumps is strongly forbidden by law, in practice this unacceptable manner can be noticed. The company Perutnina Ptuj S Ltd. solves the problem of slaughterhouse waste disposal by placing it into special containers and transporting it for the purpose of further treatment in Croatia.

For each kind of development people are the key factor - their specificity, creativity and motivation to achieve results. In the region of Krajina the following scientific institutions are educating people with high professional qualifications to work in slaughterhouses and meat processing: Faculty of Technology, University of Banja Luka, and Biotechnical Faculty, University of Bihac.

Regarding the cooperation with universities, the companies' representatives pointed out during the interviews that the connection with educational institutions is at a very low level. The companies are complaining about the fact, that they could not receive support in terms of addressing specific technological problems they had to overcome and they also mentioned that the profile of the graduates after leaving the faculties does not meet their needs and requirements. Generally, communication and cooperation between companies and faculties in the field of meat processing is at a low level. In the project area, agricultural secondary schools educating workers for the production of meat products, can be found in the following municipalities/cities: Banja Luka, Kozarska Dubica, Prijedor, Ribnik, Prnjavor, Derventa, Sanski Most and Velika Kladusa. Another significant weakness is reflected by the fact, that the majority of the workforce in processing plants has no required education (professional butcher). There is a lack of sufficient workers meeting this professional requirement, and additional problem is that majority of people refuse to work in meat processing plants after completion of their vocational education.

Almost all surveyed companies perceive that access to finance is too difficult and that cost of capital is too high. Special credit lines for agriculture and the food industry with preferential interest rates are provided by the Investment Development Bank of the Republic of Srpska and Development Bank of the Federation of Bosnia and Herzegovina. However, during the interview most of the companies stated that the complicated bureaucracy and, in some cases, also the political influence create the biggest obstacles for using these funds. Loans from commercial banks are very unfavorable, with high interest rates and



demanding security instruments. Thanks to the somewhat more favourable credit guarantee instruments and the eased access to finance, a significant part of the loan funds, above all to the benefit of farms, has been provided by micro-credit organizations. These types of loans are determined by high rates of interest (up to 20% per annum) and short terms for loan repayments.

### 4.3 Related and Supporting Industries

In Bosnia and Herzegovina, there are no producers of equipment for meat processing and slaughtering. The overall production machinery and equipment is imported and authorized services are responsible for the machinery maintenance, respectively the companies have organized their own maintenance services.

Raw and auxiliary materials for meat processing (additives, spices, other raw materials) are mostly imported and distributed by domestic representatives of foreign producers. The exception is salt, which is largely from BiH (salt factory “Solana Tuzla”). There is a significant interaction between companies selling additives, spices, etc. and meat processors. Namely, the first-mentioned group of companies engage technologists who are working on application of these types of products together with experts from the meat processing companies in order to improve existing and develop new products by using raw materials and products which their companies are selling.

Manufacturers of packaging for final products have a significant impact on the value chain of the meat processing and manufacturing industry. Packaging materials for primary packaging such as sausage casings are predominantly being imported. Foils for vacuum packaging of final products are procured from the domestic market which has significant number of producers of these types of packaging. Cardboard boxes for overpack of products are almost exclusively supplied from domestic producers. Cans for production of canned products are exclusively imported goods (Serbia and Croatia), because of the fact that there are no manufacturers of cans for packing meat products on the domestic market.

The transportation costs of meat and meat products play an important role within the scope of the price calculation for the products due to specific transport conditions in terms of temperature control and other requirements regarding the vehicle. One of the problems identified during the interviews is the lack of an organized system of distribution (distributors) for meat and meat products. The percentage of transportation and distribution costs for meat and meat products as related to the total price is calculated between 4 and 5 %.

## 4.4 Demand Conditions

Meat consumption per capita in Bosnia and Herzegovina is at the average level of the region. A higher proportion of spending per capita in relation to the regional average is to be noticed for poultry and beef.

Type of Meat	Beef	Pork	Poultry	Total
<b>Bosnia and Herzegovina</b>	17,1	25,4	18,7	61,2
<b>Serbia</b>	8,5	64,8	7,0	80,3
<b>Croatia</b>	8,6	26,9	12,8	48,3
<b>Macedonia</b>	13,5	15,3	19,5	48,3
<b>Slovenia</b>	21,4	41,0	19,9	82,3
<b>Average value</b>	13,82	34,68	15,58	64,08

Table 8. Meat consumption per capita (Source: Competitiveness Assessment of three agricultural value chains in Bosnia and Herzegovina, Anteja ECG ltd, 2012)

The largest part of the trade of meat products is done through retailers. Requirements on the part of retailers are mainly reflected by:

- Strong pressure to reduce prices (basic rebates minimum of 10 %, additional special rebates at least 7 %, credit notes based on annual turnover of about 2 %, fees for introduction of new products on retail/store shelves minimum of 500 BAM, etc.). The average margin of retail chains for meat and meat products is around 15-20 %.
- Long term payments (ranging from 60 to 120 days in agreements on cooperation)
- Short delivery time
- Remaining shelf-life of meat products on delivery as long as possible

Specific customer requirements, which slaughterhouses face with, include special types of packaging for fresh meat, especially in regard to packing (cutting and processing) of meat with a longer shelf life. Slaughterhouses which process poultry and deliver poultry meat also face with the same requirements.

