



STUDY REPORT FOR THE MAIN AGRIBUSINESS SUB-SECTORS IN KOSOVO

April 2014

TABLE OF CONTENTS

Introduction	4
Methodology.....	5
Agribusiness Sector Background Analysis.....	8
Economic Importance	8
AGRIBUSINESS SUB-SECTORS ANALYSIS	14
Dairy Sub-Sector	14
Milk Production (dairy farming)	14
Milk Processing	15
Fruits and Vegetables Sub-Sector	18
Vegetable production	18
Fruit production	21
Meat Sub-Sector	23
Non-Wood Forest Products (NWFP) Sub-Sector	25
Wine Sub-Sector	26
Value Chain Description	28
Input supply	28
Primary Production	29
Support structures	30
Collection centres	30
Processing cluster under value chains	31
The Market.....	32
Education Providers	32
University level education providers	33
Vocational Schools	34
Advisory Services Providers	35
Findings from In-depth Interviews.....	38
Key findings from Education Providers.....	38
Key findings from Private Sector Employers.....	41

Identified missing skills in the agribusiness sector	44
Identified challenges from the employees	45
Current and Potential Employment in Agribusiness	47
Dairy Sub-Sector Employment Generation	49
Fruits and Vegetables Sub-Sector Employment Generation	50
Meat Sub-Sector Employment Generation.....	51
Non-Wood Forest Products (NWFP) Sub-Sector Employment Generation.....	52
Wine Sub-Sector Employment Generation.....	53
Standard Job Profiles and Job Descriptions	54
Recommendations / Intervention Points.....	57

Introduction

This report was prepared by RECURA Financials for the benefit of Helvetas Swiss Intercooperation led project, Enhancing Youth Employment – EYE. The purpose of this report is to analyse and present the skills needs assessment in the five main selected agribusiness sub-sectors, namely: dairy sub-sector, meat sub-sector, fruits and vegetables sub-sector, non-wood forest products sub-sector, and finally wine sub-sector through analysing the overall value chain, including production, aggregation, processing and distribution; the education and training market systems; specific job profiles required at the value added part of the sub-sector; and finally cross-referencing the skills provided by the existing institutions and service providers with the current and expected market demands. These five agribusiness sub-sectors have been selected based on a scoping study performed previously, where the subsectors were selected on the following criteria: economic feasibility, new employment generation capacity, import substitution and potential for downstream processing / value chain development.

The Skills Needs report is based on desk research as well as primary qualitative research conducted through in-depth interviews with a selected number of private sector employers, active employees, as well as education providers. It is intended to provide recommendations on required skills in the various components of the value chains of these five selected sub-sectors and recommend potential intervention points for the EYE project including policy and programmatic changes and priorities, as well as specific activities related to the most demanded skills in the market with the highest potential impact on employment and sector development.

The report initially provides an analysis of the selected sub-sectors with a focus on the entire value chain, from production capacities, current utilization and production rates going downstream towards semi-processing, processing, marketing and trade, while at all times keeping the focus on the employment generation perspective. Next, the report presents the findings from the in-depth interviews with the private sector employers and employees to identify the labour skills demanded in these sub-sectors, including also findings from interviews with education providers and vocational training market systems. It looks into the needs that are being covered currently in the market and how and what type of skills and expertise is missing and should be addressed in future interventions. Based on the identification of specific expertise required in each sub-sector, job profiles (general job descriptions) are then presented for existing and missing skills. The report finally ends with specific recommendations and gives strategic directions for intervention points for the EYE project in addressing existing skills needs for every specific sub-sector.

Methodology

The main objective of the **skills needs survey** is to define the skills needed in the five selected agribusiness sub-sectors, specifically dairy, meat, fruits and vegetables, non-wood forest products and wine sub-sectors, looking at the time frame of 1-3 years. The analysis focuses on the current situation and the future trends of each specific sub-sector. There are three key areas that are analysed:

1. Business Environment in Agribusiness including the value chain composition;
2. Education and training institutions (both public and private) that offer formal/non formal training courses at all education levels;
3. Agribusiness sector market participants, both businesses as employers and employees themselves.

The approach to this study is a **two-staged** one. In the **first stage**, a scoping analysis of the agribusiness sector was performed, with the aim of identifying sub-sectors that show positive trends and have good potential to grow further and generate larger employment opportunities. The main findings from this scoping study report on the Agribusiness sector in Kosovo were discussed with the EYE project team, who in cooperation with the consultants have selected five most promising sub-sectors in terms of employment generation as well as economic growth potential in their respective value chains. The main criteria used include economic feasibility, new employment generation capacity, import substitution and potential for downstream processing / value chain development.

This report and the findings within enabled the team to move to the **second stage** of the research, which this report pertains to, focusing in detail on the five selected sub-sectors in agribusiness in Kosovo and providing an in-depth skills needs analysis. Besides providing information for achieving the key objective of the study, skills needs analysis, this approach is expected to also give general strategic directions for intervention points of the EYE project within these selected sub-sectors in agribusiness.

The report is based on secondary research methods, entailing the review of relevant project documents, legal infrastructure, reports, analysis, strategies, and similar documents, as well as primary research conducted through in-depth interviews with the private sector employers active in the sub-sector, employees employed in the sector and education providers.

Data sources include existing documentation and reports on the agribusiness sector in Kosovo, *interalia* MAFRD ARDP 2007-2013 as well as draft ARDP 2014-2020, Customs of Kosovo data, the Kosovo Agency of Statistics (Economic Accounts of Kosovo 2010 – 2013), USAID

commissioned studies and reports, as well as various reports published by World Bank, Central Banking Authority, UNDP, GIZ and SDC-HPK. In selecting the baseline data to be used, the authors have analyzed all data collected, compared and contrasted various data sources, and in consultation with key informants have selected the data to be presented and analyzed in this report. However, a large note of caution should be stated here as the data are at best scarce and more often inaccurate and inconsistent over time and sources.

In-depth Interviews were conducted during the implementation of the skills needs survey to further detail and understand the real need for skills in these sub-sectors, looking also into the availability on the supply side. The in-depth interviews were conducted during February and March 2014, with the following tables presenting the private companies and training institutions interviewed.

Table 1: Interviewed Agribusiness Companies

Sub-sector	Status	Company Name	City
Dairy	Processor	Vita	Peje
	Processor	Kabi	Gjilan
	Collection Center	NTSH "Veterin-ari"	Suhareke
	Collection Center	"Jeta e Re" sh.p.k.	Istog
	Collection Center	Kabi	Viti
	Collection Center	Tirolli	Podujeve
Fruits and Vegetables	Processor	Abi ELIF 19	Prizren
	Processor & Producer of Fruits	MOEA	Gjilan
	Collection Center	AgroCelina	Xerxe
	Collection Center	EuroTac	Peje
	Collection Center	Kelmendi	Dragash
Meat	Processor	Apetiti	Peje
	Processor	Meka	Dragash
NWFP	Processor (large collector)	APS	Istog
	Processor (large collector)	EuroFruti	Prishtine - Mramor
Wine	Winery	Biopak	Rahovec
	Winery	Stone Castle	Rahovec

Table 2: Interviewed Education Providers

Name of the Education Provider	Type of the Education Provider	City
Faculty of Agriculture and Veterinary	University Level	Prishtine
Faculty of Biology	University Level	Prishtine
IBCM Environment and Agriculture Management Department	College Level	Mitrovice
Haxhi Zeka	University level	Peje
Don Bosko - Food Technology Department	Vocational Training Center	Prishtine
Avdyl Frasheri	Vocational School	Prishtine
Arberia	Vocational School	Gjilan
Bahri Haxha	Vocational School	Vushtrri
Ministry of Labour	Vocational Training Center	Peje
Adem Gllavica	Vocational School	Lipjan
Zenel Hajdini	Vocational School	Ferizaj
Ali Hadri	Vocational School	Peja

Agribusiness Sector Background Analysis

Economic Importance

Agriculture is very important to GDP growth, but of far greater importance to employment growth in Kosovo. The relevance of the sector is acknowledged by the Kosovo government, which over the last years has increased the budget allocations for agribusiness. The key facts and figures for the agribusiness sector in Kosovo are presented in the table below.

Table 1: Main Indicators related to Agriculture Sector

Total surface	1.098 million ha
Land resources	Agricultural 570 000 ha/ Arable 378,768 ha
Population	1,815,606 inhabitants
Number of farmers households*	192,500 (KAS)
Number of employed workers in agriculture	404,088 – estimation KAS
Share of employment	Agriculture 35 % - estimation
Rural population	Percentage of people living in rural areas: 61% Average size of household: 5.85 persons
Share of agriculture in GDP	12 % (2012)
Import/export of agriculture (000 USD)	Export 25.8 mill. Euro (2011)/Import 560.1 mill. Euro and 2012 data Exports of goods were over 276,100 million € (2012) Imports of goods were on a 2,507,609 million € (2012)
Share of import & export in overall trade	Export 8 % of total trade/22 % of total imports (2012)
Average farm size	1.5 - 3 ha Big farms over 10 ha around 3000
Main production by value of production	Dairy, Fruit and Vegetable, wheat, maize
Distribution of value of production by subsectors	Crop production = 62 %, Livestock = 38 % ¹

¹ Economic Account 2010 – 2012, KAS

According to a 2012 estimation by the Kosovo Agency of Statistics (KAS), Kosovo has a total population of 1,815,606 residents. Based on latest census (Population Census, Households and Housing in Kosovo 2011), around 61 % of the residents live in rural areas. The official employment rate in agriculture is 4.4%, however this is an underestimation and most reports on the agriculture sector estimate that around 35 % of the labor force is engaged in agriculture.

According to KAS, 53 % of Kosovo's land is agricultural, 41 % of Kosovo's land is forests, 1 % of the surface is covered with water, and the remaining 5 % is urban, traffic or other land.

In terms of employment, Agriculture plays a very important role in providing employment opportunities. In terms of the proportion of employment in agribusiness, Kosovo compares relatively well to other regional countries, having a higher proportion of the workforce engaged in agriculture with the exception of Albania and Montenegro. However, this figure needs to be put in the perspective of the actual unemployment rate in Kosovo, which is much higher than any of the other countries, thus in terms of the population proportion engaged in agriculture, Kosovo would actually lag behind all the other regional countries, both compared to population size, workforce size as well as relative production capacity, which shows larger potential for employment generation in Agribusiness in Kosovo.

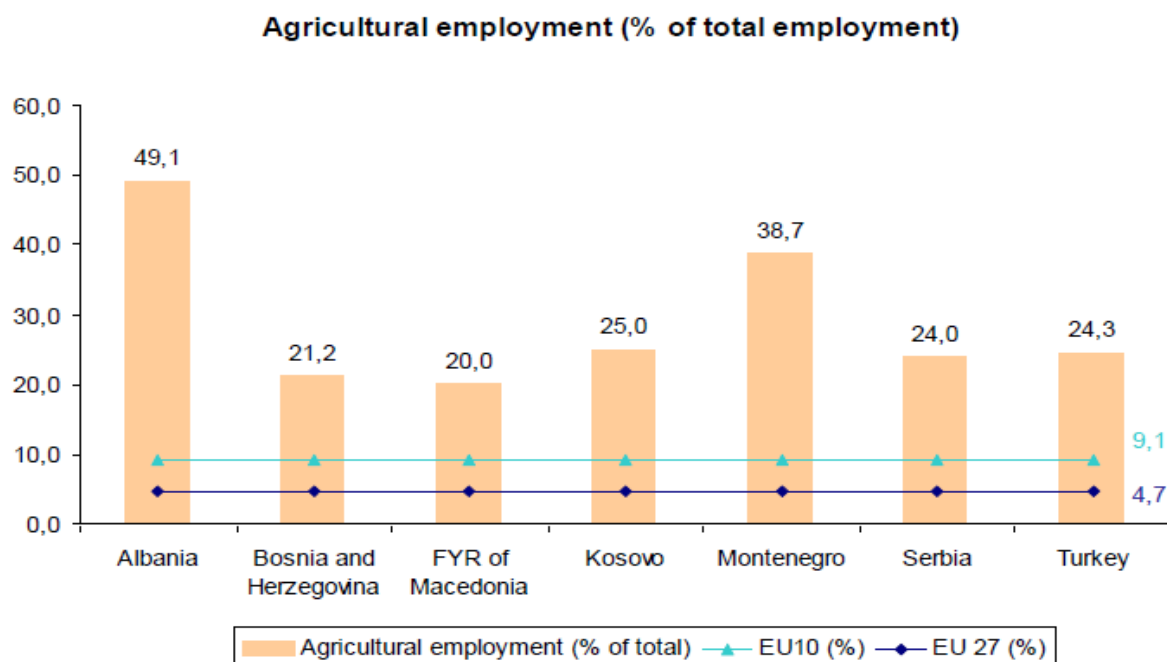


Figure 1: Agricultural employment (in % of total employment) in (potential) Candidate Countries

Source: EC, Presentation during IPA II Conference in Brussels by G. Kiely, 25.01.2013

The Agriculture share in GDP generation in Kosovo, which used to account for 25% of GDP in the 1980s and early 1990s, in the current century has decreased drastically. Agriculture, mostly semi-subsistence, contributes about 12 % of the value added in the economy. It is the main source of income for the majority of the population.

The GDP per capita of Kosovo continues to be very low and in 2012 was estimated at 2,750 Euro². If we account that 12% of the GDP comes from agriculture, this gives a per capital figure of 330 Euro of value added to the economy per capital from the sector. Taking into consideration that 25-35% of the active workforce in Kosovo is involved in agriculture, and at the same time taking into consideration the fact that around 60% of the population of Kosovo are dependent on semi-subsistence agricultural activity³, the value added figure of 330 Euro per capita is very low indeed.

Table graph presents the contribution of Agricultural sector to GDP.

