Where are we now and where should we go?

# GAP ANALYSIS OF FOOD SECTOR


CREDO KRAJINA

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thinkworkshop

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# Contents

# Introduction

CREDO Krajina is a project financed by the Swedish International Development Agency – SIDA and implemented by the Development Agency EDA, Banja Luka, in cooperation with the Association for Development – Nerda, Tuzla. The aim of the project is improvement of competitiveness of medium and small size companies in the area of Krajina, in order to create and maintain jobs, reduce poverty and improve the economic status of this area. The project should support creation of around 200 new jobs and maintain up to 1000 jobs in the companies/sectors encompassed by the project interventions. The CREDO Krajina Project lasts for 30 months and it consists of several phases and components. Through an initial analysis of the priority commercial sectors, a selection of industrial sectors with a significant potential for creation of new jobs was done and representatives of companies from these sectors, through sectoral boards, defined priority needs for advisory assistance and training. Additionally, a part of an advisory and financial assistance is directly aimed towards the municipalities with intention to significantly improve local business environment and establish a permanent and efficient dialogue with the private sector.

This analysis is based on the two previously performed analyses within the CREDO Krajina Project. The first one is "Baseline Study of the Industrial Sectors", the aim of which was to explore and identify the sectors with the biggest potential for growth of competitiveness and growth of employment. On the basis of this analysis, a decision was brought that the CREDO Krajina Project will focus on the sector of metal industry, food processing industry, wood industry and leather and footwear industry. The second analysis is the value chain analysis for food sector. The focus of this analysis was on the production, processing, distribution and sales together and this has enabled us to analyze each step in its comparison to the previous one and to compare it to the next step in the chain. The results of this analysis are being used to a great extent as a basis for the GAP analysis.

GAP analysis has offered an overview of the situation in the food industry, from the point of view of comparing the current reality with desirable possibilities offered at the market. GAP analysis is a business analysis tool, which implies defining of differences between the current and desired state and manner of functioning of the branch.

In its basis, the GAP analysis asks two questions:

- Where are we now?
- Where do we want to be?

This document consists of the three basic parts. The first part is a description of the current situation, which starts from the situation on the market and it describes a way in which the producers and the whole value chain correspond to the demand from the market. The second part shows what a desired situation would be, that is, it responds to the question what this branch would look like, if its developmental potentials would get achieved. The third part is related to determining the gap between these two states, the so-called gaps and their description. Specific measures for overcoming the gaps are defined in the process of work with the Food Industry Sector Board.

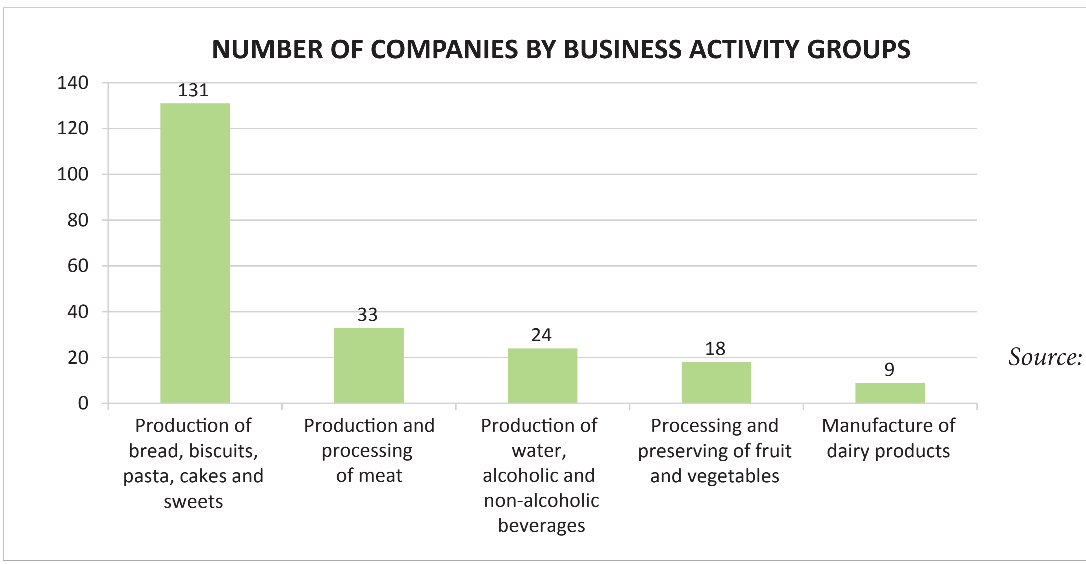
*We thank all the companies that participated in the survey, sectoral coordinator Brane Novaković, sectoral expert dr. Rajko Latinovic, members of the Sectoral Board and workshop participants. We owe special gratitude to Shawn Cunningham and Frank Waeltring from German company Mesopartner and Zdravko Miovčić, the director of Eda, for the advisory support in preparation of the analysis.*

# 1. Where is the food industry today?

The food industry is one of the leading industrial branches in the area covered by the CREDO Krajina Project. This sector has great potentials, also owning substantial natural and human resources, as well as a long tradition. The food industry, in the area of Krajina, in the late eighties and in the beginning of nineties of the last century, was considered to be one of the developed branches and, as such, it managed to follow global trends. Financial business results have still been positive for the majority of companies. Their products have their customers on both domestic and, to a slightly lesser extent, international market. This sector has further potential for significant increase of sales, export and employment.