As far as changes in demand for meat and meat products are concerned, they do exist and are typical for winter period, from December to March. In that period, as part of tradition, many households in the Republic of Srpska carry out the slaughter and prepare meat products for their private consumption. Another reason for seasonally caused demand variations is the result of religious fasting periods when the

demand for meat and meat products decreases. When it comes to seasonal variations, distributing companies which are supplying the market with various products show a greater flexibility and thus maintain the level of income that is required for a normal functioning of the company.

One part of the sale of meat products is carried out through public procurement tenders for the needs of organizations in Bosnia and Herzegovina.

Export markets that are currently available for domestic meat producers are the CEFTA signatory countries, primarily Serbia, Montenegro and Macedonia. Exports of meat and meat products (beef and chicken) on the Turkish market is possible in accordance with certain export quotas, but only for products with a Halal certificate. Interviewed companies dealing with this type of processing do not export their products on the Turkish market. Export of meat and meat products on the EU market is currently not possible, due to inability to meet the EU standards in several areas, such as official food safety regulations, market regulation and state support.

## 5. Firm Level – Competitive Pressures within The Value Chain

For a more detailed analysis of competitive pressure within the value chain, we chose a part of the chain that refers to meat processing and production of meat products.

### 5.1 Competitors

The main competitors for local producers from the Krajina region on the domestic market for meat products are large companies from Croatia (PIK Vrbovec, Podravka, Argeta, Gavrilovic), Serbia (Carnex, Neoplanta, LTS Farmer, Yuhor), Macedonia (Pekabesko, Mega) and Montenegro (MI Goranović). Competitors from Bosnia and Herzegovina are: Akova Impex ltd Sarajevo, MI Natura Teslic, MI Bajra ltd Travnik, ZP Komerc ltd Bijeljina, MI Karlik ltd Ljubuski, MI Sara d.o.o. Brod, MI Lijanovic Siroki Brijeg.

The main competitors for poultry meat from the Krajina region are companies in the Federation of Bosnia and Herzegovina (Akova Impeks Sarajevo, MI Madi Tesanj, Broiler Sarajevo).

As the basic advantages of meat processing industry from the Krajina region in relation to imported products, domestic processors generally emphasize a better understanding of market opportunities, cheaper labour force and exemption of customs duties. A certain number of companies believes that their competitive advantage is also based on the existence of good conditions for production as well as the efficiently implemented quality management and food safety system. As a CEFTA member, Bosnia and Herzegovina has a competitive advantage in relation to the import of products from Croatia, because imported products from Croatia are liable to customs duties after the EU accession of this country.

Almost all surveyed companies indicated marketing and promotion of their products to be the weakest link in the process and admitted that they are significantly weaker in this segment than their competitors. Most of the surveyed enterprises in the field of meat processing quote to have older technology solutions and difficulties to secure funds for investment in the modernization of their technological equipment. A significant level of cooperation between slaughter and meat processing companies in the project area is not noticeable, with the exception of cases of joint procurement of raw materials (mainly meat import) or mutual borrowing/lending of equipment.

## 5.2 Suppliers

One of the main characteristics of the domestic beef and pork meat products processing industry is its high dependence on imported basic raw material - meat. According to data obtained through the interviews, the processing industry imports about 80 % of meat for processing purposes. This is primarily related to beef and pork. According to the informations obtained from the processors, the basic reasons for this situation are: the deficient quantity of local meat, poor quality of domestic meat (in terms of processing), significantly higher price of domestic meat in relation to imported meat. Quotas, specified for each year, are restricting the duty-free import of meat from the EU. In a situation where the domestic market is not able to meet the needs in terms of quantity and quality according to the requirements of the meat processing industry, quotas contribute to the better competitiveness of the domestic meat processors, but also create additional pressure on domestic producers of meat.

In general, poultry meat is available in sufficient quantities to satisfy the demand of the of meat products manufacturers which are primarily using mechanical separated boneless poultry meat (MOM), but there is also a significant quantity of imports due to oscillations in terms of quality and health safety and also due to lower prices of imported poultry meat. For the import of mechanical separated boneless poultry meat (MOM) from the EU, quotas have been defined, ensuring a better position for the local manufacturing industry, because the duty-free import of a certain quantity proposed by these quotas is made possible.

Other raw materials, such as additives and casings mainly derive from imports, through commercial agencies of international companies in BiH. Packaging is produced mostly in Bosnia and Herzegovina, with the exception of tin cans for food packaging, which are imported from Serbian or Croatian.