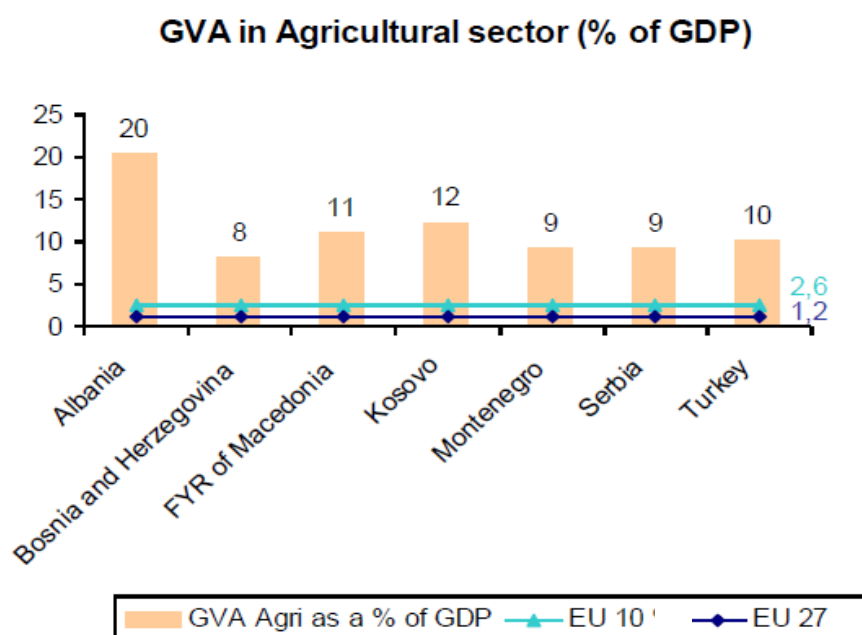


Figure 2: Gross Value Added in Agriculture Sector (in % of GDP) in (potential) Candidate Countries

Source: EK, Presentation during IPA II Conference in Brussels by G. Kiely, 25.01.2013

Kosovo and regional countries are still very dependent on agriculture sector at least in the short and medium term so it is important to continue the development of the sector and improve

² Data Kosovo, World Bank

³ World Bank 2010 – Kosovo Country Economic Memorandum: Unlocking Kosovo's Growth Potential: Policies, Strategies, Actions.

employment opportunities for the young generation, especially having in mind that each year 25,000 new entrants join the labor force in Kosovo.

Import of agricultural products (food and beverages, live animals and vegetables) amounts to almost 22% of all imports, but it is less than 8 % of all exports. Add to this the very large trade deficit of Kosovo standing at approximately 90% and one gets a very bleak picture of the current level of development of the agribusiness sector in Kosovo and the large potential for improving this situation and subsequently improving economic growth and employment.

The correct and reliable data on the farm structure are expected only after conducting the Agriculture census planned to be carried out in 2014. However, today there are an estimated 192,500 farms in Kosovo, from which only around 3,000 are larger than 10 ha, while the average farm size ranges between 1.5 and 3 ha. This structure of farms influences the selection of sub-sectors that are economically feasible and competitive.

According to a recent report published by KAS on the economic accounts for agriculture (EAA) for the period 2010 – 2012, Agricultural Output has increased slightly in last few years starting with 591 million Euro in 2010, continuing with 601 million Euro in 2011 and increasing to 615 million Euro in 2012 or 2.3% growth in 2012. This increase is mainly due to an increase in animal output, as shown in the table below:

Table 2: Crop Output, Animal Output and Agricultural Goods Output for the period 2010 – 2012, in million Euro

	2010	2011	2012
Crop Output	328 million Euro	333 million Euro	332 million Euro
Animal Output	248 million Euro	253 million Euro	268 million Euro
<u>Agriculture Output</u>	<u>591 million Euro</u>	<u>601 million Euro</u>	<u>615 million Euro</u>

The Category of Crops includes: Cereals, Industrial crops, Forage plants, Vegetables and horticultural products, Potatoes and Fruits, which consist of the following proportions:

Table 3: Crops Category

Crops	%
Vegetable and horticultural products	35.3 %
Cereals	32.4 %
Forage plants	17.8 %
Potatoes	6 %
Fruits	8.5 %

Category of Animal products includes: Milk, Eggs, Honey and Raw wool while category of Animals includes sales of meat from Cattle, Pigs, Sheep, Goats, Poultry and other animals. The animal products make up 62% under this category, while Animals participate with 38%. Dairy is the most important product having contributed with 137 out of 149 million euro of total animal products in 2010, 141 out of 156 million euro of total animal products in 2011, and about 157 out of 174 million euro of the total animal products in 2012.

Kosovo's trade balance is highly negative, with total exports of 276.1 million Euros in 2012 compared to imports being almost ten times the size of exports, standing at 2,507.6 million Euros⁴ in 2012. The balance of trade of agricultural products⁵ in Kosovo is highly negative: the value of exports of agricultural products of €26.2m in 2011 was dwarfed by the value of €561.4m imports of agricultural products. In 2011 the share of agriculture goods of total exports of Kosovo was about 8.2%. Exports of agricultural products generated revenues covering only 4.6% of the cost of importing such products. From 2006 to 2010, export values have almost doubled whereas the value of imports increased by 45%, thus showing a slow but positive trend. The most important imports in terms of value are: food preparations, beverages, tobacco, meat, dairy products and sugar⁶, while the most important agricultural products exported from Kosovo are: wine, wild berries and other NWFP, vegetables (peppers), lamb, cheese, fruits (apples), bee products, chestnuts, and flowers.

Moreover, for the same product, most of the time import values per unit are higher than export value per unit. This is partly due to the shipment costs of imports (to the border) and is usually due to a higher quality or a higher processing level of the imported products. However, some products are significantly cheaper at import than at export; hence such imported products compete favourably with domestic products of the same quality, if domestic production exists. This indicates a need to increase competitiveness of local production, including through skills development leading to more efficient production and processing. According to a study by the International Finance Corporation on the main food sub-sectors for Western Balkan countries and current use of processing capacities, data for Kosovo shows that processing capacities in dairy are only utilized by approximately 35 %, meat processing by 20%, and Fruit and Vegetable by around 40 – 50% of available installed capacities. This is a clear indicator of value chain potential initially in production, especially in increasing the yields from current producers, and market component of the value chain. In terms of skills development, there is clear indication of needs in improving farmer skills and knowledge for improving yields, as currently (as shown in more detail in the report below) the yield levels achieved in Kosovo are far below what would be expected based on the comparative data analysis with regards to natural conditions (quality of soil and climate conditions). The other gap lies in the sales and marketing components and increasing capacities of downstream value chain market participants.

⁴ Kosovo Agency of Statistics, Economic Accounts 2010-2012

⁵ See chapter 1-24 of the Combined Nomenclature for trade

⁶ Mid-term evaluation of ARDP 2007-2013, published in 2012

Engagement in these two directions would lead to improved efficiencies in the whole of the value chain, thus leading to improved competitiveness of domestic producers and subsequently import substitution and exports growth. Such a development would additionally have multiplier effects leading to the development of the agribusiness sector and increased employment.

AGRIBUSINESS SUB-SECTORS ANALYSIS

This section provides a general description and an overview analysis of the five selected sub-sectors in agribusiness. Each sub-sector is analyzed separately as presented below:

Dairy Sub-Sector

The dairy industry is currently the most developed agricultural sector and contributes to the overall country development, according to the Agriculture and Rural Development Plan (ARDP) 2009-2013. It has been noted that dairy farms contribute about €132 million to GDP, half the total value of the total agricultural production.

The production data on the dairy sector in this study are divided into production of milk and processing.

Milk Production (dairy farming)

The cattle milk sector is the most important sector within the animal products category. Over the last years efforts were made to turn milk production from own consumption towards market orientation, improve breeding conditions, introduce GAP (Good Agricultural Practice) in milk farms and increase the farmers' capacity for high quality milk production. Milk farmers continue to have problems with the sustainability of their farms as a result of the small scale structures (only 20 % of cow headcount are on farms with more than 15 heads). Further, low technology standards and use of poor genetic material (mainly cross breeds) for milk production is another constraint. The environmental protection on milk farm sites has still to be tackled over the next period to encourage the establishment of appropriate manure storage facilities and waste water treatment.

Over the last two years the supply network of the milk processing industry has developed quite well, with farmers and the processing industry agreeing to sign supply agreements for raw milk, which have lowered the intensity of farmers' movements from one dairy processing plant to another. By establishing new collection centers and equipping farmers with milk cooling equipment, the efficiency of milk collection has increased and the milk quality improved.

The total milk production is estimated at 377,983 t during the year 2012. Out of this, the cattle milk comprises most of the milk produced (95 %) with an average yield of about 1,825 kg per cow. The table below presents the quantity of milk production according to type during 2012.

Table 14: Milk production according to milk type (2012)

Type of milk	in t
Cow milk	368,607
Sheep milk	8,446
Goat milk	930
Total	377,983

Source: MAFRD, Dep. Agricultural Policy and Trade, 2012, estimation of working group

The low yield reported is mostly caused from inadequate feeding stuff and the poor genetic potential of used breeds.

The milk producing holdings are mainly small and medium sized farms. These farms have on average up to 20 milk cattle, as well as up to 200 heads of sheep and goats. These farms comprise 91-97% of farms active in milk production and hold 74–90% of the animals used for milk production. These farms are also considered to have potential for growth with the support of investment measures, especially investments in farms with 15+ cows or 150+ sheep and goats. Out of the total farms, about 67% of the total number of milk cattle (142,208 heads) is kept on farms with an average number of 2 cows per farm, which provides the clear indication for the low economies of scale and subsistence farming. These small farms are assumed not to be market orientated and the milk production is mainly used for self-consumption and direct sales. Shortages on the supply side ultimately affect the utilization of processing capacities, which remain very low. Improving yields and supporting milk producers for increasing the farm sizes will increase supply and jobs in farms, while at the same time allow processors to increase utilization of their capacities, thus having a positive effect on job creation through increased number of production shifts.

Milk Processing

The milk processing category is comprised of 36 registered entities including small/micro to larger scaled daily processing capacities of 200 to 100,000 liters. According to Food and Veterinary Agency, three dairies comprise 57.6 % of the existing processing capacities as presented in the following table.

Table15: Installed capacities of the processing industry (2012)

Installed technical capacities in l	Dairy companies	Capacity (l/day)	(%)
Milk packers up to 500l	9	4,500	0.9
1,000 - 5,000	17	51.000	10.3
10,000 - 35,000	7	154.000	31.1
80,000 - 100,000	3	285.000	57.6

Source: MAFRD, Dep. Agricultural Policy and Trade and Kosovo FVA

According to the categorization (A, B, C and D), 29 % of current processing capacities are under the category A as presented in the following table.

Table 1: Installed capacities of the processing industry according to categorization (2012)

Category	Dairy companies	Current Processing Capacities in lit.	(%)
A	3 (Bylmeti, Devolli, Euroлона)	130,000	29
B	11	156,050	35
C	18	120,200	27
D	4	40,500	9

Source: Kosovo FVA

The processing industry continues to face unfair competition from the informal market. Milk products and unprocessed fresh milk marketed through the informal market comprise around 30% of the total amount of milk produced in Kosovo.

Over the last years the milk processing industry has implemented investments from donations of the European Commission and other donors for the expansion of processing capacities, modernization of technological lines and the implementation of food safety standards. However, there are still companies lacking compliance with requested standards, like environmental and food safety, which has to be addressed over the upcoming period. In relation to the environmental protection the treatment of waste water from production and purification of the milk processing systems have to be tackled.

Investments were mainly oriented towards standard milk products and relatively less for new innovative products which are currently imported and for which an increasing demand can be recognized in the Kosovo market. The low degree of innovative products is mainly caused by the lack of qualified and skilled labour, technical capacity and the high costs related to the development of new / innovative products.

Only a few companies are dealing with the processing of sheep and goat milk. Sheep milk is mainly processed to cheese (around 90%), whilst the remaining amount is processed to fermented products.

Regarding the dairy sub-sector, the total annual consumption of milk in Kosovo is estimated to be around 340,000 liters per day, approximately 170 liters per person per year. Based on calculations of Ministry of Agriculture, Forestry and Rural Development ("MAFRD"), out of the total milk locally produced (239,535 tons per year), 110,608 tons are consumed on farm, a

further 94,727 tons are sold as raw milk, Ricotta ('xhiza'), sour cream and white cheese on the local open markets where subsistence and semi-commercial farmers mainly sell milk or home processed dairy products. Commercial and semi-commercial milk farmers sell to one of the nineteen licensed dairy processors (out of 36 existing processors).

However, only 34,200 tons per year of domestically produced milk is industrially processed. This is approximately 10.6% of total consumption (of 321,559 tons per year) and 29.4% of processed dairy products. This is an indication that the industrial processing installed capacities are heavily underutilized and there is still scope for improving efficiency and increasing production and employment in this component of the value chain. Imports account for 70.6% of industrially processed dairy products consumed in Kosovo⁷.

Table 16: Base-line Consumption and Supply of Milk and Milk Products 2007

	Percentage	Total (tones)	Local Production	Imports (tones)
Home consumption	34.4%	110,608.00	110,608.00	
Green (fresh) market	29.5%	94,727.00	94,727.00	
Processed market	36.1%	116,224.00	34,200.00	82,024.00
Share of the processed dairy market			29.4%	70.6%
Total	100%	321,559.00	239,535.00	82,024.00

⁷ Dairy Market Assessment Study, KCBS April 2008

Fruits and Vegetables Sub-Sector

The fruits and vegetables sub-sector dominates the agriculture production in Kosovo and this section provides an analysis of this subsector by looking separately at vegetables and fruits.