The food industry sector, in 398 companies registered for these business activities, has employed about 5,000 employees. As we can see on Graph 1, the biggest number of companies is in the production of bread, rolls, cakes and confectionary products, whereas slightly lesser number of the companies is in the production and processing of meat, fruit and vegetables, production of drinks, as well as diary products.

*Graph 1 - Food industry companies in the area of 34 municipalities.*

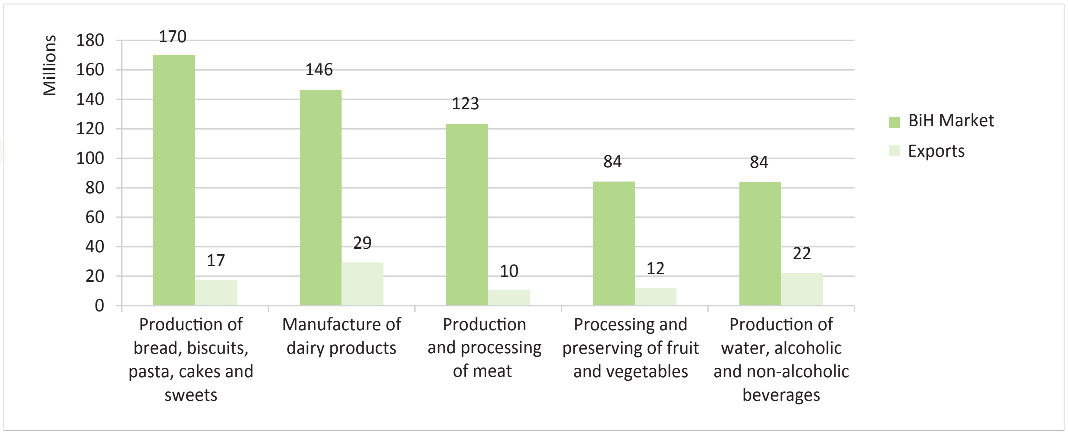



*Source: APIF RS and AFIP FBiH*

## Market position of food industry

Total sale that the food industry realizes in the area of all the 34 municipalities, in this sector, is KM 680 million. Out of this, KM 100 million goes to export and KM 32 million accounts for realized profit. This shows that the sector, on the whole, operates rather well and that it has been less export-oriented, instead being mainly oriented towards the domestic market.

*Graph 2 - Food industry companies in the area of 34 municipalities.*




*Source: APIF RS and AFIP FBiH*

Graph 2 shows that the food industry companies are mainly B&H market-oriented. A wider market, which includes the food industry producers, is mainly a regional (CEFTA) market. The CEFTA Agreement on Free Trade, whose present members are: Albania, Bosnia and Herzegovina, Macedonia, Moldova, Montenegro, Serbia and UN Interim Administration Mission in Kosovo, on behalf of Kosovo.

There is one significant problem. The population of Bosnia and Herzegovina and the Western Balkans region has a low purchasing power and this greatly affects the size and characteristics of the domestic demand for all kinds of goods, including for food products. Products in highest demand in these areas are in the lower price segment and the lower segment in terms of quality. Options on the domestic and regional markets are for this reason very limited.

Because of this the export potential is quite different in certain types of food products. For products of animal origin possibilities are very limited and mostly related to milk and milk products and poultry and chicken meat products. The processing of pork and beef has many weaknesses, so the big question is whether it is to be stimulated. There is no significant opportunities and space for intervention in this area because, for example, dairy and poultry sectors are relatively well developed, and most of their problem stems from poor legal and institutional framework that exists in B&H. Just because of this, exporting these products to the EU at present is not possible, because we fail to meet EU requirements in several areas, for example, legal requirements, market issues and state support.

However, products that are very successful and increasingly exported to EU countries with a large market for food products (primarily in Sweden, Germany, Belgium, France and Austria) are berries (raspberries, blackberries), forest fruits, mushrooms, dried fruits, spices and herbs, and some sorts of vegetables (mainly cucumbers). Raspberries are exclusively grown on small family farms, but in blueberries, blackberries and other species, in addition to growing, the greater part comes through the collection of wild fruits. The largest part of these products is frozen and exported in this form abroad. In our area there are not many processing plants that have the necessary infrastructure and equipment. Major processors are only few companies Mushroom, Čelinac and Rolend, Bosanska Krupa, and Eco Bell as the producer of dried fruit (plums) and other fruits. In addition there are smaller plants and companies that supply large companies or retailers with fresh or semi processed products, and also do a direct export. The export potential for these types of products can be seen in the fact that berries makes a very small proportion of the fruit production in B&H, though its share in total exports of fruit is almost 40%, with an annual export value of around EUR 7 million.