The strongest degree of partnership in terms of technical support processors are receiving from their suppliers is to be noticed in the cooperation with suppliers of additives and spices, where experts from these companies work together by developing applications of additives and spices. Manufacturers of packaging (cans and casings) also provide some technical assistance to meat processors in terms of training and use of packaging materials in the production.

Companies along the value chain of poultry meat production and processing showed a higher degree of integration, with the result that we have companies with an integrated production cycle, ranging from partial crop production to production of breeding animals, fattening broiler chickens up to the slaughterhouse as well as processing of poultry meat.

A small number of processing enterprises that are engaged in the processing of beef and pork have their own slaughterhouses, mostly with smaller capacities, such as MI Dim - Dim Ltd. Laktasi, MI Tulumovic Ltd. Laktasi, Slaughterhouse Laza and Son Banja Luka.

Slaughterhouse Laza and Son Banja Luka is a small sized company, slaughtering cattle and pigs and manufacturing beef and pork meat products, procuring cattle for slaughter exclusively from the domestic market. Their strategic commitment is directed towards the purchase of livestock for slaughter from the domestic market and the sale of products through their own chain of butcher shops and barbecue restaurants “Obelix”.

### 5.3 Customers

The largest part of trade transactions of meat products is done through supermarkets. Restaurants, hotels and catering services are important customers for fresh meat and prepared grilling meat. Butcheries are also significant customers of fresh meat and to a limited extent of meat products.

Big supermarkets mainly determine the conditions for the procurement of fresh meat and meat products. Some of the specific requirements that are set in front of processors are mainly reflected in the following aspects: specific processing of meat, a special way of packaging (controlled atmosphere) the delivery of products with longer expiry dates, etc. Restaurants and hotels usually have specific requirements in terms of meat quality or specific ways of packaging of meat products (threading, etc.)

Changes that have occurred after Croatia's accession to the EU have led to the fact that Croatian companies, in order to maintain the competitiveness of their products on the market of the CEFTA countries, are contracting service production with companies in the CEFTA countries. Two companies from the Krajina region have signed such contracts so far:

- MI Dim -Dim Ltd. Laktasi - performs contracted production for the company PIK Vrbovec Croatia for salami product.
- MI – Trivas Ltd. Prnjavor - performs contracted production for the companies Podravka (Croatia) and Perutnina Ptuj (Slovenia) for canned products (stew, meat cuts, pâté, etc.).

Contract production is a specific form of cooperation between companies, with emphasis on price determination based on the final price calculated by the buyer, which will be accepted on the market. However, it is important to notice that the contract production for other brands is a good solution for domestic companies, because this enables them to make better use of installed capacities and to upgrade their competitiveness, respectively reduce their costs per produced unit of their products.

## 5.4 New Competitors

Local meat processing companies emphasized during the interview that they do not see the interest of new competitors for entering the market of Bosnia and Herzegovina. Due to their opinion, primarily because of the small size of the market and because of the existing oversized processing capacities in the country.

## 5.5 Changes in Demand

Meat is one of the essential ingredients and must be present in human diet. However, the BiH market is characterized by seasonal fluctuations of demand:

- Reducing the consumption of meat products in the period from November to March due to the preparation of meat products in households (primarily in the Republic of Srpska),
- Reducing the consumption of meat and meat products due to seasonal nature of religious holidays and habits not to consume meat and meat products during these religious holidays,
- Increased consumption of meat during the large seasonal immigration (summer holidays etc.) of people from the diaspora in BiH.

As a basic response to these changes, enterprises stated during the interviews that they have adjusted their planning of production and sales activities to suit the circumstances. In general, consumption of chicken meat is increasing, probably due to the acceptable market price for this sort of meat. Consumption of beef and pork meat is decreasing, caused by high prices on the one hand and migration and reduction of population in BiH on the other.

## 6. Meso Level – Supporting Institutions

In Bosnia and Herzegovina, the Entity Ministries of Agriculture are primarily responsible for the creation of agricultural policies. On a state level, agriculture is under direct jurisdiction of the Ministry of Foreign Trade and Economic Relations. One part of the institutions is under the direct jurisdiction of the Council of Ministers of BiH. The Foreign Trade Chamber of BiH is the only institution with a direct link to the Council of Ministers of BiH on a state level.

The Veterinary Office of Bosnia and Herzegovina (BiH KZV) was founded in year 2000 by the decision of the Council of Ministers. This state agency is under the direct jurisdiction of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (BiH MOFTER).

The Veterinary Office (KZV) is responsible for the enforcement of responsibilities required by law, harmonized and in accordance with the operational activities of the Entity veterinary services and the Veterinary Services of the District of Brcko. There is a general dissatisfaction on the interviewed companies' side, regarding the work of veterinary institutions and their collaboration with processing companies. The main objections the companies are imputing against the work of KZV BiH and Entity veterinary services are reflected in the following: non-adequate system for control of product quality, complicated procedures concerning the technical approval of facilities, high costs for issuing accompanying health certificates for consignments, inconsistent legal regulations regarding the import of meat from the EU, failure to implement the provisions of the Veterinary Act regarding the application of the HACCP system and regarding the auditing of object conditions.