Vegetable production

The vegetables component of the sub-sector dominates the agricultural production in Kosovo. In some areas, such as Dukagjini Valley, vegetable growing is the main economic activity. Mostly, vegetables are cultivated in open fields, with the trend moving towards commercial and greenhouse production. Vegetable production, in general, represents the most intensive way of plant growing. The area of vegetables grown in Kosovo during 2012 was 14,557 ha, which is strangely by 8.1% lower than the figure in 2009, at 15,839 ha⁸. Based on the data from MAFRD, during the same period, the yield per hectare did not increase significantly. In principle, vegetable production is still seasonal and the market cannot be supplied continuously throughout the year. The number of farmers and their division into subsistence, semi – commercial and commercial farming is presented in the table below:

Table 8: Distribution of farm size of vegetable producers in open fields (2009 – 2012)

Farm size	2009		2010		2011		2012	
	Area (ha)	Farms	Area (ha)	Farms	Area (ha)	Farms	Area (ha)	Farms
Subsistence	< 0.2	140,000	< 0.2	140,000	< 0.2	140,000	< 0.2	140,000
Semi-commercial	0.2 – 0.8	5,000	0.2 – 0.8	5,100	0.2 – 0.8	5,304	0.2 – 0.8	5,570
Commercial	> 0.8	1,500	> 0.8	1,545	> 0.8	1,500	> 0.8	1,500

Source: MAFRD, data collection by municipalities

Small subsistence farmers are responsible for the 87% of the production yield, out of which about 25% of the production is consumed on the actual farm while the rest is marketed⁹.

Further, according to the MAFRD's data, different types of greenhouses cover around 200 ha. However, if one counts the smaller greenhouses, mainly for household needs (from 30 – 100 m²), the total area of greenhouses in Kosovo might add up to several hundred hectares. Job creation in greenhouses is high and import substitution can positively impact the trade balance. This is because vegetables require intensive labour engagement, while at the same time extending the production season to the entire year.

⁸ MAFRD Data

⁹ Comprehensive Agricultural Sector Evaluation Report, MAFRD 2010

Table 9: Area of greenhouses (2009 – 2012)

Type of greenhouse		Area (ha)			
		2009	2010	2011	2012
Simple tunnels	< 0.1 ha	12,500	13,125	13,781	14,470
Middle technology level (MTL)*	0.1 – 0.2 ha	173	181	192	207
Block system	> 0.2 ha	100	101	103	106

Middle Technology Level Greenhouses are constructed with sustainable materials and zinc pipes. This kind of greenhouses can be used for up to 20 years.

Source: MAFRD, data collection by municipalities

Open field production of vegetables is mainly located in the Anadrini valley; in the triangle situated on the Dukagjini field between Rahovec, Gjakova and Prizren. Around 2,500 ha of peppers are cultivated in this area (total in Kosovo 3,153 ha).

This sub-sector also includes potatoes that are produced and consumed in large quantities. It is also the only vegetable with a significant export flow, which exceeds imports in volume. However, the added value of exported potatoes is much lower than that of imports, suggesting downstream market pressures coming from perceived quality issues with Kosovo products as well as inappropriate marketing. The average size of potato growers is small, while commercial potato growers that have over 3 ha in size and are directly linked to the organized supply chains. The success of potato growers in Kosovo is also down to a well-functioning value chain creating pull side demand on primary producers.

Table 10: Vegetables: area in ha, 2009-2012

ha	2009	2010	2011	2012	Change 2012 / 2009 in ha	In %
Potatoes	3,376	3,760	3,746	3,198	-178	-5
Peppers	2,955	2,914	2,993	3,153	198	7
Beans (mixed)	3,891	3,390	3,064	2,776	-1,115	-29
Tomatoes	821	935	967	1,271	450	55
Onions	798	1,043	1,074	881	83	10
Watermelons	954	1,141	1,240	847	-107	-11
Pumpkins (mixed)	884	853	768	637	-247	-28
Cabbage	962	836	842	568	-394	-41
Melons	118	175	171	271	153	130
Cucumbers	316	343	359	255	-61	-19
Beans	221	219	196	178	-43	-19
Garlic	97	150	152	141	44	45
Courgettes	74	94	94	106	32	43
Leeks	62	113	121	93	31	50
Spinach	50	71	75	40	-10	-20
Pumpkins	102	103	112	34	-68	-67
Lettuce	37	48	51	29	-8	-22
Carrots	43	53	56	27	-16	-37
Cauliflower	12	7	4	13	1	8
Parsley	8	11	11	9	1	13
Peas	33	32	34	7	-26	-79
Beetroots	5	4	4	2	-3	-60
Egg plants	5	6	5	2	-3	-60
Radishes	3	3	3	1	-2	-67
Mushrooms	1	1	2	2	-1	-100
Other vegetables	11	15	13	16	5	45,4
Total	15,839	16,320	16,157	14,557		

Source: KAS, Agricultural Household Survey 2009 – 2012

Table 11: Vegetables: production in t, 2009 - 2012

Tonnes	2009	2010	2011	2012	Change 2012 / 2009	In %
Potatoes	58,687	87,354	87,036	33,407	-25,280	-43.08
Peppers	46,669	93,924	96,322	50,744	4,075	8.73
Watermelons	18,896	25,743	27,975	17,080	-1,816	-9.61
Cabbage	27,895	22,988	23,154	13,975	-13,920	-49.90
Tomatoes	15,107	60,318	60,358	13,693	-1,414	-9.36
Pumpkins (mixed)	5,694	6,202	5,580	8,668	2,974	52.23
Onions	8,697	13,257	13,655	8,601	-96	-1.10
Cucumbers	7,199	12,902	13,502	5,239	-1,960	-27.23
Beans (mixed)	6,684	5,064	4,577	3,474	-3,210	-48.03
Melons	1,318	2,138	2,090	2,455	1,137	86.27
Courgettes	1,195	1,861	1,846	2,065	870	72.80
Leeks	814	1,559	1,675	1,293	479	58.85
Garlic	456	870	881	557	101	22.15
Pumpkins	1,496	1,415	1,539	431	-1,065	-71.19
Carrots	352	494	519	320	-32	-9.09
Spinach	280	860	899	262	-18	-6.43
Beans	455	511	456	249	-206	-45.27
Lettuce	549	608	635	200	-349	-63.57
Cauliflower	218	131	75	169	-49	-22.48
Parsley	52	67	71	50	-2	-3.85
Peas	80	96	103	34	-46	-57.50
Beetroots	65	57	49	27	-38	-58.46
Egg plants	64	134	98	17	-47	-73.44
Radishes	18	23	21	6	-12	-66.67
Mushrooms	6	16	19	19	-13	-216.670
Other vegetables	49	75	66	111	62	126.53

Source: KAS, Agricultural Household Survey 2009 – 2012

Fruit production

Fruit production is still underdeveloped, although it is considered as a high priority sector with good potential for job creation and income generation. Kosovo's market has been characterized by high import levels to cover domestic demand for fruits. The low level of yield from domestically grown fruits as well as the lack of longer term storage facilities are a couple of the root causes behind this. Recent trends show that the fruit sector is developing fast and production capacities and yields are improving. Further, there have been major investments in storage capacities in recent years. Both of these should help the fruit production component develop quickly and eventually replace the high quantities of imported fruits and fruit products.

In terms of production capacities, apples and plums have the highest share in terms of planted surface comprising 50% of all planted land. They also make the most part of the annual fruit production. Other important fruits are pears and sour cherries. In recent years, 100 - 150 ha of new orchards have been established annually, due to a high interest from farmers. The dominating type is still apples. The greatest share of the production area for apples, plums and strawberries is in household gardens and extensive orchards.

The table below illustrates the fruit production area, production amount and yields over the period 2010 to 2012.

Table 12: Fruit Production

Fruits	2010			2011			2012		
	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)	Area (ha)	Production (t)	Yield (t/ha)
Fruits	6,578			6,733			5,322		
Apples	1,661	12,545	7.55	1,790	13,523	7.55	1,725	8,120	4.7
Pears	352	2,495	7.09	354	2,510	7.09	326	1,562	4.8
Quinces	39	275	7.05	38	265	6.97	52	506	9.7
Medlars	22	90	4.09	22	92	4.18	16	66	4.1
Plums	1,063	6,957	6.54	1,063	6,957	6.54	1,404	17,514	12.5
Apricots	16	89	5.56	13	71	5.46	22	83	3.8
Peaches	41	177	4.32	42	180	4.29	39	173	4.4
Cherries	50	257	5.14	50	256	5.12	50	167	3.3
Sour cherries	58	255	4.40	58	255	4.40	107	1,175	11.0
Walnuts	63	314	4.98	75	371	4.95	57	234	4.1
Hazelnuts	13	18	1.38	15	21	1.40	2	2	1.0
Chestnuts	-*	125	-	-*	125	-	-	-	-
Strawberries	49	294	6.00	45	270	6.00	52	275	5.3
Raspberries	1	2	2.00	0	1		-	-	-
Blackberries	10	73	7.30	10	73	7.30	-	-	-
Vine grapes	2,504	22,536	9.00	2,510	12,048	4.80	2,517	22,656	9.00
Table grapes	636	6,042	9.50	648	4,536	7.00	702	7,026	10.00

* Chestnuts are collected from forests; therefore there is no cultivated area.

Source: KAS: AHS 2009-2012, Kosovo Institute for Viticulture and Oenology, Vineyard cadastre, MAFRD – DEAAS

The reduction in area for apples and strawberries in 2012 reported in the KAS table above seems strange and is inconsistent with other sources. This sudden decrease may be attributed to the data collection and reporting being outsourced by KAS, thus the data collection methodologies and data analysis were changed resulting in strange movements between 2011 and 2012.

Meat Sub-Sector

The meat sub-sector is considered to have a good potential in Kosovo, as the demand for meat products is high, and given the right approach, it can impact the overall economic growth. Only several farms are focused on intensive fattening with a relatively low number of heads. Therefore, most of the meat used for processing is imported and only few of the small processors use fresh domestic meat. Beef is the type of meat most in demand in Kosovo, followed by poultry and lamb.

The meat sector is still underdeveloped in Kosovo, especially in relation to the supply of fresh meat. Further, the needs of the meat processing industry are not met. Currently, Kosovo cannot fulfil its needs for fresh meat and processed meat products, although the quality of locally produced meat is of a better quality than the imported products.

Locally meat is considered as a by-product of milk production as animals for slaughtering are mainly released from milk production and young animals that are not planned for reproduction. A second option for the supply of fresh meat is through breeders, focusing on cattle breeding. However, there are currently only a few breeders with specialized know-how operating in Kosovo. Another option for processors is to buy meat from traders through purchase of calves or bulls for slaughtering and retailing from Serbia or Bulgaria.

The table below shows the data for slaughtering and livestock domestic meat production:

Table 17: Livestock for slaughtering (heads) and domestic meat production (t) in 2012 (excl. Poultry)

Animal	Number of head	Amount in t
Cattle	103,610	21,551
Sheep	16,240	429
Lambs	148,800	2,772
Goats	1,380	36
Kids	15,600	234
Pigs	35,124	5,460
TOTAL	320,754	27,982

Source: MAFRD, Department of Agricultural Policy and Trade, 2013

According to the MAFRD data, 27,982 tons of meat were produced in licensed slaughterhouses during 2012, out of which 21,551 tons of cattle meat. A large amount of cattle meat is provided by animals imported for slaughtering purposes, while domestic breeding remains very low. Meat yields and the quality of domestic production are good as livestock for slaughtering comes mainly from breeds combined for milk and meat (e.g. Simmental).

Based on estimations from MAFRD around 120,000 – 150,000 sheep are slaughtered annually and the production of lamb and mutton meat was 2,722 tons in 2012. Mainly lambs and adult

sheep are slaughtered at the age of 5 to 6 months; for lambs (live weight 25 kg), while sheep are slaughtered at the age of 12 months (live weight 35 – 40 kg).

The situation is the same for goat meat or mainly Kid meat that is used for consumption. The estimations are that around 12,000-15,000 kids are slaughtered annually, mainly at the age of 5-6 months when they reach an average live weight of 25-30 kg. Sheep, lamb and goat meat is mainly in demand from hotels and restaurants.

Pork - is consumed by about 10% of the population who are mainly Christian Orthodox or Catholic. Kosovo had a pig population of 55,775 heads in 2012 and pork production was about 5,460 t in 2012. Pork is mainly consumed as fresh meat, dried meat products or traditional salami. Usually the meat is used for home consumption, while in retail mainly imported meat is sold.

With regards to poultry, the latest data from MAFRD report show that chicken meat is the second most frequently consumed meat after beef. The estimated market for live broilers in Kosovo in 2012 is 1.7 Million with Konsoni being the biggest importer of Broiler Day-Old-Chicks constituting more than 75% of imports during 2012. The chicken meat market in Kosovo in 2012 was estimated to be around 110 Million Euros or around 43,000 tons, with 5.5% being domestically produced meat¹⁰. Chicken meat consumption has grown from 15.25 kg per capita in 2010 to 25.67 kg per capita in 2012, or from 20% of the value of all meat consumption from 2010 to 30% of the value of all meat consumption in 2012.

There is high demand for meat and meat products while production is low and most of the meat is imported. After import, most of the meat is processed into different types of products based on consumer demand. A large proportion of imports is frozen meat, mainly from Brazil, while semi-frozen meat is imported mainly from Poland. Small quantities are imported as live animals mainly from Serbia and Bulgaria which after being slaughtered and then sold as fresh or processed meat in Kosovo market.

Table 18: Balance of consumption of meat in 2012 (excl. poultry)

Name	Quantity (tons)	Participation (%)
Local production and slaughtering (ton)	27,982	48.81%
Import (ton)	29,341	51.19%
Total consumption (ton)	57,323	100.00%

With regards to poultry meat, the following table presents the amounts consumed and trade data:

Table 19: Balance of consumption of poultry meat in 2012

Name	Quantity (tons)	Participation (%)
Local production (ton)	2,240	5.77%
port (ton) – mainly frozen	36,555	94.22%

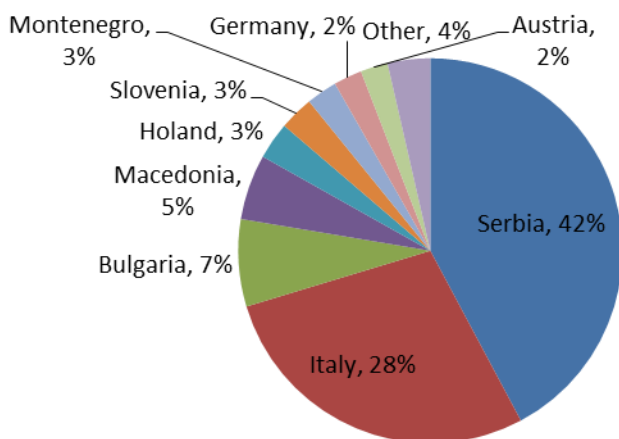
¹⁰ Separate market research study conducted by RECURA – based data from customs, KAS and retail chains.