## Large retail chains

On the domestic market, the biggest part of sales goes through large retail chains. Several of these retail chains operate here, which are, in principle, the main market: Agrokor (Konzum, Konzum Super, Konzum Maxi, Mercator d.o.o. Sarajevo and M-BL d.o.o. Banja Luka) Tropik who took over the facilities and sales of Delhaize Group (Tempo, Delta Maxi, MojMarket), Intermarche (Interex), , Bingo Tuzla, Energotuš (Tuš), Hiperkort Derventa, Fortuna Prnjavor). Requirements that come from the retail chains are mainly reflected in the following:

- A great pressure on decreasing prices (the basic discounts are minimum 10%, additional activation discounts are minimum 7%, credit notes based on annual sales are about 2%, fees for listing of a new product are minimum KM 500, etc.). Average trading margin of retail chains for meat and meat products is about 15-20%.
- Long payment terms (moving from 60 to 120 days in cooperation contracts).

- Short delivery times (somewhere up to 2 days from purchase order, with a payment of fee in the amount of 20% from the amount of ordered goods).
- As long of a remaining shelf life at delivery as possible (minimum 70% of the remaining shelf life at delivery).

The main competitors on the domestic market are large companies from Croatia, Serbia and Macedonia. When it comes to large Croatian companies, membership at CEFTA (Free Trade Agreement) has created for B&H a competitive advantage, as customs duties have started being paid on Croatian products since Croatia joined the EU.

## The certification of products

When it comes to certification of the system for quality management and food safety, the majority of the surveyed companies have obtained HACCP system certificates, in line with the guidelines given in the documents Codex Alimentarius. The application of the HACCP system in slaughter-houses for cattle and poultry and processing of meat is, also, a legal obligation in B&H. In smaller facilities, the application of the HACCP system is not full and a small number of these facilities have been certified.

Certification, according to requirements of other standards, such as ISO 9001, ISO 22000, is not present in as big a scope as the HACCP certification is in the surveyed companies, as certification, according to these standards, is voluntary and the companies have not recognized the usage from the implementation of the management system according to the requirements of these standards.

Changes that happen in the EU, when it comes to certification according to the requirements of trading association standards, such as the International Featured Standard and requirements that are given in the IFS Food Standard have still not been recognized by production companies, hence, in our area, there are almost no certified companies according to the IFS Food Standard (the only exception, according to our findings, is the company Mladegs Pak). As this standard is a condition for doing business with huge retail chains from the EU (Metro, Lidl, Spar, Getro…), their arrival into the B&H market will increase requirements when it comes to quality management and food safety systems of their suppliers. Retail chains are also members of this Association; however, they still have not applied this control and requirement mechanism to the suppliers.

## The promotion and branding of products

In the majority of domestic food industry companies, marketing and promotional activities are inadequate. Almost all surveyed companies stated that marketing and product promotion is their weakest link in the process and that, in this segment, they are much weaker than the competitors. Also, what they have noticed is a large lack of qualified people that could improve the market position, i.e. marketing and sales of our products.

Because of huge amount of efforts and money they invest into market positioning of their products, the competitors of our food industry, for example, from Serbia and Croatia, have a large number of known and recognizable food products and brands. Those products have enjoyed a high reputation of domestic and regional consumers. Their branded food products on the market are categorized into higher price categories, simply because they have a certain identity and they are easily recognizable at the market. The only way to make our products, which are usually not branded, competitive to them, is to offer a significantly lower price.


*Vitaminka, Banja Luka – some of recognizable products*

Recognizable products and brands made by our producers are rare. The company Perutnina, which produces quite a lot in our region, is a recognizable brand in terms of chicken meat and processed products. The milk factory Mlijekoprodukt, Kozarska Dubica, as well as fruit processing company Vitaminka, Banja Luka, both have products that are recognizable on the domestic and/or regional market, however, the majority of producers do not have products of such type. A good example of food products that may serve for branding is Banja Luka's ćevap (kebab), which is a meat product well-known in the area of former Yugoslavia and in the Diaspora of our people in the world, though its branding potential has not been well used.

What is the problem? It takes a lot of efforts to have a good performance at the market and our producers neither have the funds necessary nor the will to get into such a process. The main reason that they mention is that this, to a great extent, depends on the finances, and they do not have enough funds for that, thus the activities in these areas are limited

## The equipment and technology

Equipment and technology used in the food industry process are mainly obsolete, which is a specific characteristic for smaller processing plants. Out of the total number of surveyed companies, 62% of them have older generation equipment.