The Food Safety Agency of Bosnia and Herzegovina is an independent administrative organization, established by the Council of Ministers on 8 March 2005 due to a proposal of the Ministry of Foreign Trade and Economic Relations, but on the basis of the Food Law BiH.

The Food Safety Agency of Bosnia and Herzegovina was established to ensure the safety of food and feed, to conduct scientific and professional as well as technical activities based on the regulations of the Food Law, to ensure the application of international conventions and agreements in the field of food and feed safety which are compulsory for Bosnia and Herzegovina.



The main points of criticism with view to the work of the Food Safety Agency of Bosnia and Herzegovina refer to the difficult adoption of legislation in Bosnia and Herzegovina in this moment as well as to the fact that the legislation is not sufficiently clear to the users - businesses who have to apply it.

The Institute for Accreditation of Bosnia and Herzegovina (BATA) was established with the aim to carry out the establishment and maintenance of a competent, impartial and independent accreditation system, so that the customers of accredited bodies and consumers in BiH can have confidence in the services provided by laboratories, certification and inspection bodies.

Accredited bodies for conformity assessment according to requirements of ISO 17025:2006 by BATA from the project area are:

- Euroinspekt Ltd. Doboj - testing laboratories for chemical analyses of water.
- PI, Veterinary Institute, Bihac - testing laboratories for microbiological and physical - chemical testing of food.
- PHI, Institute for Public Health Banja Luka - test laboratories for microbiological and physical-chemical testing of food and water.
- PI Veterinary Institute of the Republic of Srpska, Dr. Vaso Butozan, Banja Luka - test laboratories for microbiological and physical - chemical testing of food and feed.

Interviewed companies stated that costs of analyses are extremely high having in mind overall condition in the manufacturing industry. A particular problem is the non-existent recognition of analytical reports from our laboratories in countries where it is currently possible to export meat products.

Certification bodies for conformity assessment systems are mainly represented by international bodies, respectively their local branches in BiH who are covering the certification processes.

Local certification bodies in BiH, working on the certification of management systems are the Institute for Certification System Ltd. Sarajevo, the Agency for Halal Quality Certification in Tuzla, which is specialized for Halal certification and organic controls, as well as OK Control Sarajevo, which performs the certification of organic products .

During the interview, companies that are certified under one of the applicable standards stated that the costs for consultancy services and implementation of certification system are very high. Most companies

managed to obtain 50% subsidies for the introduction of certification processes.

The Republic Agency for Development of Small and Medium Enterprises of the Republic of Srpska (RS RARS) is a non-profit organization founded in 2004 with the aim of providing support in the establishment and development of small and medium enterprises in the Republic of Srpska. In the opinion of the interviewed companies, RARS RS did not provide any support related to the work of their companies.

Subsidies for companies operating in the value chain for meat and meat products are mainly channelled through the Entity Ministries of Agriculture. In the opinion of the interviewed companies the process of allocation of these subsidies is characterized by a lack of clearly defined priorities regarding the allocation of the subsidies, an insufficient amount of subsidies and late payments. Subsidy regulations are approved in the course of the same year of the subsidy payments, thus causing uncertainty among the producers and users of subsidies and complicating their production planning processes. Furthermore, amounts of subsidies and their structures are different from entity to entity, even differing in cantons within the FBiH, which leads to the fact that in BiH a form of unfair competition is predominating in certain areas.

Surveyed companies reported that the Entity Chambers of Commerce are institutions with a significant impact on their work. As main benefits of a membership at the Chamber of Commerce they are stating the organization of trainings for their companies and the distribution of information on economic developments. Only a small part of the company indicated that they established economic cooperation with other companies thanks to the support of Chamber.

The 2008 founded Bosnia and Herzegovina Export Promotion Agency-BHEPA is a national agency operating within the Foreign Trade Chamber of Bosnia and Herzegovina. Its primary role is to assist all B&H companies to develop and expand export markets by promoting the products and capabilities of the country internationally. According to the document Draft Strategy for Export Growth of BiH from 2012-2015, an Action Plan for the agricultural-food sector has been developed, aiming at three crucial sector goals:

- Export growth of agri-food sector
- Competitiveness strengthening of the agri-food sector
- Promotion of a Culture of Quality

Based on the data obtained during the interviews, only a small number of companies is familiar with the activities and services offered by BHEPA.

Generally, the companies have a negative attitude towards the role of the institutions which are respon-

sible for providing support in the field of entrepreneurship development and improvement of business environment. The institutions do not have a clear vision how to help the companies to upgrade their competitiveness, partly because of the circumstance that people employed at these institutions are not often well informed about the business environment and the way companies are doing business. On the other hand, only in very rare cases the companies themselves are ready to take an initiative and to initiate relevant processes in order to solve certain problems. Anyway, a more intense communication between the business support institutions on the one side and the companies (ideally speaking with one voice through groups or associations) on the other side, would contribute to the strengthening of the mutual cooperation.