Non-Wood Forest Products (NWFP) Sub-Sector

Kosovo used to be one of the biggest suppliers of NWFP in ex-Yugoslavia, including mushrooms, forest berries, and wild medicinal and aromatic plants. At the time, similarly to the present, Kosovo was the primary supplier while processors were based in other countries. Kosovo has a comparative advantage in that the quality and variety of the NWFP products from Kosovo enjoys good international reputation. Further, the low cost of labor, in terms of collection, cultivation and processing of these products contributes further to this competitiveness. Finally, Kosovo has a well-established and functioning network of collectors and semi-processors who have established relations with rural communities and continuously stimulate these communities for collection and improved understanding of these products.

NWFP are part of a larger sub-sector (Horticulture) and the NWFP participation in the share of the Agribusiness sector is currently estimated at less than 10 %. The total annual final market Euro value of NWFP products is estimated at close to 10 million Euro per annum, giving a large value added in semi-processing and collection and aggregation services. It is reported that there are 13 different companies active in this sub-sector in Kosovo, with an annual turnover of 50,000 to 2,500,000 Euro. Most of the companies in fact sell under 100 tons per year, while only a few leading companies are trading over 200 tons of mushrooms and other NWFP products per year realizing an annual turnover of over 1,000,000 Euro each.

Most of the NWFP products are exported, with most of the production volumes ending in western European countries, especially Italy and the German belt countries, as semi-processed products; whereas only 5% is sold domestically. Mushrooms, being the largest of the NWFP products, are exported mainly to Italy, with Serbia being a large destination however serving as a middleman hub for further subsequent sales mainly to Italy again. This is due to existing trade agreements of large buyers with Serbian collectors and semi-processors. The following table presents the destinations of exports during the last three years according to customs data (2010-2012).



Currently in Kosovo farmers from rural area collect non-wood forest products in the mountains all over Kosovo. The total potential area for collection of these products is over 100,000 hectares, however currently only around 25% of this area is used for collection. A study conducted by HPK in cooperation with GIZ and CARE International found that Kosovo has a total potential for 28,000 tonnes in 85 identified species in five regions assessed: Alpet Shqiptare, Sharri, Gollaku, Mitrovica and Podujeva, as well as Central Kosovo. According to this study, only 6% of the available potential is currently utilized, mainly in blueberries, juniper berries, mushrooms and some medical plants. Additionally, based on available data and key informants, there are around 100 hectares of cultivated non-wood forest products from which 85 hectares are certified as Bio products mainly through an aggregator/trader in Istog (APS).

Wine Sub-Sector

Due to its geographic location, the climate in Kosovo provides excellent conditions for the development of vineyards. The conditions are similar to the neighboring countries, such as Macedonia, Greece and Albania. Kosovo's climate is especially suitable for early varieties of grapes, while late ones might have problems with ripening due to the fall of temperatures. The vineyards are mainly situated in the hilly areas (350-600 meters in elevation), which are well exposed to the sun. The table below provides an overview of the current vineyard areas.

Table 27: Area (in ha) of vineyards (2009-2012)

Vineyard area	2009	2010	2011	2012	Change 2012/2009 in ha	Change 2012/2009 %
Rahovec	2,240	2,218	2,230	2,233	-7	0%
Suhareka	649	654	652	655	6	1%
Prizren	151	173	181	193	42	28%
Malisheva	52	35	35	35	-17	-32%
Gjakova	37	48	49	50	13	34%
Peja	7	5	5	5	-2	-29%
Klina	5	5	6	7	2	40%
Istog	3	2	1	1	-2	-80%
Total	3,144	3,140	3,159	3,179	35	100%

Source: Kosovo Institute for Viticulture and Oenology, Vineyard cadaster (2008/2009)

The vine-growing area in Rahovec is the most important one, followed by the region around Suhareka. Together, they comprise over 91% of the overall surface. The areas with wine grapes comprise 78.16% of the total surface, while 21.84% are planted with table grapes. Based on data from MAFRD working group, over 43% of the vineyards are older than 30 years. Wine

production is stabilizing and companies are finding their markets as presented in the table below:

Table 28: Wine production in litres (2009-2012)

	2009	2010	2011	2012
Red wine	4,077,670 l	2,081,645 l	1,118,376 l	2,517,581 l
White wine	2,321,270 l	974,210 l	403,051 l	2,769,062 l
Total	6,398,940 l	3,055,855 l	1,521,427	5,286,643 l

Source: Institute for Viticulture and Oenology

In 2011, the wine production experienced a drop, which was caused by the unfavourable weather conditions in spring time with low temperatures and snow. The production recovered in 2012 with main types of Pinot Noir, Vranac & Game, Merlot, Cabernet Sauvignon, Riesling, and Chardonnay. The total production of wine was 5.3 million litres. It is estimated that wine producers declare only 35% of their actual production.

The grape market has been stable over the last years, with only slight fluctuations in price, which has been dependent on cultivar and quality of the product. However, the production costs are high as the land is not intensively cultivated and small vineyard plots lead to reduced efficiency in cultivation operations.

Table 29: Production, export and import of grapes (t) and wine (million l) 2009-2012

	Grapes (t)				Wine (million l)			
	2009	2010	2011	2012	2009	2010	2011	2012
Export	90	212	78	6	3.443	2.403	4.850	4.872
Import	2,272	2,326	2,055	925	0.079	0.628	0.084	0.412
Production	20,270	22,536	12,048	22,779	6.399	3.056	1.521	5.287

Source: Institute for Viticulture and Oenology

Until now, Kosovo's main export markets for wine have been Croatia and Serbia, followed by Germany, Macedonia, Slovenia and Romania. Kosovo producers have exported a total of 25 million liters between 2007 and 2012. The exports occur through around 33 companies, active in the trade of wine and other grape based products. Currently, the grape processing industry consists of 15 companies that are licensed by MAFRD.

Value Chain Description

This section presents a description of the value chains of the five-selected agribusiness sub-sectors, namely dairy, meat, fruits and vegetables, non-wood forest products and wine sub-sectors.

Input supply

The **input suppliers** are key on the operations of the value chain. The input suppliers deal with supplies of seeds and fertilizers, supplies of farm equipment, irrigation and on the field infrastructure such as irrigation pipes, plastic foil, ties, metal and concrete poles, etc. Input suppliers are also present in field operations through agriculture pharmacies, machinery sellers, nurseries, and others. There are about 150 agriculture pharmacies in Kosovo, out of which 3 or 4 very well known. In the fruit and vegetable sub-sector the agriculture pharmacies play also the vital role of advisors on seeds used, pest management and plant protection, and other farming practices, thus effectively playing the role of extensive advisors. In terms of skill and knowledge transfer, the stakeholders involved at this level of the value chain play a vital role, maybe even larger than formal and informal education mechanisms.

The **feed suppliers** are key players in the milk and meat sub-sector. Majority of feed suppliers supply the dairy farmers with feed, majority of which is imported. In a number of occasions, it can happen that the feed suppliers import components of feed such as maize and minerals and complete the finished product in Kosovo. However, there is limited number of feed suppliers in Kosovo and the animal feed comes mainly from regional countries.

The **cattle suppliers** provide cattle breeds to the dairy and bull fattening farmers. The dairy farms use a cattle breed suitable for milk but also meat, called Simental. They are not specialized breeds for milk production, such as Holstein, thus affecting the production yields. The supply with cattle is rather irregular and in many occasions difficult to find at the right time, since the market demand is very low. In the meat sub-sector the supply chain depends largely from the imported calves or slaughtered cattle. The **breeding** for local meat fattening is conducted by local veterinary services. There are less than 100 farms (mostly small) involved in bull fattening alone. Others are usually combined farms for meat and dairy.

Imported animals are supplied as live calves and cattle to farmer growers. However there are also imports of already slaughtered cattle to slaughterhouses, or directly to meat processors. Many imports of live cattle are made illegally through the porous borders with Serbia. The supplies of meat are thus both fresh (Poland, Serbia) and frozen.

The **input suppliers** for the wine sub-sector are limited and specialized, and also reside in the vicinity of Rahovec municipality. The input suppliers provide the necessary pesticides, wine grapes and other equipment. As in other sectors, the input suppliers play a large role in advising

wine grape producers. Another important component of the cycle are the wine producers from the region, who through specific demands or through advisory services to growers help improve the quality of the grapes used for wine production.

Primary Production

The **farmer growers**, as per the simplicity of the term used, are the growers of fruits and vegetables. There are around 30,000 farmers involved in fruit and vegetable production. Vital to the value chain, the farmer growers determine the flow of the operations in the downstream. The farmer growers purchase inputs, produce and then after harvesting, depending on the nature of production, timing, price, quality, farmers deliver the goods to either **collection centres, wholesale and retail fresh markets or to processors**. There has been a lot of work done on developing the skills and capacities of the Kosovo farmer producers over the last 15 years by various NGOs, GOs, and local entities, however there are still noticeable shortcomings with regards to former growers capacities reflected in lower than expected yields.

The **wildly grown NWFP** are scattered throughout Kosovo, with MAPs and inventarisation conducted about five years ago. The capacities of utilization/collection, although growing over the recent years, are still way below the production capacities of Kosovo forests. The **collection centres** are also scattered throughout Kosovo, mainly in mountainous areas. There are about 40 collection centres of NWFP that involve more than 3,000 collectors. The collection centres, besides the collection of NWFP also perform work on semi processing, such as deep freezing, drying, cutting and packing as well as often marketing (exports in bulk to third countries) of NWFP.

The production of **cultivated NWFP** is very limited at this stage. There are about 200 Ha of cultivated herbs and berries, but mainly herbs. The cultivated herbs are directly delivered to large collection centres or processors. The system is organized with cooperant farmers, where the large Collection Centres provide inputs, Technical Assistance and secure markets. In this instance the producers focus only on production and gain a percentage share in revenues with only a small investment.

The Dairy Farms are responsible in the value chain for raw milk production. There are about 2000 dairy farms in Kosovo, out of which only 10% commercial farms. The dairy farms deliver directly to Milk Collection Centres, or in cases of large dairy farms (with over 30 milking cattle) the processors provide direct pick-up of milk from the farms.

The **farmer producers of wine grape** are mostly located in Rahovec and Suhareka municipality. There are about 4000 Ha of wine grape. The wine grape producers are individuals that produce for main wineries in Kosovo. The improvements in growing technology are still lacklustre and there is still a lot of space for development, whilst new employment prospects are limited due to lack of available land in that specific wine growing region. Majority of the quantity is being sold to wineries for wine production.

Support structures

The advisors provide technical assistance to growers, collection centres and also to input suppliers. The entities that provide such services are: Ministry of Agriculture (MAFRD) Advisory Services, located in each municipality. The advisory system still leaves a lot to desire, despite numerous attempts of reforms to the system. There are also private Consultancy Companies that are just emerging, stronger at advices related to finance, administration and business planning. The Technical Assistance related to production is still very limited and unstructured. The advisors in the value chain are also input suppliers, mentioned above, who play quite a large role in the process.

The Quality management and Certification is provided by regional and EU certification preparation bodies and auditors. There are at least three large Collection Centres and processors certified with BIO certificates. The costs for BIO certificates are covered through various grant schemes, however recently the companies / producers themselves are investing in quality certification since it provides added value and easier market penetration. The majority of cultivated areas with NWFP in Kosovo are certified with a BIO certificate.

The **veterinary services** are part of advisory services in the dairy sub-sector. The veterinary service providers offer animal health services to dairy farmers, breeding, feeding advice and good husbandry practices. The veterinary is the main advisor in the dairy and meat sub-sector. There are state run veterinary services throughout Kosovo and also individual private practitioners that provide such services. It is maybe the only service that farmers have shown not to mind paying for the costs of advice and service.

Collection centres

There are a limited number of **Fruit and Vegetable collection centres** in Kosovo. They are located in vicinity of known production areas, such as Krusha and Xerxa for pepper and tomato production. The collection of fruits in Kosovo is rather scarce. A couple of processors also serve as collection centres for fruits and vegetables too. There are three new, still not active, large fruit and vegetable collection centres that have been invested through public private partnership in Gjilan, Peja and Xerxe, which are state of the art and are expected to improve the situation regarding the collection centres. The industry of **Fruit and Vegetable Processors** in Kosovo is rather limited. The processing is mainly focused on vegetables, and only a couple process freshly collected fruits from local growers. The largest quantities are still imported, as fresh but mainly as semi-processed goods. The number of processors in Kosovo is around 15, out of which only five are medium scale.

There are about 50 **Milk Collection Centres** in Kosovo, which gather milk from dairy farmers, cool it down and deliver the raw milk to the Dairy Processors. The MCCs are responsible to conduct basic milk analysis for each farmer supplier, and provide feedback on quality and payment terms to the dairy farmer. The MCC is some sort of intermediary between the dairy farmer and the dairy processor that benefits from a percentage pay out for intermediating in

the transaction. There are two types of MCCs, either located at a larger farm, which collects its own farm production but also collects the milk from other farmers in the vicinity. There are also MCCs that are not located at any dairy farm, but operate as an intermediary business and only collect milk from dairy farmers and delivers to dairy processors.

The large CC in the **NWFP sub-sector** are crucial players of this value chain, that drag the quantities, number of people involved and provide knowledge to the system, based on market demand. The large CCs collect directly from smaller collection centres and from cultivators of NWFP. There are only three large CC and processors that serve also as a market for the collection centres and cultivators. More than 90% of the quantity collected is **exported**, to larger processors of mushrooms (mainly Italy directly or through larger regional collectors mainly in Serbia for the Italian market), while with the herbs and medicinal plants to export pharmaceutical, food and cosmetic industry, and very little to **local tea producers**, only one **enteric oil producer** (in case of herbs and berries) and **local resellers**.

