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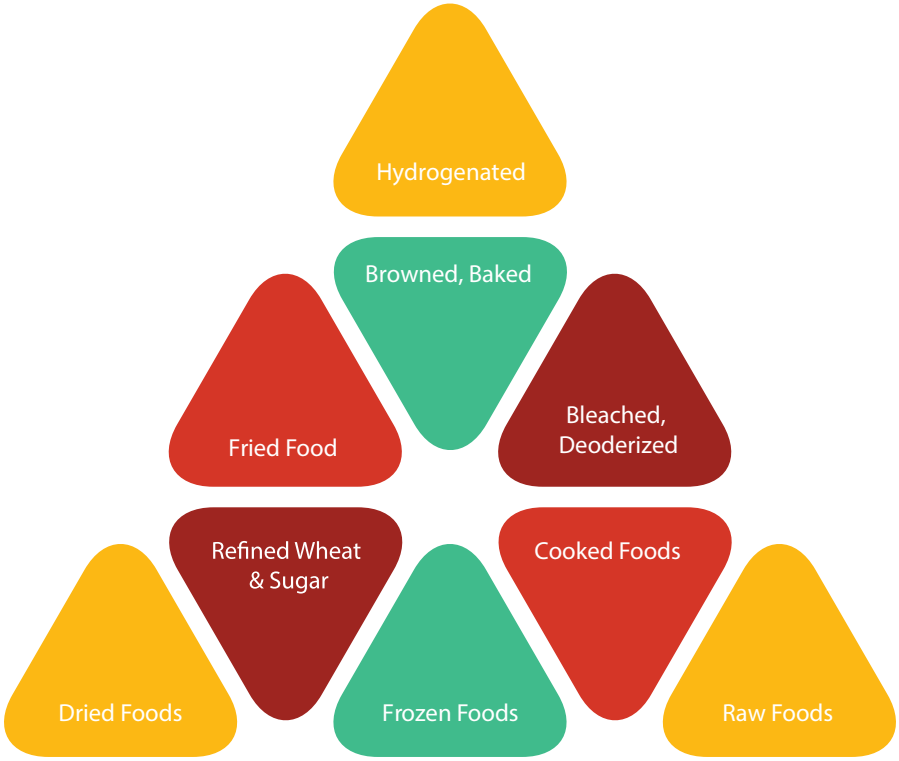
Food Processing



the Objectives,
the Process,
the Actors,
the Instruments,
the Outcomes

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DOCUMENT 4


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THE **FOOD PROCESSING** SKILL SECTOR AT A GLANCE

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LIST OF ABBREVIATIONS

ALLED	ALIGNING EDUCATION WITH LABOUR MARKET NEEDS
AGR	AGRICULTURE
ARDP	AGRICULTURE AND RURAL DEVELOPMENT PLAN
CVETAE	COUNCIL FOR VOCATIONAL EDUCATION AND TRAINING AND ADULT EDUCATION
HE	HIGHER EDUCATION
ILO	INTERNATIONAL LABOUR ORGANIZATION
KAA	KOSOVO ACCREDITATION TECHNOLOGY
KAS	KOSOVO AGENCY OF STATISTICS
LFS	LABOUR FORCE SURVEY
MEST	MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
MLSW	MINISTRY OF LABOUR AND SOCIAL WELFARE
NQA	NATIONAL QUALIFICATION AUTHORITY
NQF	NATIONAL QUALIFICATION FRAMEWORK
OECD	ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
PM	PRIME MINISTER
VET	VOCATIONAL EDUCATION AND TRAINING

THE FOOD PROCESSING SKILL SECTOR AT A GLANCE

The food processing skill sector is a fast growing sector on Kosovo and contributes significantly to total job creation, particularly in industry. It has small scope of only 4.4% of total employment but significant job growth of 46% over a 5 year period from 2008-2013 according to the Labour Force Survey. Total demand for these occupations is very much concentrated in jobs which require secondary school qualifications while demand for highly educated occupations in food processing is still not exceptionally high and is mostly concentrated in education and not industry.

This does not mean that low demand should indicate that higher education training is not necessary but only that the enrolment quotas should be monitored carefully in order not to create youth unemployment for new graduates. Furthermore, the low graduation rates indicate that there is low efficiency of studying as many students enrol at university but either study for extended periods of time or drop out before attaining their qualifications.

The dispersion of food processing occupations is considerable, which indicates that job opportunities could be available across the many economic activities but in fact most jobs are created and exist in 5 main economic activities: food and beverage service activities, manufacturing of food products, production of food by private households for their own consumption and crop and animal production. The job growth in these key economic activities is positive, showing that demand will probably continue to grow for food processing occupations.