## 7. Macro Level – Framework Conditions

Institutions generating framework conditions for the meat and meat product value chain in Bosnia and Herzegovina can be divided into four groups:

- Institutions at the state level - where agriculture and food industry fall under the jurisdiction of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MOFTER)
- Institutions at the entity level - Ministry of Agriculture, Water and Forestry Federation, Ministry of Agriculture, Forestry and Water Management of the Republic of Srpska
- Institutions at the cantonal level - Cantonal Ministry of Agriculture, Water and Forestry (only in the Federation of Bosnia and Herzegovina)
- Institutions at the municipal level - implementing activities through departments and offices for Agriculture, Water and Forestry.

The Strategy for the Development of the Agricultural Sector in the Republic of Srpska until 2015, containing long-term goals of agrarian Development in the Republic of Srpska, was adopted on 18 July 2006

According to the interviewed companies, the strategy goals have not been achieved, primarily due to following circumstances:

- No volume increase in the area of pig and cattle fattening, even the opposite effect occurred. The volume increase of fattening poultry is visible every year, but without significant state aid measures.
- Renewal of agricultural mechanization was not done in the previous period, partly because of the absence of incentives, but also due to a lack of favorable credit facilities. During the last years, no subsidized interest rates for agricultural enterprises and individuals have been approved, as it was common practice ten years ago.
- Additional support measures for mountainous regions with difficult farming conditions are not foreseen as it is the case in other European countries.
- Funds allocated for stimulating exports are on a symbolic level and insufficient.
- Resources for the improvement of the agriculture sector are planned to reach the amount of 8 %. In practice they do not exceed 4 %, with a very low level of subsidies for meat production (for 2014, only 4 % of the total subsidies for the agricultural sector are dedicated for the meat production sub-sector). The funds allocated for the production of poultry meat are symbolic.

During interviews with the companies from the food industry, following deficiencies plaguing business operations of the companies in relation to the state administration at all levels, were identified:

- Complicated and unclear procedures for resolving administrative affairs,
- Too long waiting time for obtaining of certain licenses permits, etc.
- Poor communication from institutions' side with business sector,
- Poor treatment of businessmen by administrative workers,
- High prices for the various taxes, building permits,
- High fees for tender documentation,
- Lack of incentives for manufacturing activities sector, with respect to the reduction of costs for administrative fees.

As far as the certification of quality management and food safety systems are concerned, most of the enterprises introduced the HACCP certification according to the guidelines given in the documents of the Codex Alimentarius. The application of HACCP system in plants for livestock and poultry slaughtering and meat processing is also required by law in BiH. In smaller objects the HACCP implementation is not completed and a small number of these objects is certified.

Certifications according to other standards, such as ISO 9001, ISO 22000, are not widespread to the same extent as HACCP in the surveyed companies, because the certification of these standards is voluntary and companies have not recognized the benefits of the implementation of management systems according to the requirements of these standards so far.

Changes that occur in the EU when it comes to certification requirements on the part of trade associations, such as the requirements foreseen by the food standard IFS (The International Features Standard) are still not recognized by the meat processing enterprises in the Krajina region, with the result that in this area we still do not have any company certified according to the IFS Food standard. As this standard is a basic prerequisite for doing business with large retail chains in the EU (Metro, Lidl, Spar, Getro...), their entry into the market of Bosnia and Herzegovina will raise the demanding burden on the local suppliers when it comes to quality management and food safety systems. Retail chains like Konzum, Delhaize and Mercator are also members of this association, but are still not applying this control and requirement mechanism on their local suppliers in BiH.

Some of the surveyed local enterprises have the perception, that the domestic primary production of livestock is threatened by import lobbies, which are commonly associated with political power structures.

According to the Law on Customs Tariffs, quotas for duty-free import of live animals, meat and meat products are defined.

This measure is a direct incentive for the manufacturing industry, because it allows the purchase of raw materials for production under favorable conditions. On the other hand, this measure has an opposite effect on the domestic primary production of livestock and poultry, because domestic primary producers are put in an uncompetitive position, due to the greater downward pressure on product prices as a consequence of a lower price for imported goods (no customs duties for imports + high subsidies for producers meat in the EU and other countries).

The Indirect Taxation Authority (ITA) of BiH, acting on the basis of the Law on Customs Tariff, each year takes a decision on customs tariff determination for the current year, thus defining additional quantities of live animals, meat and meat products, that can be imported without payment of custom duties from countries which are usually subject to custom regulations for imported goods.

Local processors can take advantage of additional quotas defined by special Decrees, provided that they are able to provide evidence to ITA showing that they are procuring meat of BiH domestic origin at a rate of 1:1 compared to the additional quantity they want to import. This measure is presented as an action aiming at protecting the domestic livestock production.