The **meat and wine sub-sectors** do not have collection centres as part of the value chain. The transfer of goods goes directly from the producer to the processor.

Processing cluster under value chains

The industry of **Fruit and Vegetable Processors** in Kosovo is rather limited. The processing is mainly focused on vegetables, and only a couple of businesses process freshly collected fruits from local growers. The largest quantities are still imported, as fresh and semi-processed goods. The number of processors in Kosovo is around 15, out of which only five are medium sized or larger.

There are six large **dairy processors** and about 35 in total. The dairy processors collect the milk from the MCCs and large farmers. The dairy processors also conduct chemical and bacteriological analysis of milk and provide the results to the MCCs or the direct dairy farmer suppliers. The processors, in many instances, also provide advice on quality improvements to a number of supply farmers. The milk is mostly processed into cheese, yoghurt, UHT milk (only one processor), other yoghurt based products and limited quantities into fresh pasteurized milk. The large dairy processors employ a wide range of professionals, starting from food technologists, line managers, sales personnel, marketing, finance and administration. Most of the sales are to the local market (**retail and wholesale**) and very limited quantities are exported.

There are around 50 **slaughterhouses** that operate in Kosovo, most of them micro enterprises. There are only a couple medium sized slaughterhouses, presented in the first part of the report. The skills and employment generation is rather limited at slaughterhouse level, however the need for skilled butchers has been emphasized. The **meat processors** in Kosovo can play a diverse role in the value chain. In some instances the meat processors can play the role of importer of fresh and frozen meat too. There are only five larger meat processors, which employ more than 20 persons and process larger quantities of meat. The demand for skilled

labour at this part of the value chain is high and underdeveloped, taking into consideration the potential for development and growth of this sub-sector.

The wineries are a key component on the wine sub-sector value chain, since most of the production is dedicated for the wineries. There are two large wineries and the others are small to medium sized family run businesses, mostly located around Rahovec and Suhareka. The number of people involved in the wineries is not very large; however technical capacities of employees need further development, especially with regards to enology skills, safety, packaging, as well as sales and marketing.

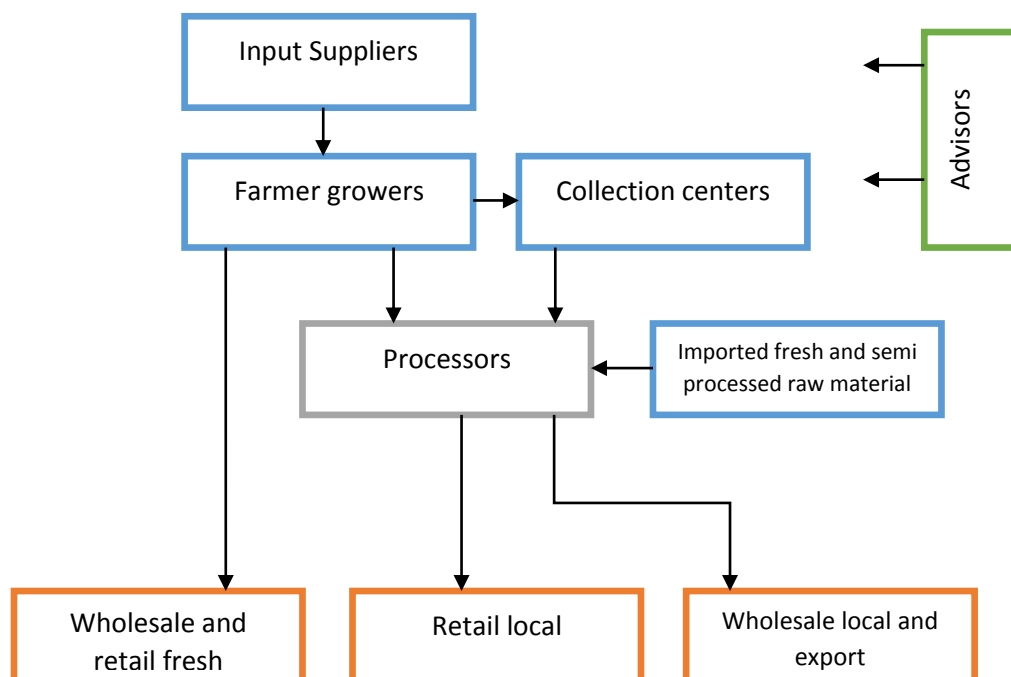
The Market

In the NWFP sub-sector more than 90 % of the quantity is **exported** to larger aggregators or wholesalers in mainly Italy (mushrooms), while herbs and medicinal plants are mostly exported to the pharmaceutical, food and cosmetics industries, while very small quantities of mushrooms are sold in the local market, and the same with herbs to **local tea producers**, and only one **enteric oil producer** (in case of herbs and berries) and **local resellers**.

Whilst for the milk, meat, fruits and vegetable sub-sectors the sales are mainly for local market (**retail and wholesale**) and very limited quantities are exported. The market potential for locally processed goods is very large, especially in terms of import substitution.

On the other hand wineries sell most quantities directly to the **wholesale market**, usually bottled for the domestic market, while mainly in bulk for exports. At least 80% of wine produced in Kosovo is exported to regional and EU markets. The sales to the **retail** market are very limited, and usually conducted through local distributors in larger towns or directly to retail and the HORECA sector.

The following graph represents a general overview of the value chain process for the five-selected agribusiness sub-sectors.



Education Providers

The skills set required within the agribusiness in Kosovo today is still limited, nevertheless there are many skills that are currently demanded in the market and that not being fulfilled by the labour supply or by the output from formal and non-formal vocational education system in Kosovo. As the agribusiness sector develops further, there will certainly be a need for further sophisticated skill sets, which will need to be fulfilled by the education system in Kosovo if we are to see the agribusiness sector develop to its full potential.

The formal agricultural education is under the mandate of the Ministry of Education, Science and Technology (MEST). Additionally, the Ministry of Labour and Social Welfare offers professional technical training for unemployed young people; whereas the Ministry of Agriculture, Forestry and Rural Development (MAFRD) has a specific mandate to offer informal agricultural education, on the job training, workshop and dissemination of best practices for farms and other rural activities.

University level education providers

The Faculty of Agriculture and Veterinary, under the auspices of the University of Prishtina, and the Faculty of Agribusiness, under the auspices of the University of Haxhi Zeka in Peja, are the two main institutions that offer university-level education in agriculture. These two faculties provide courses related to fruits and vegetables, dairy and wine processing under the Food Technology program. In addition, the Faculty of Agriculture and Veterinary in Prishtina consists of two separated departments that deal with the production of Fruits and Vegetables, through the departments of vegetable cultivation and the fruit cultivation department. Furthermore, the Faculty of Agriculture in Prishtina is the only one to have a separate wine department. The Faculty of Agribusiness in Peja, on the other hand, offers related courses for this sub-sector, such as plant protection and chemistry-technology.

However, none of these institutions offer specific courses related to the meat and non-wood forest products (NWFP) processing. The meat sub-sector is only partially covered under the livestock and veterinary departments within the Faculty of Agriculture and Veterinary in Prishtina. On the other hand, the NWFP sub-sector is only partially covered within the Faculty of Biology, where students are introduced to the course of Botany, which enables them to receive knowledge on the herbs collection process.

The Food Technology Department, within the University of Mitrovica, also provides relevant educating, however there seem to be issues relating to the fact that classes provided there are too theoretical.

Vocational Schools

In terms of vocational schools, there are five of them that provide specific programs and courses for the five selected agribusiness sub-sectors: dairy, meat, fruits and vegetables, non-wood forest products (NWFP) and wine. The courses provided by the vocational schools are listed below:

1. ASS “Abdyl Frasheri” in Prishtina, which offers the following specific programs:
 - a. Food technology – dairy processing, fruits and vegetables processing, meat processing
 - b. Agribusiness
 - c. Chemistry technology
 - d. Horticulture
 - e. Plant protection
2. ASS "Adem Gllavica" in Lipjan, which offers the following specific programs:
 - a. Food technology – fruits and vegetables processing, meat processing
 - b. Agribusiness
3. ASS "Arberia" in Gjilan, which offers the following specific programs:
 - a. Food Technology – dairy processing, meat processing, wine processing
 - b. Veterinary
 - c. Horticulture
 - d. Biotechnology
 - e. Plant protection
 - f. Orchards and vineyards
4. ASS “Bahri Haxha” in Vushtrri which offers the following specific programs:
 - a. Food Technology – Fruits and Vegetables Processing, meat processing
 - b. Agribusiness
 - c. Biotechnology
 - d. Chemistry technology
 - e. Horticulture
 - f. Vegetable production and crop
 - g. Plant protection
5. ASS “Zenel Hajdini” in Ferizaj which offers the following specific programs:
 - a. Food Technology – dairy processing, fruits and vegetables processing, wine processing
 - b. Horticulture
 - c. Vegetable production and crop
 - d. Plant protection

- e. Biotechnology and zoo-technics
 - f. Orchards and vineyards
6. ESS “Ali Hadri” Peja
- a) Food technology
 - b) Horticulture
 - c) Orchards and vineyards
 - d) Farming and vegetable production
 - e) Livestock
 - f) Plant protection
 - g) Veterinary

Advisory Services Providers

Public Advisory services are organized in three levels:

- ↳ Central level,
- ↳ Regional level and
- ↳ Municipal level.

Although there is clear support for these services at the policy level, the actual implementation on the ground leaves a lot to be desired for.

Kosovo’s New Strategy for Agriculture has analyzed the current system of education and vocational training for the sector. The support for the training of farmers is provided under ARDP 2007-2013 measure “Vocational Training”. The Department of Advisory Service of the MAFRD is in charge for the implementation of this measure.

The Ministry of Labor and Social Welfare, under its Vocational Training Division has established and developed 8 Vocational Training Centres (VTC) in the five economical regions of Kosovo as well as an additional two sub-regions (Ferizaj and Gjakova) and one mobile VET center. The vocational training centre in Peja offers a number of free theoretical and practical agribusiness courses for adult education. Specifically, the VTC in Peja offers related programs to non-wood forest products (NWFP) such as chemistry and plant protections as well as courses in the dairy sub-sector. Nevertheless, these VET centers are not utilized to their full potential. The key problems with these VET centers lie in their model of operations as well as the lack of cooperation with the private sector businesses, thus not utilizing their capacities and linkages that can be created with the labor market needs. These centers provide an infrastructure that can be very easily utilized to its full potential with minor interventions in their model of operations.

Don Bosko is another active organization in vocational education, which has been established in 2003 in Prishtina and since 2012 with an additional branch in Gjilan. Don Bosko is part of the worldwide network of vocational high schools and centers. This center provides technical

and vocational training courses within the agriculture sector, specifically the fruits and vegetables processing where students are taught on the processing of marmalades. The school contains laboratories where practical trainings are provided to the students.

The trainings are also initiated and implemented by various donor-funded projects, which carry out the trainings independently from MAFRD training activities. USAID and Swiss Interco-operation have provided trainings mainly to farmers in the fruit and vegetable sub-sector. Also, DANIDA implemented a multi-annual program in four secondary agriculture vocational schools. This project aimed at enhancing the quality of professional skills of young graduates and better prepare them for the labor market. The focus was primarily on providing teachers and students access to the updated and qualitative teaching and learning materials.

USAID NOA - The New Opportunities for Agriculture Program supported internship programs within processing companies, collection centers and with input dealers, with the intention of stimulating the development of private advisory services. According to the information received by NOA, 55 students or graduates from the Faculty of Agriculture participated in this program and at least 20 % of them got permanent jobs within these companies. In addition, USAID/NOA is providing advisory, specifically in the fruits and vegetables sub-sector, on semi-commercial and commercial farmers at all levels including production, post-harvest and processing (IADK - small scale processing, women).

IADK is an organization based in Mitrovica focusing on improving socio-economic conditions in rural areas, reducing unemployment through agriculture and lowering the level of agricultural imports, and promoting the production of local healthy food. IADK aims at developing farmers' production capacities, increasing their market competitiveness, and disseminating knowledge for best practices of agriculture production and home food processing. Within the fruits and vegetables sub-sector, the organization provides advisory services to farmers directly and mainly at subsistence and semi-subsistence levels.

Women to Women is a locally registered NGO that provides training on a regular basis to women in rural areas for the following sub-sectors: dairy, fruits and vegetables, beekeeping and NWFP. The German GIZ is providing some support to the wine sub-sector and has been grants support coupled with some technical assistance provided by EU and MAFRD in last two years.

In addition, there are many other active players within the agribusiness sectors that provide advisory services or trainings for specific skills and capacity building covering the specific

sub-sectors agriculture needs. An interesting group of advisory services providers are input dealers all over Kosovo who sell inputs to the farmers of fruits and vegetables sub-sector. In addition, the Association of Dairy Producers provides continual valuable advice to its members. The Veterinary Chamber is also active in the country, which could serve as a cluster support mechanism on production.

Professors of the Faculty of Agriculture and Veterinary in Prishtina are also supporting private sector initiatives on need basis, but only few of them have professional engagement contracts to manage greenhouses, orchards or other types of production. Furthermore, the professors from the Faculty of Biology do provide some direct services with regards to the non-wood forest products (NWFP) sub-sector. With regards to the wine sub-sector, informal wine sector education and advice is provided mainly by more senior local experts and the Wine Institute in Rahovec. In terms of advisory services that cover the meat sub-sector, there is only limited advisory support provided through veterinaries or livestock feed sales companies.