*The modern equipment, enterprise Mladegs Pak, Prnjavor*

A great part of such companies use the equipment, which is ten or more years old, however, there are no huge problems with productivity and competitiveness, as their machines are well kept and maintained and their shortcomings are compensated by cheap and trained labor force. Their logic is that it is better to pay cheap labor force than purchase an expensive machine. It is precisely this labor force that makes our companies flexible to the customers' demands. There are some examples where some of the large customers ask for products to be packed in a specific manner, which can only be done manually. Our companies meet these requirements without problems, because they have numerous and cheap labor force. They may change the order, in one day, but, on the other side, they do not have huge series, as you cannot have both. Generally, there is no need for large series, therefore, such companies have good ratios: they are flexible and they can meet the required quantity.

On the other side, greater and more developed companies, for which large series are important, follow technological development and novelties and they apply them in practice (38% of surveyed companies). Such companies need this, as some things cannot be compensated by labor force.

## Work force

In addition to the lack of qualified people that could improve the market position, i.e. marketing and sales, the food industry has the lack of qualified bakeries and butcher's shops.

What is characteristic is that in the processing plants, the majority of labor force does not have official education (of a butcher's profession) and the reason for this is, partly, that there is a lack of employees with this profession, mainly because, after the completion of their education, people do not want to work in the plants for meat processing. The situation is similar with qualified bakers.

As the food industry was relatively developed in this area before the war, there is a significant number of qualified employees of older generations in other professions. The companies need to train new employees, who do not have the necessary knowledge, which all takes both time and money.

## Cooperation between the companies

Cooperation between the food processing sector companies is at a low level. This cooperation mainly occurs when some of them face huge breakdowns in production, thus, other companies help them by doing service production for them.

Producers often purchase inputs from the same supplier, but they all do individual purchasing. When it comes to common purchasing, their position would be better, as their joint purchasing could get them to a lower price and better services. Also, they all have huge costs of distribution, for example, as for many products takes the so-called "cold chain", i.e. that is transportation of goods in refrigerator trucks and warehousing at low temperatures. Joint distribution would, of course, lead to lower distribution costs.

In addition to that, it makes sense to have joint branding, so that the companies invest into brand creation, where several products would be made in a certain way. After they develop to be recognizable at the market, these products could get positioned in a higher pricing category.

## Institutions for support and development

Public policies for development of this and other industrial sectors are mainly based on empty phrases and those documents are mostly a dead letter. Those policies are also brought without significant consultations with business companies, they are often not developed into specific activities and project tasks, no financial constructions for realization of priority projects are done and no reports on realization of these projects are done at all, either in public or in professional circles.

Several important institutions for the food sector do not perform their jobs in an adequate manner. The Food Safety Agency of Bosnia and Herzegovina is in charge for food safety and international rules from this area are applied. Basic comments of the companies about the work of the Food Safety Agency of Bosnia and Herzegovina are related to adoption of the legislation, which can hardly be applied in BiH and also the legislation that is not sufficiently clear to the very users, that is, to the companies that should apply them.

Also, the Veterinary Office of Bosnia and Herzegovina (KZV BiH) and entity veterinary services do their jobs poorly and this is reflected in the following: inadequate product quality control system, complicated procedure related to certification of facilities, high costs of issuing certificates on health safety of shipments, non-harmonized legal regulations with regards to the import of meat from the EU, non-application of the provisions of the Law on Veterinary with regards to the application of HACCP system and auditing of the situation of facilities.

The companies generally consider that they almost do not have any support by the institution. When, as they say, such help is needed, there are very few organizations and individuals to be able to help them. Our institutions do not deal with companies and they are not interested in them.

In addition to the Chambers of Commerce, food industry companies are rarely members of some other business associations. Out of the total number of surveyed companies in the food industry, only about 20% of them is happy with the support that the Chambers are providing to businesses. This support is mostly reflected in certain training, support in obtaining standards, etc.

When it comes to educational institutions, the secondary schools in the project area are the ones that train the pupils for the necessary occupations, however, the quality of knowledge and particularly practical skills of pupils have been very limited. The companies are ready to closely cooperate with these schools, so that the pupils would provide practice and obtaining of real skills, which the pupils and the companies would benefit from. However, there is no such cooperation. In addition to this, the motivation and work habits of those completing those schools are often the problem, as today in BiH there is a different system of values, compared to the one that would be desirable from the point of view of the industry.

The Faculty of Technology of Banja Luka has for many years now had specialization in food technology and those technologists present one of the main strengths of the food industry. Also, technologists are educated, in this area, at the Biotechnological Faculty in Bihać. However, it must be emphasized that there is no sufficient cooperation between the faculties and businesses.