The fact that additional quotas almost every year remain unrealized to a huge extent, tell us that processors are not able to find sufficient quantities of meat of domestic origin on the market and that this measure does not contribute to the protection of domestic production.

According to the adopted decision on establishing the customs tariff for the year 2014 approved quotas for duty-free import of the following:

- |   |        |
|---|--------|
| • Live swine  | 1400 t |
| • Heifers for breeding                                | 2200 t |
| • Live cattle not intended for slaughterin            | 2600 t |
| • Boneless beef meat, frozen                          | 4000 t |
| • Pork meat   | 4100 t |
| • Mechanically separated, boneless chicken meat (MOM) | 7000 t |

CEFTA, the Central European Free Trade Agreement was signed in 1992 by former Czechoslovakia, Hungary and Poland. During the last period some additional countries joined this agreement before their accession to the EU. A modification of the CEFTA agreement was signed in Bucharest in 2006. For BiH CEFTA entered into force on 22 November 2007. Signatory states are Albania, Bosnia and Herzegovina, Croatia, FYROM, Moldova, Montenegro, Serbia and UNMIK-Kosovo in accordance with UN Security Council Resolution 1244.

The main objectives are, inter alia, to expand trade in goods and services and foster investment by means of fair, stable and predictable rules, eliminate barriers to trade between the Parties, provide appropriate protection of intellectual property rights in accordance with international standards and harmonize provisions on modern trade policy issues such as competition rules and state aid. It also includes clear and effective procedures for dispute settlement and facilitates the gradual establishment of the EU-Western Balkan countries zone of diagonal cumulation of origin. Products or raw materials imported from one CEFTA country and processed in another CEFTA country will change their origin and will be exported as a product from the second CEFTA country. If the next country further customizes the product, the designation of origin for this product will be changed again.

It is important to underline that customs and tariffs have to be paid only for product ingredients without a declared origin and therefore it is necessary that foreign trade companies are running appropriate evidence records, to avoid losing their certificates. The application of a diagonal cumulation of origin (regarding trade between the countries in the region of Western Balkans and between the region and the EU) contributes to the strengthening of the export and investment potential of the region, the growth of its technological structure and competitiveness.

## 8. Meta Level

According to the Ministry of Administration and Local Self-Government 63 of 70 existing associations of agricultural producers are operating on a municipal level, while 7 are organized an entity level.

The 1998 founded Poultry Farmers' Union of the Republic of Srpska represents legal subjects that are manufacturing food for poultry fattening, producing and breeding chickens, dealing with the production of consumable eggs as well as companies dealing with broiler slaughtering. This organization carries out following activities: organization of professional education programs for its members, lobbying at governmental institutions for specific support measures, participation in legislating activities and cooperation with international organizations. Some of the scheduled activities have not been realized so far, such as the creation of a database containing information about existing production capacities and types. A system of joint procurement, respectively a joint market presence towards suppliers has never been established.

The Farmers' Association of the Republic of Srpska exists since 2009. The basic goals of this association are aiming at protecting the interests of agricultural producers, providing professional services to agricultural producers and at exertion of influence in order to improve the status of agricultural producers. The Association of Agricultural Producers of the Republic of Srpska was established in 2013 and its members are representatives of different sub-sectors: poultry farmers, pig breeders, sheep farmers and fruit farmers.

The prevailing public opinion holds the view that these organizations are serving the needs of specific actors heading these organizations in terms of personal promotion and that these organizations are under the influence of political factors.

It is very hard to find verifiable data regarding the registered members as there is almost no transparency concerning their work. Another interesting aspect is the fact that no formal organization can be found in the sector of meat processing. Cooperatives as a possible organizational type of primary producers do not exist, probably conditioned by negative experiences from the past.





## 9. Identified Key Gaps

### 9.1 Company Level

- As a result of fragmented production capacities (addresses mainly the breeding of cattle and pigs), production costs and the prices of livestock / meat from domestic producers are high. Farms do not meet the EU standards in terms of hygiene, animal welfare and environmental protection.
- Available quantity of beef and pork, meeting the quality requirements of meat processors on the domestic market at competitive prices, is insufficient and therefore the domestic meat processing industry covers its demand for basic raw beef and pork meat through imports (approx. 80 %).
- Equipment and technology used in the meat processing process is out of date. This is particularly pronounced in smaller processing plants, which results in a very low level of productivity.
- Facilities for processing meat generally do not meet the EU standards in terms of veterinarian and sanitary conditions, and one part of the facilities do not meet veterinary sanitary conditions which are in force in BiH.
- Meat processors usually do not have their own laboratories for operational quality control and product testing.
- Insufficient number of skilled workers in meat processing sector (butcher) with secondary education.
- Companies engaged in the production of meat and meat products do not have adequate marketing and promotional activities for their products.
- Low level of mutual cooperation between the companies engaged in the same or a similar activity.
- Range of meat products is mainly focused on cheaper products without significant innovation in products and without significant manufacturing of products in higher price categories.