Findings from In-depth Interviews

This section provides the main findings and results derived from the in-depth interviews, which were conducted during the implementation of the skills needs survey, to further detail and understand the real need for skills in the five selected agribusiness sub-sectors and at the same time gain an understanding of the availability on the supply side. There were three groups of interviewees: the agri-business private sector employers, currently employed people in the sector, and the education providers in the agribusiness sector. There were seventeen companies interviewed in this process, including both processing and collection centres, which were selected based on their size (small & medium sized companies), geographical coverage, and product diversification. With regards to the education providers, there were eleven of them interviewed, including the university-level institutions, vocational schools and vocational training centers. The main issues that were discussed with the selected companies and the education providers are separately discussed below.

Key findings from Education Providers

When analyzing the various sources of education provision, the challenges vary based on whether the education providers is part of the formal education or informal vocational trainings provider. The formal education providers, both at secondary and university level, offer theoretical education, which only touches on some of the issues and skills needed by the market place. One reason for this is that the sector is still developing and there are no standard sets of skills that are currently on demand and will be demanded in the future. A key challenge cited by the education providers is the provision of practical on the job training. Interviewed schools have cited great difficulties in organizing and implementing internships / practical work for their students. The aim of the internships/practical work is to focus on creating opportunities for students to undergo proper internships inside the companies and experience first-hand the processes, while shying away from the current practice of simple visits to production floors of agro-processors. The relationship between the private sector companies and the education providers is usually initially instigated by the education providers. There were several cases highlighted by interviewees, when students were accepted in internship positions and were later offered positions and hired in these same companies. However, most of the education institutions stated that they still encounter many companies that do not see the benefit of internship programs. According to the education institutions interviewed, the opportunity for students to gain real work practice is key to their skills and later employability.

All of the five-selected agribusiness sub-sectors are covered through the specific programs, both at university level, vocational schools and vocational training centers. The Faculty of Agriculture in Prishtina consists of separate departments in fruits, vegetables, livestock and veterinary, and wine where specific courses are offered for these sub-sectors. The main courses

that are covered by the vocational schools for the five-selected agribusiness sub-sectors are as follows: Food Technology (dairy processing, meat processing, fruits and vegetables processing, wine processing), Agribusiness, Chemistry Technology, Horticulture, Plant protection, Biotechnology and zoo-technics, Veterinary, Vegetable Production and crop, Orchards and vineyards. The table below presents the courses offered by the vocational schools for each sub-sector separately.

Sub-Sector	Courses Offered	Vocational Schools
Dairy	- Food technology - Agribusiness - Chemistry Technology - Biotechnology and zoo-technics	- Abdyl Frasheri - Adem Gllavica - Arberia - Bahri Haxha - Zenel Hajdini - Ali Hadri
Meat	- Food technology - Agribusiness - Chemistry technology - Veterinary	- Abdyl Frasheri - Adem Gllavica - Arberia - Bahri Haxha - Ali Hadri
Fruits and Vegetables	- Food technology - Agribusiness - Chemistry technology - Horticulture - Vegetable production and crop - Plant protection	- Abdyl Frasheri - Adem Gllavica - Arberia - Bahri Haxha - Zenel Hajdini - Ali Hadri
NWFP	- Food technology - Agribusiness - Chemistry technology - Plant protection - Biotechnology - Horticulture	- Abdyl Frasheri - Adem Gllavica - Arberia - Bahri Haxha - Zenel Hajdini - Ali Hadri
Wine	- Food technology - Orchards and Vineyards - Biotechnology - Plant protection - Chemistry technology	- Arberia - Abdyl Frasheri - Bahri Haxha - Zenel Hajdini - Ali Hadri

Don Bosko provides technical and vocational training courses for the agriculture sector, specifically the fruits and vegetables processing where students are taught on the processing of marmalades. The school contains laboratories where practical trainings are provided to the students.

The Ministry of Labour provides trainings on the analysis of fruits and vegetables, non-wood forest products and dairy. Each analysis procedure is disseminated to the trainees and explained to them and according to the interviewed representative of the Ministry of Labour all the trainees that are enrolled in their programs are well equipped for the labour market. The pace of training is designed for each trainee separately. Nevertheless, these VET centres are not utilized to their full potential. The key problems with these VET centres lies in their model of operations as well as the lack of cooperation with the private sector businesses, thus not utilizing their capacities and linkages that can be created with the labor market needs.

Every education provider has a different treatment of practical courses/trainings offered to students. Namely, the Faculty of Agribusiness in Peja in collaboration with Devolli Company organizes visits to the Vita dairy processing and production facilities. This has provided students with the opportunity to observe the process of dairy processing as well as the complexity of the procedures in this specific sub-sector. These were multi day visits in order to enable the students to grasp as much as possible from experiencing the process. However, these site visits do not substitute for actual real internships, where students would be able to learn on the job.

Furthermore, each school possesses their own land which they utilize for growing fruits and vegetables for practical teaching purposes. The vocational school, Abdyl Frasheri in Prishtina possess its own farm of cows, which is used to demonstrate to the students the farming processes. Some institutions like Bahri Haxha have a mixed type of 'field laboratory' greenhouse and open air cultivated land for orchards and horticulture. A new initiative is being undertaken by this vocational school in Vushtrri for the establishment of a greenhouse parcel to be sown with raspberries. This greenhouse parcel would be used by the students who would learn in practice the process of growing and treatment of non-wood forest products.

Based on the interviews conducted with the principles, owners or senior managers of different agriculture vocational schools, it was stated that the majority of the students who finish their secondary education prefer to continue studying at university level, and only a few end up looking for employment in the sector. The main reasons for this are related to the students' desire for further education, levels of youth unemployment in the country as well as lack of financial means to start their own businesses.

Based on interviewed education providers, the following table presents reported enrolment and graduation numbers from the institutions interviewed:

Name of the Education Provider	Type of the Education Provider	City	No. of Registered Students	No. of Graduated Students
Faculty of Agriculture and Veterinary	University Level	Prishtine	N/A	N/A
Faculty of Biology	University Level	Prishtine	N/A	N/A
IBCM Environment and Agriculture Management Department	College Level	Mitrovica		
Haxhi Zeka	University level	Peje	80 Freshmen students 50 Sophomore students	Note: no graduate students already, as the school has been opened last year.
Don Bosko - Food Technology Department	Vocational Training Center	Prishtine	50 students	50 graduates
Avdyl Frasheri	Vocational School	Prishtine	500 students	500 graduates
Arberia	Vocational School	Gjilan	120 students	120 graduates
Bahri Haxha	Vocational School	Vushtrri	450-500 students	450-500 graduates
Ministry of Labour	Vocational Training Center	Peje	450-500 students	450-500 graduates
Adem Gllavica	Vocational School	Lipjan	N/A	N/A
Zenel Hajdini	Vocational School	Ferizaj	270 students	270 graduates
Ali Hadri	Vocational School	Peje	259 students	

Key findings from Private Sector Employers

The majority of the companies interviewed in the five-selected sub-sectors are organized through a main base consisting of a core number of full-time workers and then a wider network of farmers or part-time (seasonal) workers that are involved in collection and classification of products and preparations for further processing. This holds true for all the sub-sectors excluding fruits and vegetables processing, and meat processing, where the number of employees is higher (ranging from 30 to 50 employees) compared to other sub-sectors.

The employed staff within the companies consists mainly of technology professionals, agronomy professionals, certified operators, economists and accountants.

Companies typically rely on a few key employees who have the appropriate skills and experience to accomplish their daily tasks, who are in most cases also family members. These few but crucial workers are either long-term employees or co-owners who are engaged directly in operations, and they typically train new or seasonal employees (who tend to be different

each season), on the required procedures for planting, harvesting, collecting, classifying, packaging and labelling of products.

Farmers are responsible for delivering the product, usually being in charge of transport to the collection point, and the collection points delivering the product to processors for further processing.

The skills required up to the point of delivery are minor and the work is usually manual. The only challenge up to that point is appropriate storage of the products until they are shipped to the purchaser. Farmers are gradually increasing in numbers and usually are connected to one company with whom they maintain relations and regularly supply products. Other part time employees are seasonal workers engaged during specific times and have a very high staff turnover rate. The skills set required in this group is almost non-existent, mainly manual labour, and there is no set practice among all companies on hiring procedures. Some choose to engage senior students of vocational schools, whereas the rest of the companies stated that they engage local people.

A significant issue that the companies and especially the collection points are faced with is related to the low level of training of supply farmers. Specifically, it was emphasized that farmers need to be trained on hygiene practices. Interviewed representatives of Vita claimed that the company was successful in educating its supply farmers on the hygiene and GMP practices by utilizing various incentives. Kabi, on the other hand, has developed a network of cooperating farmers based on trust (regular payment) and good behavior (no delays). As a result, the farmers acquired the necessary equipment for milk preservation, which eliminated many problems faced in the past. The Milk Collection Centers, on the other hand, are still severely affected by the issue of un-trained farmers, as the MCCs lack the financial means to support farmer education and standards maintenance. In some cases MCCs in agreement with the processing companies organize trainings for farmers facilitated by experts coming from the receiving processing companies themselves.

On the other hand, the representatives of the wine sub-sector claimed that they face issues with the uneducated and unskillful farmers, who are not capable of using up-to-date techniques one wine grape growing and who insist on using their old-fashioned methods, creating problems with consistency of quality and quantities. The companies tackle this issue with additional information or visits from enologists who are engaged in teaching, setting the harvest dates, as well as convincing vine growers on the application of more modern techniques.

Generally, all the interviewed companies of the five-selected sub-sectors claimed that there is additional need for training/education awareness with the farmers. This training would increase the skills of the farmers to produce higher quality and quantity yields, while at the same time maintaining hygiene and traceability standards. Governmental support and subsidies play an important role, especially in raising awareness among farmers on how to improve output and

quality. In addition, through governmental subsidies a number of companies and farmers have been able to maintain and increase production sustainably. In the case of Agrocelina, farmers received extensive training and guidance during the planting process. As a supplier of seeds, the company also teaches farmers how the seeds need to be planted in order to produce the required fruits and vegetables, based on the intended use or purchasing organization.

With regards to the capacity and skills building, the interviewed representatives stated that they only utilize on-the-job trainings offered for their employees. They claimed that most of the employees when engaged had no prior knowledge of the specific sub-sector, however gained experience and learnt on the job. In most cases, the owners of the companies are directly engaged in training their employees in-house. However, in the case of Kabi, a dairy processing company based in Gjilan, in order for the employers to be sure that the line operators receive the adequate training, they engage a team from “Tetrapak” company to provide trainings to the staff, as well as certify employees as operators. With regards to maintenance, in quality certified companies, there are usually two working teams that deal with HACCP and quality assurance procedures.

The interviewed companies stated that on the job trainings, with external expert trainers and facilitators are very necessary. It was specifically stated that employees need training on using the machinery and operating processing lines, especially prior to actually working on the installed machinery itself. Mostly, in cases when the companies invest in purchasing new equipment, such as classification and packaging equipment, the employees participate in trainings on the equipment usage at home or abroad. The owners of Kelmendi collection centre, who recently purchased a new machinery for classification, claimed that their workers are reluctant to use the machine. In this way, the quality of the products is directly impacted since certain farmers classify the products only with the help of their family members, who do not have the appropriate education in the classification process, thus affecting the quality of the final products provided by the collection centre. Therefore, farmers and their assisting family members need to be provided with the adequate training, whereas the company employees need more capacity building to use the installed machinery properly. In other cases when the new machines are purchased, private processors assign two employees to be in charge of operating the machines, who then receive basic training from the machinery supplier on dealing with minor technical defects that may be faced in the production process, thus reducing costs of maintenance and offline time for the machines. However, for larger problems with equipment and machinery, international or regional experts are brought in, at a cost in time and money.

In some occasions, agri-businesses have had the opportunity to exchange experiences with foreign businesses operating in the same sector, whether through self-initiative or through the support of NGOs. EuroTac, a fruits and vegetables collection centre based in Mamusha, improved its tomato production lines by following the instruction of an expert in agronomy brought in through such initiatives. The business stated that this type of support is very crucial, since it shows practical results for both the farmers and the collection centre.

Identified missing skills in the agribusiness sector

Apart from the general missing skills and the common challenges that the interviewed representatives of the all five-selected agribusiness sub-sectors stated that they are faced with, the consultant team has identified specific missing skills in the market for each of the five agribusiness sub-sectors.

With regards to the dairy sub-sector, the main missing skills mentioned from the interviewed employers include: specialized laboratory chemists and food technology professionals. Furthermore, administrative, sales and promotion were mentioned as missing skills within the sub-sector.

The main profiles identified as required within the fruits and vegetables sub-sector include: classification and labeling equipment operators, marketing and sales professionals, and finance analyst.

Furthermore, a key demand of the interviewed companies within the meat sub-sector is that they need people who are trained and experienced in meat processing and who have completed both a formal education, but more importantly non-formal or workplace related experience. This includes the entire process, starting from primary production, to packaging (classification, storage, packaging etc.) and sales and marketing. Additional skills needed include: marketing and sales; communications and PR skills.

The skills required by the employers of the NWFP sub-sector are related to the entire process starting from sowing, diseases, challenges, and types of land for each plant, harvesting, drying, classification, storage and packaging. It was specifically stated that employees need training on the usage of the packaging, drying and sorting of plants. The companies claimed that they also need quality control professionals who would at the same time be able to provide trainings to the farmers and collectors of NWFP. Finally, the companies stated that they need more training on packaging, sales and marketing.

Finally, with regards to the wine sub-sector, businesses emphasized the lack of skilled enologists. In the case of Biopak, the enologist is employed only on part-time basis, meaning that he is fully engaged only during the harvest season. Additional capacities were identified as needed in laboratories, such as: specialized chemists and additional technology professionals who would be involved in the production process. Additional skills needs emphasized again are related to the sales and marketing, administration and finance.