## Financing of investments

One of the big problems that companies are currently facing are unfavorable lending conditions. Banks are " very expensive". Commercial lending rates are much higher in comparison to the EU . Thus, for example, for loan in Slovenia and the same amount and the same purpose, the interest rate is 3.9 % and 6.62 % of BiH .

The positive thing mentioned by businessmen themselves in financing investments are subsidies given by certain ministries. As for the food industry , the most common form of subsidy is the one for increasing competitiveness . The aim of subsidy is supporting the implementation of development projects of economic entities , in order to improve their development , improving competitiveness , establishing quality systems as well as increasing employment . The maximum amount is 200.000 KM.

In addition to the grants that are awarded , it is certainly important to mention the assistance to the sector through credit lines of Investment-Development Bank of the Republic of Serbska . The amounts range from KM 30.000 to KM 5,000,000, depending on the purpose and form of organization of users, the payback period is 1-15 years, grace period ranges from 12 to 24 months , with interest rates ranging from 4 % to 4.9 %. However , some business respondents complain that these loans can be obtained only by political affiliation and that they are not equally available to all .

## Business environment and framework conditions

Companies from food industry are in a disadvantage in terms of the environment in which they operate, in relation to European competition. Unlike us, cities, regions and countries in EU are fighting to attract firms, in order to employ people and pay taxes on their territories. Therefore, the conditions in which firms operate in the EU are much more favorable.

We have a completely opposite situation. Existing tax legislation indicates that the real economy is burdened with many tangible and intangible liabilities. For example, in the RS tax rates are formally low (profit tax 10% and VAT 17%), but the legislative is very complicated, so the company is obliged to adhere to over 20 laws related to fiscal and parafiscal charges, and about 30 laws that talk about the penalty provisions. The firms submit more than 100 different applications and forms in the course of the year. In the Federation, the situation similar for many things, except for one, significant, positive exception. Export-oriented firms in Federation are supported by fiscal stimulus measures. Namely, all companies that export more than 30% of total sales, do not pay profit tax. This is a significant incentive and positive move of decision-makers in the area of fiscal policy.

This is an exception, but generally most of procedures are harder and more complicated for firms, because these procedures are a source of "institutional rent." For example, process of issuing building permits and other permits is very complicated and laborious task, and requires a significant financial effort and a large number of administrative procedures. There are also some incongruities that make life difficult for firms. State or entity may be delayed in payment to firms (public procurement, VAT, etc.), but the reverse is not possible. It often happens that the state has debt to particular company, but the company still has to pay its debts to state. Also, BiH as a state has not adopted the regulations and directives of the EU in terms of technical requirements and characteristics that products must meet, so it is necessary to meet the criteria and procedures specifically designed in Bosnia and Herzegovina.

These are just examples, there are more of them and we are not going to state all of them here but it can be concluded that the legal and institutional framework in which the economy operates is very complicated, there are intricate and lengthy procedures that require a lot of costs, formal and informal, and that those who make decision on this framework often do not understand the conditions under which the economy functions.

## Culture and values

Modern approach to economic growth and development means that the productivity and competitiveness of a country are not conditioned by its material assets - natural resources , physical and financial capital, but by “intangible” characteristics of the population - the quality and quantity of knowledge, entrepreneurship, creativity, innovation, work ethic. Only societies that value highest civilizational characteristics such as creativity , knowledge and work can, in modern conditions, count on greater prosperity . In such societies , these values play a major role not only in the economy but also in the building of social structures , in general change in education, culture, mentality and quality of life.

However, characteristics valued in BiH, unfortunately, are not these. Neither RS , nor FBiH are a society that creates fertile ground for highest civilizational characteristics such as creativity , knowledge and work. In our society , instead of knowledge and ideas there is more focus on party and family ties, instead of hard work, ability to accomplish things without work is valued more. In our system of values least valued are those that create most of new, added value , which is not possible without creativity , knowledge and work . It is well known that the business people from the real sector are often on the margins of society by reputation. Even the common name for the business people - “privatnik” has negative connotations and bad reputation.

This is supported by scientific research in this field . Lack of confidence among the people of Bosnia and Herzegovina recorded in these studies , is a direct result of poor system of values . According to these studies ( eg, Salaj 2008 , the European Values Studies ) , measured general level of confidence shows that only 16 % of inhabitants believe that most people can be trusted. Let us remind that in countries where the creativity , knowledge and work are highly valued, such as the Scandinavian countries, according to the same research, 60-65 % of people trust other people.

Having this in mind , it becomes clear why are institution uninterested in economic development , why “privatniks” have a bad reputation, why business associations are weak , why there is no real dialogue between business and government , and why , at the end , there is no compelling vision and development strategy. Because of this value system we have fallen into the trap from which it is difficult to get out. Our society does not value creativity, knowledge and work sufficiently, and the result is current situation - low creation of new, added value, low productivity and slow development. It is therefore important to support the producers in the food sector, because they are the exception to the rule and a positive example of how creativity , knowledge and work can create good results .