## 9.2 Meso Level – Supporting Institutions

- The official quality and food safety control for meat and meat products is not adequate and does not meet the requirements of valid legislation.
- No adequate system for the disposal of offal and animal waste from meat processing plants and slaughterhouses.
- Too many laws, ordinances and regulations governing livestock production. Farmers are not able to adequately monitor and implement the complicated procedures that are required.
- High financial burdens in terms of compensation for water, various financial burdens in the context of obtaining and monitoring environmental permits.
- Subsidy policies agricultural development are not clearly defined and are not long-term oriented. Supporting measures by the authorities are conducted during the same year when the incentives are paid and this leads to uncertainty on the manufacturers's side, thus complicating the planning of agricultural production. The subsidies projected in the Strategy for the Development of Agriculture of the Republic of Srpska have not been fully disbursed.
- Subsidies for the production of meat, including beef, pork and poultry meat are defined as a symbolic amount and do not provide adequate support to domestic production. Size of these subsidies is far below the regional average.
- Very expensive capital, bank credit lines and high interest rates for agricultural production.
- High prices for acquisition of tender documentation within the scope of tendering procedures for the supply of domestic institutions with meat and meat products.

## 9.3 Macro Level - Framework Conditions

- Bosnia and Herzegovina is still a long way away from exporting live animals, meat and meat products to the EU due to the EU-incompatibility of its systems for food safety control of animal origin. The problems are reflected in following areas:
  - \* Animal health: Mainly compatible with EU requirements, with the exception of classical swine fever and veterinary control system.
  - \* Animal welfare: Problems that have to be solved are related to small pig and poultry breeding farms as well as to practices of informal slaughter.
  - \* Animal identification: EU standards adopted for cattle identification, standards for pigs, sheeps and goats are underway, but movement of animals without adequate permissions still remains a problem.
  - \* Hygiene on farms and in processing industry: Conditions on big farms and processing facilities generally good, but smaller facilities are a serious problem. Another problem is the meat production outside of registered objects.
  - \* Environment protection on farms and processing facilities: Disposal of fertilizers on farms is not in line with the EU standards. A strong focus of attention is also related to disposal of animal waste at slaughterhouses and meat processing facilities.
- Inequality of bilateral relations within CEFTA agreement due to existing non-tariff barriers, which are reflected in the necessity to submit specific product analyses, by taking long waiting periods for health tests etc., slows down the trade between the CEFTA members.

## 9.4 Meta Level

- Organizational level of business subjects through associations, unions, cooperatives etc. is very low and their management is unprofessional and often influenced by daily politics.



## 10. Summary of Main Findings

During the analysis of the value chain for meat and meat products, the focus was directed towards the following product groups:

- Poultry meat and poultry meat products
- Meat of bovine animals and beef products
- Pork meat and pork meat products

Despite the fact that each of these value chains shows a certain level of specificity, the value chains for beef and value chain for pork meat products show great similarity in terms of actors and the structure of the value chain.

### 10.1 Key Findings in the Value Chain of Poultry Meat and Poultry Meat Products:

- The production of poultry meat and poultry meat products showed the greatest competitiveness level of three observed value chains.
- There is a significant integration of all stages in the value chain from primary production of crop products to delivery of the final product within a company.
- Number of commercial farms for fattening broilers (with over 1,000 broilers per round) was significantly higher than the number of small farms.
- The infrastructure requirements in industrial slaughterhouses are on a satisfactory level, but there are significant gaps in smaller slaughterhouses.
- Poultry meat is generally available in sufficient quantities to meet the demand of the manufacturers of meat products who mainly use mechanical boneless chicken meat (MOM), but also a significant amount of imports due to variations in terms of quality and food safety, but also due to lower prices of imported products.

- Costs for the distribution of poultry meat and poultry meat products play a very significant role as far as the price determination of the product is concerned, because they require specific transport conditions in terms of temperature, hygiene and vehicles etc.
- The level of organisation of the Association of the poultry farmers of the Republic of Srpska is developed to a significantly higher standard as compared to other agricultural associations in the region.

## 10.2 Key Findings in the Value Chain for Beef and Pork Meat and Meat Products

- During the past few years a significant reduction of the livestock quantity, respectively the number of cattle and pigs is to be noticed.
- The number of commercial farms is very small (farms with 20 or more cattle or farms with more than 200 pigs) in relation to a large number of small farms and farms within the household.
- There is no significant slaughtering capacity in the region of Krajina for the slaughter of livestock (cattle and pigs).
- Industrial processors of meat are importing 80% beef and pork meat in order to satisfy their needs.
- Related to the procurement of meat, insufficient quality of local meat, high price of domestic meat, insufficient amounts of certain categories of meat have been mentioned by the meat processors as their main problems.
- The main export destinations for products from beef and pork are Serbia, Montenegro and Macedonia.
- Manufacturers of meat products on the market of Bosnia and Herzegovina are facing competitors from CEFTA agreement who are selling their products under the same conditions as the products of domestic manufacturers. Croatian accession to the EU has had a positive impact on domestic processors due to the introduction of tariffs on products from Croatia, and on the other hand, Croatian companies have transferred a certain part of their production capacities to BiH with the impact that there has been a major recruitment processing capacities of BiH.
- Cost of distribution of pork and beef and meat products play a very significant role in price of the product, because they require specific transport conditions in terms of temperature, hygiene, vehicles, etc.