The table below presents a summary of the main needed skills identified for each of the selected agribusiness sub-sectors:

Sub-Sector	Agribusiness Missing Skills	General Missing Skills
Dairy	Specialized laboratory chemists; Food technology professionals	Administrative professionals; Sales and promotion professionals
Fruits and Vegetables	Classification and labeling equipment operators	Marketing and Sales professionals; Finance analyst
Meat	Professionals in production classification, storage, and packaging of products.	Marketing and sales professionals; Communications and PR professionals.
NWFP	Quality control professionals; Professionals in sowing, plants diseases, harvesting, drying, classification, storage and packaging	Marketing and sales professionals.
Wine	Enologists; Specialized chemists Technology professionals	Sales and marketing; Administration; Finance analyst

Identified challenges from the employees

Main challenges as seen from the workers could be stated in two groups, depending on the size of the company.

The smaller companies are usually family businesses, with family members employed (this holds true for both 'Kabi' and the milk collection centres). The key challenges that this group faces have more to do with technical aspects of their work as well as in the case of MCCs the overall concern about the quality of milk they receive.

On the other hand, the employees within the larger companies emphasized several issues and challenges, which they face while implementing their daily tasks:

- They have limited access to quality of education and practical experience.
- The lack of experience of the new workers, specifically the seasonal workers who tend to be different every season; therefore additional trainings have to be provided every season for different workers.

- Additional needs for training were emphasized in the areas of: packaging and handling of products in order to ensure that the products are kept fresh and in good shape.
- The workers of Vita dairy stated the need for additional training so they could climb the production ladder and have their positions well defined.
- Apart from the occasional training organized by international programs like NOA, Tetrapak etc. the employees were trained after they started working in the companies, through on-job-training provision, which according to them was not sufficient.

Current and Potential Employment in Agribusiness

Agriculture plays a key role in Kosovo's economic development providing employment opportunities and income for more than 60% of the country's families¹¹. Latest data from KAS show that labor force participation rate is 36.9% (working age population), while the inactivity rate is very high, standing at 63.1% of the working age population. Total unemployment rate is 35.1 % according to KAS, while estimations from other sources put the unemployment rate at above 40%. More significantly, the youth unemployment rate (15-24 years) is estimated at 55.3%.

With regards to employment in the Agribusiness sector, various sources estimate that around 25-35% of the workforce are engaged in agriculture. According to a 2009 USAID study on Agriculture potential for job creation, it was estimated that only in crop production (including cereals, forage crops and fruits and vegetables) around 151,000 new jobs can be created over the next 10 years (Kosovo Agriculture Strategy – USAID 2009). When analyzing various reports as well as the production potential of various sub-sectors in Agribusiness in Kosovo, having in mind the multiplier effects over the value chains, the authors have estimated the following potential for new employment generation in agribusiness in Kosovo. The table below shows the consensual estimation, derived at by the authors of this report, including current employment, potential new jobs and potential total employment capacity in agribusiness in Kosovo over the next five years.

Table 4: Employment estimations in the agribusiness sector

Sub Sectors	Current estimated employment (full time jobs)	Potential for new jobs (full time)	Total potential jobs per sector in five years
Dairy	20,000	10,000	30,000
Meat	4,000	2,000	6,000
Aquaculture	500	500	1,000
Eggs	500	500	1,000
Beekeeping	500	500	1,000
Fruits & Vegetables	50,000	50,000	100,000

¹¹ World Bank 2010 – Kosovo Country Economic Memorandum: Unlocking Kosovo's Growth Potential: Policies, Strategies, and Actions.

Non Wood Forest Products	5,500	5,000	9,500
Cereals	26,000	5,000	31,000
Wine	6,000	3,000	9,000
Total	<u>113,000</u>	<u>76,500</u>	<u>189,500</u>

If we assume an annual GDP growth rate of 4% over the next five years, and if we assume that Kosovo needs a GDP growth rate of 8% to be able to absorb the 25,000 new entrants to the job market every year, one can estimate that the expected growth rate of 4% would absorb approximately half of the new entrants to the labour market. This would provide an estimation of an increase of 22% in Kosovo's workforce over the next five years. Secondly, the potential for employment generation in agribusiness estimated in this report over the next five years is 76,500, thus increasing the participation of agribusiness related employment in Kosovo's workforce as well increasing the general employment level.

The potential for employment generation in the agribusiness sector and within specific five selected sub-sectors is presented in the table below¹²:

Table 5: Potential Employment Generation within specific Sub-Sectors

Sub-sector	Area of production/Nr of animals per person	Labour ratio per hectare – average	Number of FTE	Multiplier effect	Total est. effect on the whole value chain
Dairy	180,000 cows	20 cow per person	9,000	1.8	20,000
Meat		50 bulls per person	2000 including dairy farmers	1.8	4,000
Fruits & Vegetables	25,000	1 person per hectare	25,000	1.8	50,000
Non-Wood Forest Products	200 cultivated, more than 100,000 ha for collection	3 per hectare/cultivation 1 per 5 hectares/collection (25 % utilized)	5,000	1.1	5,500
Wine	4,000 ha	1 ha	4,000	1.5	6,000 including marketing and HORECA

¹² USAID KPEP – Performance Based Management Report (2010)

Dairy Sub-Sector Employment Generation

The dairy sub-sector is of high importance for Kosovo agriculture, however its impact still remains low with regards to job creation and income generation. Although it is assumed that the dairy sub-sector has high potential, there still is no information on profitability of businesses in this sector. Starting in 2013, the MAFRD has initiated support for farmers dealing with milk production, which is expected to create a functional system between dairy producers and processors. The highest potential for job creation is in added value and processing of dairy products for local markets and eventually in production of niche products for the regional countries with similar consumption traditions. Shortages on the supply side ultimately affect the utilization of processing capacities, which remain very low. Improving yields and supporting milk producers for increasing the farm sizes will increase supply and jobs in farms, while at the same time allow processors to increase utilization of their capacities, thus having a positive effect on job creation through increased number of production shifts.

According to USAID AgStrat, within the livestock production, the potential is to create 25,000 new jobs in next ten years, mainly in the dairy sub-sector. The potential for job creation is more focused on downstream processing. In order for farmers to increase the herds and production capacity, a number of adjustments need to be made. Producers need better infrastructure, more land for feed production and improved management skills, especially for larger farms. Currently, only farms with more than 20 cows are profitable and counted as commercial in the Kosovo context. The majority of these farms have expressed interest in increasing their herds to more than 50 cows. The dairy sub-sector has good potential for job creation, especially with sheep and goats and eventually with improved yields of milk per Ha of feeding land and better leasing options to increase the herd sizes and milk production. Better breeds are also very important in order to increase efficiency of milk production in general. Better farm management, infrastructure and quality standards are also very important to contribute to the increase of production and employment.

Larger employment can be created at processor level through diversification of production, increased utilization of capacities and more efficient use of human resources and cost reduction per unit of processed goods. The strengthening of the sector would be indirectly influencing the market side of the value chain, or the downstream potential for employment, as well as increase the supporting entities of the system, such as advisory, technical assistance, maintenance, sales and marketing service providers.

The sector can support job creation and income generation in rural areas, in processing industry, especially in food technology, implementation of food quality standards, in marketing and finally increase the profit of dairy industry through increase consumer confidence in local products.

Fruits and Vegetables Sub-Sector Employment Generation

The fruits and vegetables sub-sector is creating jobs and good income, while having good potential to increase and potential for exports. The fruit and vegetable sub-sector contributes greatly to agribusiness, which is approximately 30% of total agricultural production.

The number of farmers currently involved in the sector is relatively large with farmers also utilizing family members and seasonal workers. If the average of 220 working days are required for one full-time job, then it can be assumed that one person is required to manage one hectare of fruits or vegetables. Usually farmers use family labour and jointly complete all activities. With regards to berries, more labour is required. Some of them (strawberries or raspberries) require up to three persons to manage one ha of berries. This is true mainly for the high level labour demand during the harvesting season. Greenhouses as well require more labor since they have extended seasons and have more intensive production. Out of the total employment, it is estimated that around 25,000 positions are provided for in production. The estimated multiplier effect on employment for the fruits and vegetables subsector is at a minimum 1.96 times engagement in production, than total estimated number of full time jobs in fruits and vegetables is around 50,000. These numbers include supporting services, as well like input dealers, service providers and advisers, all part of the same value chain.

According to USAID Agstrat, the estimated potential for employment in the sub-sector is very high, with including all crops, the sub-sector can create additional 151,000 jobs. According to our calculations, in the next ten years, only the fruit sub-sector can create around 100,000 jobs, given the fact that the planted surfaces are increasing. Through more support from MAFRD and donors, farmers will be able to utilize all land with possibility for irrigation. At the same time, new crops like berries, which are increasing in participation over the last few years, more possibilities for job creation and income generation in rural areas are created. The profitability of the fruit and vegetable sector varies from crop to crop. Most profitable crops currently are berries in the fruit sector, and gherkins and peppers in the vegetable sector.

Besides increased production surfaces, additional jobs can be created through the development of value chains leading to improved competitiveness of domestic processors, who would be able to maximize the utilization of their capacities by adding production shifts to meet demand, thus creating more demand for labour.

Meat Sub-Sector Employment Generation

The meat sub-sector is of high importance for Kosovo agriculture, however its impact still remains low with regards to job creation and income generation. According to latest 2012 economic accounts for agriculture meat sub-sector participates with around 25 % in total agriculture output. Although it is assumed that the meat sub-sector has high potential, there still is no information on profitability of businesses in this sector. Starting in 2013, the MAFRD has initiated support for farmers dealing with fattening, which is expected to create a functional system between meat producers and processors. Lamb meat is one of the domestic products with a potential for export, however this requires investments in slaughtering capacities with safety systems and processing capacities. Only one of the broiler producers has installed technologies for slaughtering and grading broiler meat. Apart from fresh broiler meat products, there are no processing capacities and domestic products of broiler meat.

Most of the jobs are created at slaughtering or processing level followed by marketing and sales. Meat sub-sector in Kosovo still suffers from undersupply with fresh meat from Kosovo farmers, with the livestock being imported. While there is no sign of a supply system for domestic meat production developing to meet the demands of processors, the EU requires a supply chain from domestic production as one of the criteria for grants to support investments in the meat processing industry. This action will encourage farmers to specialize in bull fattening and create jobs in rural areas with potential for meat production.

The highest potential for job creation is in added value and processing of meat products for local markets and eventually in production of niche products for the regional countries with similar consumption traditions. The one approach is to support the establishment of farms specialized in bull-fattening and production differentiation, while intensifying the control of animals meant for slaughtering. Through more specialized farms for bull-fattening, the industry can substitute imports of meat and its products, as well as have an impact on job creation in rural areas. Investment opportunities exist for joint ventures with existing processors who are interested in partnering with foreign companies.

The sector can support job creation and income generation in rural areas, in processing industry, in implementation of food quality standards, in marketing and finally increase the profit of meat industry through increase consumer confidence in local products.

Non-Wood Forest Products (NWFP) Sub-Sector Employment Generation

The NWFP sub-sector is very important for the job creation in rural areas. Most of the products are sold in export markets and at the same time provide income to approximately 11,400 households engaged in primary collection activities in rural areas of the country (HPK 2011). This sector provides good opportunities especially for more remote rural and mountainous areas and provides good opportunities for the involvement of young people in collection. Currently there are at least five good collector companies or semi-processors involved in the sub-sector that require further development of value chain and infrastructure. The sector if properly developed can create jobs and good income for farmers in more remote rural areas.

In terms of market demand, it is considered to be larger than the supply capacity, which shows potential for increased collection and production capacities. Kosovo is renowned for the quality of its wild mushrooms, especially *Boletus Edulis* (porcini) and Kosovo mushrooms are on high demand. The domestic demand is also expected to increase in the coming years, as mushrooms as well as other NWFP products are increasingly entering the daily feeding menu of Kosovars.

In addition to 11,400 collectors/families, according to HPK Study (2011) there are around 192 people are engaged in 158 mobile collection points and sub-operators, while part time employment in these centers is around 526 workers. The estimation of people engaged on a full time equivalent basis in this sub-sector is around 5,000 and there is clear potential for increasing this number in a sustainable way in the medium term. Some of the estimations from USAID are that the number of collectors can increase up to 40,000 collectors. There are good opportunities in the future for processing activities which will enable international companies to produce final products in Kosovo to be sold locally and internationally.

In recent years due to increased use of these products some of the big semi-processors (APS) have started to cultivate chamomile, sage and other products in demand from international markets and in next ten years this can be an opportunity to increase jobs through this type of production. Through sustainable use of forests and provision of training for collectors and collection points farmers will be encouraged to collect more products and understand environmental issues for these products. In meantime, cultivation of these products is increasing and in next ten years up to 1,000 hectares of cultivated products will create opportunities and jobs for the people in rural areas.

There is a need to improve management and organizational skills in the sector and more training provision in relation to collection, production and sales and marketing. This is also related to capacity building in terms of food safety, traceability and packaging. More innovation is required in the sector and it is strongly recommended to provide one on one advice in relation to financial issues. The collection and cultivation of NWFP is a very labour-intensive activity, which in turn constitutes the second competitive advantage of the sector. In relation to this sub-sector, Kosovo can provide human resources at competitive prices, thus becoming internationally competitive.

Wine Sub-Sector Employment Generation

As in most of the other agricultural sub-sectors analyzed, small plots of approximately 0.5 ha of surface characterize vine growing in Kosovo, with an average yield of between 8-10t/ha. Most of the vineyards, namely 76% of them, are in the ownership of individual farmers. They operate with outdated and inadequate technology, which negatively impacts the efficiency of grape production. The rest of the plantations (24% or about 980 ha) of the vineyards, are owned by two big wineries. The first is the larger one, namely Stonecastle Vineyards and Winery L.L.C (500 ha of wine grapes and 100 ha of table grapes) and the second is Agrokosova Holding (260 ha of wine grapes and 120 ha of table grapes).

The wineries also serve as collection centres. They purchase wine grapes from farmers, who in return receive their payment in tranches. The most intense use of labor in vineyards is during the period of harvest and kitting. Most of the farmers possess extensive experience from years of being active in the sector. The above mentioned companies, Stonecastle and Agrokosova hire the labor force from the micro-region to cultivate their vineyards. In the last years, the Ministry of Agriculture is supporting the establishment of new vineyards, but farmers are having difficulties due to limited land and financial resources to match the ministry's investment.