## 2. Where do we want to get to?

**FINAL RESULT**

Significantly increased production and sales of food products, especially those for EU market

**MARKET**

Strong cooperation established with big buyers, especially those from EU

**PRODUCTION**

- The biggest part of producers fulfils European and other standards from domestic, regional and EU market (IFS)
- Established functional associations/clusters in some types of production, where production is at a small-scale
- Increased production capacities for production of food and drinks at most companies
- Significantly increased production of domestic raw materials

**RESOURCES**

- Significantly increased number of qualified butchers and bakers, with a constant inflow of other qualified employees, technologists and other highly qualified staff, in line with the growth of production
- The companies finance investments under favourable financing terms

**INSTITUTIONS**

- Secondary schools and institutions for additional qualifications and change of qualification provide more qualified employees for the food industry; the faculties provide sufficient number of technologists and other highly qualified staff
- Financial development institutions provide sources of financing under good terms, equal to all

## 3. What are the most significant gaps to be overcome?

The analyses performed so far of the existing state and projections of the desired future state, it results that the most significant gaps to be overcome between these two positions are as follows:

- Access to and performance in the market
- Lagging behind in terms of technological and business processes
- Environmental protection and energy efficiency
- Lack of institutional support to development

### Access to and performance in the market

Our food industry does have chances for getting onto the European market in terms of preferential, privileged treatment, however, a great deal of our producers and institutions does not fulfill the requirements for export of food to the EU, so this market is quite often not available to us.

Export potential is rather diverse, when looked at by individual types of food products. When it comes to meat processing, this is rather limited and it is mainly related to chicken meat and chicken meat products. However, berry fruit (raspberries, blackberries, etc.) have a good sale on the European market, as well as forest fruit, mushrooms, dried fruit, spices and medicinal herbs, etc. This segment covers significant promotions at exhibition fairs. Here, it is not necessary to look for distributors, which is why the fairs are, at the same time, channels of sale for these types of products. The preparation consists of preparing the offer of products well, along with pre-determining potential customers, agreeing on meetings with them in advance and focusing all the activities in this direction. For example, one of the most significant exhibition fairs in this area is Biofach Fair, as the biggest fair of this type in the world. The trend of this fair is not only to sell organic products, but also to present the products not organically produced, as the majority of companies dealing with organic products deal, at the same time, with ordinary, commercial production.

When it comes to standards and certificates, when the neighboring countries, for the reason of their acceding to the European Union, start applying European regulations in this area, those markets will get closed for us. The same happened with the export of milk to Croatia and the time is coming when the same will also happen with the other neighboring countries. It is necessary to begin resolving these prob lems as soon as possible. Time works against our producers and if it is not reacted on time, the damage will be irreversible. It will take great investments (into facilities, resolving of slaughter houses waste, etc.) for the producer to be able to fulfill requirements. The second kind of obstacle all the producers in the food industry face are the trading standards, applied by large retail chains, such as International Featured Standard and IFS Food. These standards have not been recognized yet as significant by food processing companies, which is why only few companies in our region are certified in line with the IFS Food standard requirements.

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP - MARKET** | | | | |
| • Access to and performance in the market. | • Increasing the scope of sales and employment. | • Not enough knowledge about markets and sources of information.<br>• Unused potentials and resources. | • German Chamber of Commerce (AHK) and similar associations<br>• Processing companies<br>• Village farms<br>• GIZ | • Support to initiatives of producers for market research and entry to foreign markets and international retail chains<br>• Support for attending fairs, where it is possible to negotiate sales<br>• Support to initiatives for information exchange on market possibilities with regards to berry fruit (raspberries, blackberries), forest fruit, mushrooms, dried fruit, spices and medicinal herbs, etc.<br>• Support to initiatives for establishing groups of producers and their activities. |

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP - MARKET** | | | | |
| • Standards, certification and protection of product origin | • Entry of large retail chains from the EU (Metro, Lidl, Spar, Getro…) to the B&H market will result in increasing requirements to their suppliers.<br>• Standards are preconditions for cooperation with foreign partners.<br>• Without foreign markets, there is no growth and no development. | • Many producers have no HACCP, yet many who have it, only formally meeting the conditions<br>• The standards applied by large retail chains, such as International Featured Standard and IFS Food have not yet been recognized as important by the processing companies. | • Companies and experts from the neighboring countries with a lot of experience in this area | • Information/training of companies about possibilities of introduction of standards and certification of products (one-day)<br>• Introduction of HACCP and improvement of the quality control system<br>• Support to certification by specific standards:<br>• GFSI standards (IFS Food, FSSC22000, Global Gap, etc.), Halal, Kosher, Organic Certification<br>• Checking possibilities for the protection of products based on geographical origin. |

## Lagging behind in terms of technological and business processes

Technological progress of the food industry in the world provided development of new products and diversification. One of the most important global trends, prevailing in the food production industry, is increasing productivity and technological development. Majority of our companies do not follow these changes and they significantly lag back in terms of equipment and technology, especially when it comes to small processing plants.