## 11. Key Recommendations

The key recommendations given below relate to the value chain for meat and meat products, although some segments may be applied in other value chains of food products.

The role of EDA in the process of implementation of the recommendations can be multiple.

EDA can assist companies in terms of formulation and research opportunities regarding cooperation with the public authorities, in order to improve the level of service of public institutions by companies themselves. The role of the EDA may be mediating the dialogue between companies and public institutions.

Consultant's role of *Eda* can be reflected in providing services to companies from the food sector who want to adapt their business according to international standards for quality management and food safety. After a detailed analysis of the needs *Eda* can organize certain types of training for representatives of companies or public institutions.

### 11.1 Improvement of Business Operations at a Firm Level

The CREDO Krajina project will support companies from the food sector through a public call for co-financing projects aimed at improving their competitiveness.

Companies need to work on the improvement of the infrastructure conditions in the production sector in order to satisfy the requirements of the standards applied in the EU and to be ready to enter the EU markets, when BiH will fulfil the required conditions or when the companies will be confronted with requirements on the part of customers, in particular large supermarkets, which are generating the biggest part of the trade with meat and meat products.



Interventions that may be related to the establishment of a greater degree of cooperation between enterprises can be carried out relatively fast through the formation of associations, clusters or similar organizations. Some forms of cooperation between the companies that would have a positive effect for all participants could be:

- Joint procurement of raw materials, where the joint enterprise could act on the market with stronger bargaining power.
- Joint distribution of products in order to optimize distribution costs.
- Joint construction and use of operating laboratories for control of the production process.
- Joint promotion and marketing of products that would be oriented to a certain mark of quality and not on the manufacturer's brand.

It is also necessary to intensify the role of enterprises with the scope of the communication with educational institutions whether they are secondary or higher education institutions. Efficient organization of practical training in companies as well as greater involvement of scholars from institutions of higher education could lead to situation where graduated students have some practical experience and industry has significant scientific support which enables development of products and technological processes.

## 11.2 Industry Wide Interventions

To improve the competitiveness of enterprises in the value chain of meat it is necessary to improve the situation in primary production regarding the breeding of animals for slaughter. The current situation with a very small number of commercial farms which are carrying out the fattening of animals should gradually be changed through the application of adequate measures. It is necessary to take measures that will lead to a coarsening of small farms, reconstruction of buildings for fattening animals and procurement of modern machinery. Adequate government support measures must accompany these processes.

Connections established between primary producers and the processing industry should ensure the stability of primary producers in terms of market and manufacturing continuity in the supply of raw materials of domestic origin.

Training that is related to the management of companies in the food industry represents one of the requirements that has been mentioned frequently during the interviews with the companies.

### 11.3 Recommendations for Meso Organisations

A very important issue for the operation of a company from the food sector, especially processing foods of animal origin is the inconsistency of legislation between the entity level and the state level. This situation significantly reduces the competitiveness of companies in the meat processing sector with respect to the competitiveness of imported products that are on the market of BiH. Generally, this is a consequence of the lack of dialogue between industry on the one hand and government entities and institutions on the other.

A particular problem for the competitiveness of meat processing companies which are investing and maintaining the production conditions according to legal requirements is caused by unfair competition which is reflected in the fact that the competitors perform their business in completely poor and inadequate conditions for meat processing. It is necessary to fully implement legislation and to review the facilities that are used for meat processing, applying the legislation in force in BiH and thus enabling the equal treatment for all processors in BiH.

One of the most pressing problems the slaughterhouse and meat processing companies and also public institutions are facing is the problem of animal waste disposal. The solution of this problem is to build facilities for the disposal of animal waste according to the standards applied in the EU and probably two or three facilities for the whole of BiH, which should be located according to the geographic distribution (probably one facility to the region of northwestern BiH). In addition to the actual facilities for the disposal of animal waste it is essential to ensure a system for the efficient collection and transportation of waste to the facility for disposal.

### 11.4 Policy Recommendations

One of the priorities for BiH is to ensure the conditions for the possibility of export of live animals, meat and meat products to the EU. Key areas in terms of legislation and its implementation that have to be focus in the coming period are:

- Animal Health
- Animal Welfare
- Animal Identification System
- Hygiene on farms and meat processing plants
- Protection of the environment on farms and meat processing plants



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