Standard Job Profiles and Job Descriptions

The table below presents the standard job profiles/descriptions and the needed skills of the employers in the five selected agribusiness sub-sectors, such as: dairy sub-sector, fruits and vegetables sub-sector, meat sub-sector, non-wood forest products sub-sector (NWFP) and finally wine sub-sector.

#	Position	Key responsibilities	Skills needed	Notes
Packing, Cold Storage and Collection Centre				
1	Packing Worker	▪ Fills trays, wraps goods, and packs boxes. ▪ Looks for defects in the goods packed. ▪ Ensures the packed fresh goods are well presented.	No formal education required Training	More relevant to F&V sector, and NTFP
2	Labellers	• Labels packed products for shipment. • Ensures traceability of product by using computer controlled equipment.	Literacy and numeracy skills Training.	More relevant to F&V sector, and NTFP
3	Transport Driver	• Transport of raw material between fields and Collection Centres and shippers. • Delivers product safely and in good condition. • Manage logistical delivery and dispatch paperwork.	May also need truck license. Literacy and numeracy skills. Technical training/Experience	
4	Managers (Line/Shift)	• Ensures quality of the products complies with industry standards. • Shift managers are responsible for workflow. • They solve workflow problems by people management, and liaise with the line manager.	Technical education. Management skills/experience	The management of the milk collection centre may differ from other sectors
5	Inspector	▪ Works at processors and collections centres, monitoring shipments to ensure they meet • Standards demanded from the market.	Technical education Technical training	
6	Packing Manager	▪ Responsible for the day-to-day collection centre or pack house	Bachelor's degree. Management	

		operations, including staff management, Budgeting, administration, and planning.	skills/Experience	
7	Quality Assurance Manager	- Ensures all handling of fresh fruit and vegetables is carried out according to health and safety protocols of buyers and export markets. - Responsible for sampling and testing of fresh fruit and vegetables for diseases.	Bachelor's/ Master's degree, Significant Experience	
8	Butchers	Responsible for slaughter of animals and selection of meat parts according to standards.	No formal education required/ preferred secondary school. Required training on carcass classification and GMP.	Relevant only for meat sub-sector, specifically at butchers level
9	Slaughter house Manager	- Responsible for the day-to-day slaughter house operations, including staff management, budgeting, administration, and planning. - Manage logistical delivery and dispatch paperwork.	Bachelor's degree. Management skills/Experience.	Relevant only for meat sub-sector, specifically at butchers' level.
10	Quality Managers	Ensures quality of the meat complies with industry standards.	Technical education. Management skills/experience	Relevant only for meat sub-sector, specifically at butchers' level.
Processing				
11	Line Workers	- Transports raw materials, finished products, and packaging materials; - Feeds and unloads processing machines or mobile tank trucks; - Checks products and packaging for basic quality defects.	Literacy and numeracy skills Technical training/experience	
12	Mechanics & Machinery Maintenance	Repairs, installs, and maintains industrial production and processing machinery.	Technical education Technical training	
13	Production Supervisor	- Instructs and trains operators; ensures good manufacturing practices (GMPs) and standard operating procedures (SOPs) are used. - Monitors and verifies	Bachelor's degree. Specialization degree production/ Management skills / experience.	

		performance of equipment and processes, ▪ Maintains logs on process and product data.		
14	Food technologist and Quality officer	▪ Responsible for R&D within the processing unit, ▪ Product development, ▪ Training staff, ▪ Maintaining food safety and certifications, and quality control of in process and final products.	Bachelor's degree. Specialization degree food technology and safety/ Management skills / experience.	
15	Lab technician	▪ Performs regular laboratory analysis at reception point and later on processed products and informs Food technologist on situation and potential changes in product consistency.	Bachelor's degree in chemistry or food technology required. Training on more sophisticated analysis required.	
16	Warehouse manager	▪ Responsible for input supply, ▪ Stock management, ▪ Software and record keeping, ▪ Delivery and planning to the processing unit, also ▪ Stock record keeping for processed goods.	Literacy and numeracy skills Technical training/experience.	
17	Enologist/Food safety manager	• Responsible for R&D within the processing unit, • Product development, training staff, maintaining food safety and certifications, and • Quality control of in process and final products.	Bachelor's degree. Specialization degree in enology and safety/ Management skills / experience	Relevant only to the wine sector.
18	Sales and Marketing	▪ Direct sales relations with wholesale and retail. ▪ Train merchandisers and delivery, ▪ Marketing strategy and implementation, and ▪ Financial management.	Bachelor's degree. Specialization degree in sales and marketing/ Management skills / experience.	

Recommendations / Intervention Points

In order to develop targeted and effective program interventions, skills development should be linked to the local labour market needs. This can be done through involving employers in the design of the training programs by giving people the opportunity to put skills into practice within their work placements. Based on feedback from market stakeholders, as well as direct observations of success stories, the focus should be on providing practical skills required by the labour market, rather than academic level theoretical education. Following is a set of recommendations on specific interventions for each of the five selected sub-sectors, which could help improve quality labour supply to the market, while at the same time improving competitiveness of the dairy processors themselves. The recommendations sets are presented in two parts: the first part consists of **general recommendations** relevant for all the five selected sub-sectors; whereas the second part consists of **specific recommendations** for each separate sub-sector.

A **general set of recommendations** valid for all the five-selected agribusiness sub-sectors is presented below:

- Improving **Hygiene Practice and Good Manufacturing Process (GMP)** through the following activities:
 - Workshops and trainings provided directly to farmers and processors in charge of quality standards, hygiene and production process, which should be conducted at least twice a year. This can be done by subsidizing quality standards implementation through the engagement of certification preparation consultants for meat processors – following HACCP, HALAL and other food quality standard procedures.
 - Preparation and publication of good practice brochures as well as large visible Standard Operating Procedures (SOPs) to be displayed in visible locations at processing facilities.
- Invest in **Research and Development** of new food products, especially focusing on traditional recipes for different products. This intervention could include the following activities:
 - Cross visits to processing facilities in the region with the aim of experience exchange.
 - Link businesses with universities through an established formal/informal mechanism for allowing internship, graduation programs, cooperation with faculties and research institutes on R&D activities, etc.
 - Direct training of food technologists on developing recipes.

- Engaging the Faculty of Agriculture and vocational schools in promoting and conducting research and development for specific branded products by facilitating a R&D process between processing companies and education institutions and the establishment of research institutes, especially with higher level education providers.
 - In order to stimulate market entrants, organize competition for the best recipes.
- **Equipment maintenance is another skills shortfall** for which the following intervention points can be undertaken:
 - Train other staff members on proper usage of the equipment.
 - Train staff on the work safety procedures.
 - Organize visits to machinery/equipment fairs in the region and EU countries.
 - Set up online database of machines and electronics service providers from the country.
- Further **capacity development of the cadre of the agriculture education institutions**:
 - Include specific courses on dairy, meat, fruits and vegetables, wine and non-wood forest products in VET schools.
 - Work with the Faculty of Agriculture to develop curricula for food technologists.
 - Develop skills of more than one assistant for food technologists to have sustainable development.
 - Provide regional and international TA for the development of new products.
- Build **capacities of laboratory personnel** to complete products analysis properly. Support directly companies in allocating specific responsibilities for each production line separately and train them for specific line.
 - Develop subsidized internship programs (Faculty of Engineering, Machinery, Electronics, and VET).
 - Provide opportunities for students to complete their thesis through useful studies for dairy, meat, fruits and vegetables, NWFP and wine companies.
 - Securing 3-month internship programs for various programs for dairy processing and auxiliary services.
- **Provision of regular trainings on regulatory issues and standards** to be conducted in cooperation with KFVA (Kosovo Food and Veterinary Agency)
 - Organize meetings with KFVA to gain more information on regulatory matters.
 - Support the establishment of a sustainable model for extension advisory services within KFVA.
 - Work closely with the veterinarians to improve farm practices.
 - Encourage animal feed suppliers to support farmers with best practices.
 - Support the training of inspectors of best practices in the implementation of food law.

- Further **development of dairy laboratories** within KFVA:
 - Quality standards implementation in slaughter houses and dairy processing.
 - Support provision of advisory services through local consulting companies on food law requirements.
 - Engage Faculty of Agriculture and MAFRD Advisory Services that through lead farmers present new technology and practices in specific agribusiness sub-sectors.

- **Packaging and labeling; sales and marketing; production and storage management** is very important according to respondents. Work at this end should focus more on the following:
 - Training for joint groups of processing companies and marketing design service providers in compliance with the EU packaging and labeling standards.
 - Management training and storage and distribution management.

Finally, a set of **sub-sector specific recommendations** is presented as follows:

Dairy sub-sector

Specific recommendations for the dairy sub-sector consist of the training for farmers which could be conducted through several of the following mechanisms:

- Provide on-the-job trainings through trained food technologists on specific products.
- Organize trainings on quality standard requirements in the processing facility.
- Training on record keeping and advice provision to farmers and group work.
- Help companies develop semi structured on the job training programs and support these training programs with technical assistance – bringing a specialized consultant inside the companies to deliver trainings to new staff on time to time basis – workshop style on the job training.
- Stimulating the collection and processing centers through provision of grants and equipment for accepting these trainings and then bestowing an obligation on these anchor companies to replicate and do additional trainings for other dairy collection and processing companies in the region, as well as providing facilities and possibilities for internships.

Fruits and Vegetables sub-sector

- One fact identified from the interviews with the companies involved in collection of fruits and vegetables was that these companies are looking for ways to automate the process. Several potential activities that can be undertaken in this direction, to improve

competitiveness and at the same time preserve and create new jobs, include the following:

- TA and training on warehouse management and post-harvest.
 - Record keeping and financial capacity building.
 - Sorting, packaging and labeling, and quality standards implementation.
 - Support linkages with the market, on-the-job training on marketing.
- As the interviewed collection centers emphasized the need for experienced agronomists, as this skill seems to be lacking in the market, the following activities are recommended:
 - On-the-job training on contracting, pricing, technical aspects and organization of collection, according to market requirements.
 - Regional visits to gain further knowledge on warehouse management and farmer organization.
- Further skills improvement in terms of specific production techniques:
 - Support companies to educate their food technologists in regional education institutions.
 - More investments on equipment and training of laboratory staff.
 - TA and on-the-job training for production management.
 - Support knowledge increase on warehouse management and logistics.

NWFP sub-sector

- One issue identified with the interviewed stakeholders of the NWFP sub-sector is the lack of quality control bodies for ensuring that the products are bio grown. Several potential steps to be undertaken in this direction include the following:
 - Develop independent body for bio certification.
 - Train inspectors on the monitoring of use and cultivation fulfilling bio requirements.
- In addition, the interviewed stakeholders emphasized the need for experienced agronomists and quality assurance professionals, as these types of skills seem to lack within the market, therefore, the following activities are recommended to be undertaken:
 - Provide on-the-job practical training for the agronomists and biologists.
 - Organize demo plots on cultivation of medical and aromatic plants.
 - Provide trainings on bio certification requirements.
 - Introduce quality management training programs through VETs for existing employees as well as new trainees, who could potentially be engaged by these companies.

- Provide opportunities for regional and international visits of the processing facilities in EU and the region.
 - Provide international or regional TA to enhance the knowledge for this particular sub-sector.
- Finally, as the bulk of employees which have to be hired within the companies of NWFP sub-sector are seasonal workers, the consultants recommend specific trainings to be provided to the seasonal workers:
 - On-the-job training for seasonal workers and organic and bio production.
 - Winter school for interested seasonal workers.

Meat sub-sector

Specific recommendations for the meat sub-sector include the provision of trainings for butchers, in order to improve the supply of good quality fresh meat, through the following mechanisms:

- Training of Trainers workshops for lead/anchor slaughterhouses in the specific active geographic regions in Kosovo.
- Help companies develop semi-structured on-the-job training programs and support these training programs with technical assistance.
- Stimulating these anchor slaughterhouses through provision of grants and equipment for accepting these trainings and bestowing an obligation of these anchor companies to replicate and do additional trainings for other butchers, as well as providing facilities and possibilities for internships.
- Lobbying with Vocational Education Centers to start offering butcher departments/ courses; training of trainers etc.

Wine sub-sector

- Empower the vineyard farmers through trainings and therefore increase the competitiveness of the industry as a whole. Several potential trainings that could be provided include the following:
 - Trainings or transfer of knowledge on the usage and application of contemporary production practices, compatible with the EU standards, such as hygiene, quality, environment, proper resource management, etc.
 - Training provisions on rural diversification.
 - Provision of trainings on cultivation practices and quality, EU Food Hygiene Package.
- As technical capacities of employees need further development, especially in regard to enology, safety and sales and marketing, additional trainings could be provided in collaboration with the Kosovo Winery Institute:

- Development of training programs for enologists, specifically in the field of quality control, product development, R&D etc.
 - Provision of the trainings to laboratory workers, chemists and technology professionals.
 - Training provisions to enhance the capacity of employees in terms of wine analysis.
 - Organize short courses for wine tasting – degustation of wine.
- These training schemes should be delivered to other chain participants for a better development of the sector: Consumer education; Training to supermarket chains' staff; Training on environment in the rural communities. The recommended actions to be undertaken include the following:
- Developing education programs for consumers to improve and increase consumption of plant products, as well as more regular consumption of moderate quantities of wine.
 - Provide trainings for waiters in HORECA on wine serving and wine quality.
 - Provision of trainings to the staff of the supermarket chains.
 - Provision of trainings on the environmental protection in the rural areas.
 - Raise awareness on reconstruction or maintenance of natural heritages in rural areas.
 - Organize wine training tours in Rahovec and Suhareka.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Cooperation Office Kosovo

EYE Enhancing Youth
Employment

This report was prepared by RECURA Financials, mandated by “Enhancing Youth Employment EYE”, a project financed by Swiss Cooperation Office and implemented by Helvetas Swiss Intercooperation-HSI and Management Development Associates-MDA