In addition to that, it would take changes of the key business processes. In our companies with strong growth, this growth is not followed by adequate management and organizational transformation. Many owners/directors have limited (professional) knowledge and, as they were often of a technical profile, they are particularly lacking market and management knowledge. Some of them are aware that they have become bottle necks for their company's development and that it would take a transformation in management. Also, in some of them there is an intention of the successors to seriously get into management of the company, while in some others, there is either no successors or they are not interested.

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP – TECHNOLOGICAL AND BUSINESS PROCESSES** | | | | |
| • Technological processes | • Technology is one of the key factors of domestic companies competitiveness | • The technology used in the food industry is most often old-fashioned, which is a special characteristic for smaller processing plants. | • Successful companies<br>• Individuals/<br>• companies offering these services | • Information/training of the company about the benefits of introducing new technologies (one-day)<br>• Support to the application of the latest technological solutions in the preparation (processing) and packing of food products and regulations of the most demanding markets: (IQF freezing technologies),<br>• Support to purchasing of specific transportation vehicles<br>• Support to automation of technological processes<br>• Support to investing into facilities and infrastructure (factory plants, laboratory equipment, development of technologies for the production of new products) |

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP – TECHNOLOGICAL AND BUSINESS PROCESSES** | | | | |
| • Investment capital for purchasing of new equipment | • The companies have the need for investing into better equipment and technology | • Expensive loan funds<br>• Access to the IRB funds more difficult and conditioned<br>• No more subsidies for the increase of competitiveness (for export)<br>• Lack of readiness of the owner for new ways of obtaining capital (equity…)<br>• There is still no risk capital funds | • Banks,<br>• IRB,<br>• Loans –guarantee fund<br>• Western Balkans Innovation Fund<br>• Companies with positive experience<br>• Stock Market | • Support to purchasing of key equipment through development fund within the project<br>• Training and consulting about the obtaining of the investment capital |
| • Key processes – organization of production | • Because of possibility for increasing efficiency and decreasing of production costs (lower prices and/or higher profit) | • There is some interest of the companies for this area (lean production)<br>• Few experts for this sector in our area | • Companies and experts from the neighboring countries with good experience in this area<br>• Faculty of Mechanical Engineering | • Information/training of companies about improvement of production organization (one-day)<br>• Training and consulting in the organization of production (LEAN, KAIZEN…)<br>• Connect the work of students (exercises) with resolving of such problems for specific companies. |
| • Managemend and organization | • Directors are decision-makers, whose all operational work and organizational culture depend on them, especially having in mind (an assumption) to delegate little… | • Enterpreneurship manner of running a company by the founders becomes a limitation in the company's growth | • Companies that resolved some of the problems successfully<br>• Organizations having experience with training of directors (eg. Adizes)<br>• Organizations having experience in the transfer of 'tacit' knowledge (*Eda*)<br>• Sectoral experts | • Organization of events for the exchange of experience and knowledge for directors<br>• Training and consulting about selected topics (according to requirements of the companies) |

## Environmental protection and energy efficiency

The food industry companies have significant shortcomings with regards to environmental protection. Waste water treatment and proper disposal of solid waste are requirements, which are already included into the legal framework, while, with the accession of B&H to the European Union, those requirements will become all the more significant. As a part of this, resolving the waste water issues as well as their treatment, as a necessary precondition for the health of population and preservation of water resources, above all, as well as meeting the requirements set before the companies. Also, by increasing the level of solid waste management, through enabling combustion and recycling of a part of waste, burdening of the environment will decrease and the very waste management system will seem sustainable.

It is important to emphasize the measures from the area of sustainable energy development of the food sector, by which the companies have tried to get familiar with the benefits from the energy efficiency measures and ways of application of renewable energy sources, which will also result in increasing the quality of the environment.

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP – ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY** | | | | |
| • Environmental protection | • Non-fulfilling the standards of environmental protection may be an obstacle jeopardizing survival of majority of companies, because of the EU integration process. | • A great number of companies do not fulfill the EU standards for environmental protection. | • Companies and experts from the neighboring countries with a lot of experience in this area<br>• Domestic companies | • Support to building of facilities and purchasing of devices for recover and treatment of technological waste waters<br>• Support to resolving solid water disposal problems |

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP – ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY** | | | | |
| • Energy efficiency | • Increasing of energy efficiency may significantly decrease the costs and increase company's productivity. | • Modern approaches to increasing energy efficiency are very little represented with the domestic companies. | • Companies and experts from the neighboring countries with a lot of experience in this area<br>• Domestic companies | • Information/training of companies about the possibility to increase energy efficiency (one-day)<br>• Support for the usage of CO2 and IQF methodology in cooling systems – a longer shelf life of frozen products and energy saving<br>• Support to replacement of environmentally acceptable fuels with environmentally acceptable fuel<br>• Support for the usage of biomass as engine fuel<br>• Support for the building and reconstruction of a cooling system plant, usage of waste energy for heating/cooling<br>• Support to construction of systems using renewable energy sources. |

## Lack of institutional support to development

In the area of food production, there are many institutions that may directly help food industry companies. In addition to institutions whose work (or the lack thereof) a lot depends on, especially, with regards to export and import (Agency for Food Safety of Bosnia and Herzegovina, Veterinary Office of Bosnia and Herzegovina and entities' veterinary services), there are institutions having significant capacities for supporting food industry, however, those capacities, for the time being, are insufficiently used.

Branch associations, operating within the Chambers of Commerce and associations of producers, are a significant instrument in representing the interest of companies in their relations with the executive power authorities. Also, they may play a significant role in providing certain services to their members. However, according to the companies, these capacities are used in a way as to most often hear the voice of the "loudest" ones, yet, hardly getting to the issues of real significance to the majority of businessmen.

Agricultural Institute of Banja Luka, a respectable institution in the food production sector, currently employing 92 employees, including seven persons with Ph.D. degrees, eight with two-years masters degrees, one with a one-year master and 24 with bachelor degrees. An example of cooperation of this Institute with the food industry is cooperation with Banjalučka Pivara, where the application of new technologies has significantly increased participation of barley in beer production, with maintenance of the same quality, however, with a significant decrease of production costs.

Veterinary Institute of Banja Luka employs 60 staff, out of which 30 is with university degrees. Laboratories of the Institute are equipped with modern laboratory equipment for diagnostics of contagious diseases of animals, microbiological and qualitative food and fodder analysis.

Scientific Institute of Food Technologies, Novi Sad, is one of the leading institutes in the area of food analysis for the former Yugoslavia and other areas. It owns exceptional capacities for food industry technologies with a special emphasis on sustainable management of food production, creation and utilization of biological potentials and development of new technologies and products in the food chain.

Faculty of Technology, Banja Luka, is a scientific and educational institution, where the young, during their studies, obtain theoretical knowledge in all the areas of food technology, biotechnology and science of human nutrition (eg. production of nutritive products, conservation, storage of raw materials and finished products, control and management of production processes, quality assurance and food safety, etc.). The problem here is that the Faculty of Technology is very little connected with the industry and there are very little opportunities to gain valid practical knowledge.

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
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| **GAP – INSTITUTIONS TO SUPPORT DEVELOPMENT** | | | | |
| • Branch and other associations (Chamber of Commerce, PUZŽ RS and other associations) | • The voice of industry must be heard, if we want real changes of legal regulations and business environment | • Passive behavior of both companies and associations<br>• Only the loudest are heard and those with “political backing” | • Brach association of the Chamber of Commerce<br>• PUZŽ RS and other associations<br>• CREDO Food Industry Sectoral Board<br>• domestic companies | • Strengthening of capacities of branch associations for modern communication with private sector<br>• Support to stronger connection of association with private sector<br>• Support to associations in strengthening capacities for modern representation of the private sector interest |
| • Institutes (Agricultural and Veterinary in Banja Luka, Institute of Food Technology of Novi Sad) | • Companies can get from these Institutes the latest knowledge about technologies that are key ones for competitiveness of the sector | • Although individual Institutes present real “treasuries” of knowledge, they are insufficiently used by the companies | • Agricultural Institute in Banja Luka,<br>• Veterinary Institute in Banja Luka,<br>• Institute of Food Technologies of Novi Sad,<br>• CREDO Food Industry Sectoral Board<br>• domestic companies | • Information/training of companies about possibilities in transfer of know-how (one-day)<br>• Support to transfer of know-how through projects, consulting, designing, feasibility studies, elaborated reports on individual products, training and such. |

| The aspect | Why is it important? | Found weaknesses | Main actors | Area of activity and potential interventions |
|---|---|---|---|---|
| **GAP – INSTITUTIONS TO SUPPORT DEVELOPMENT** | | | | |
| • Faculty of of Technology (TFBL) | • Faculty of Technology is the main supplier of companies with highly educated staff. | • Faculty of Technology has almost no connection with the industry. | • Faculty of Technology<br>• CREDO Food Industry Sectoral Board<br>• Domestic companies | • Initiating presentation and activation of the capacities of the Faculty of Technology to support the industry<br>• Initiating introduction of practical education for TFBL students (food department) at food industry companies<br>• Initiating change of the curricula of the TFBL according to the food industry SMEs' requirements<br>• Promotion of the food sector and attractiveness of jobs in the food sector |

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