The supply of labour as presented by the unemployed indicates that there are relatively few unemployed with food processing occupations, only 647 and the graduates from secondary schools and university training programmes together amount to 209 persons annually.

The labour demand/supply balance is medium, amounting to 1,600 unfilled vacancies particularly in occupations which require secondary school qualifications. Therefore, occupations from this skill sector are interesting from the point of view of standardization since well-designed training programmes according to the need of the labour market could fit very well into the dynamic job creation for this skill sector.

DEMAND	SUPPLY	D/S BALANCE
Small scope ☐	Low supply from both VET schools and higher education institutions - overall only 209 persons ☐	There's going to be a medium skills gap resulting in excess demand overall, but more particularly for qualifications at the NQF levels 3,4. ☐
Large dispersion of occupations ☐		
High job growth ☐		
High vacancy to unemployment ratio ☐		

Recommendation for NQA and MEST

Due to the importance of food industry in Kosovo and the growing number of new job openings, it is recommended that the development of occupational standards is initiated due to the expected rise in demand for food processing occupations in Kosovo and a possible skills gap which may arise if the number of graduates remains low and if the drop-out from higher education perseveres.

The fact that demand for qualifications from higher education is still small should not be interpreted as a reason for not validating standards but as a challenge to improve absorption of these skills in industry. This challenge can be met only if learning outcomes from higher education are based on labour market needs of employers which should be assessed by using the results of an employers' survey on competences in the workplace.

1.
INTRODUCTION

A sector profile is a document which portrays the labour market situation in a particular field of knowledge and skills. The main purpose of a sector profile is to answer the following questions:

1. How important is the skill sector of food processing in the Kosovo economy in terms of skill use?
2. What is the demand for food processing occupations now and in the past?
3. Is the supply of labour from education (graduates) and unemployment with these occupations adequate to cover demand for these occupations or are there skill gaps?
4. Should enrolment quotas be increased or decreased?
5. What is the labour market position of food processing occupations for which standards are being suggested?

The answers to these questions should help in understanding and assessing the labour market relevance of occupational standards and training programmes in the processes of verification and accreditation which are undertaken by responsible institutions such as the Council for Vocational Education and Training and Adult Education (CVETAE), the National Qualification Authority (NQA) and the Kosovo Accreditation Agency (KAA) should it be decided that occupational standards will have to be developed for higher education as well. However, this profile can also serve all potential applicants for the development of standards to see in advance whether there is a labour market need for the skills and knowledge which they would like to introduce or if there is already excess supply of such skills in the economy. Providing argumentation for the demand for skills is important on Kosovo due to the large demand for education, particularly higher education while the demand for labour is still weak and unable to absorb all the unemployed and the graduates. The present sector profile has been developed on the basis of a methodology explained in the document "Methodology for developing sector profiles" which is also developed in the frame of ALLED project. The overall approach is also based on a "Concept for aligning education with labour market needs" which has been developed within the ALLED project[1]. The concept and the methodology have been developed on the basis of data available in Kosovo and on certain hypothesis regarding the supply and demand for labour which are explained in these documents[2]. The structure of the sector profile follows the described indicators and quantifies through them the demand and supply for skill sector occupations in Kosovo.

Each sector profile measures supply and demand for skills based on 6 indicators. There are:

1. **Scope** – measuring the size of the skill sector
2. **Dispersion** – measuring the use of skills in economic activities
3. **Job growth** – showing how demand for skills in expanding over time
4. **Employment potential** – measuring the employability of skill sector occupations
5. **Training coverage** – how well occupations are covered by training programmes
6. **The skill balance** – an indicator which shows how many workers will be demanded and how many job seekers will be available in the mid-term with skill sector occupations at 4 chosen NQF s.

[1] A similar methodology is being used for the same purpose in the National Qualification Framework of Croatia, but it has been adopted to the Kosovo environment and needs..

[2] All the mentioned documents can be found on the project web page www.alledkosovo.com

2. LABOUR DEMAND

2.1 INDICATOR 1: SCOPE OF THE SKILL SECTOR FOOD PROCESSING

Food processing is a part of manufacturing industry and it is a group of skills which is becoming more and more important on Kosovo in terms of job creation, export potential, self-sustainability in food products and as a source of demand for agricultural production. Although it is very much linked to the agricultural skill sector, most of the skills belong to the manufacturing field of knowledge but the two sectors are linked in several important ways. From the sector profile Agriculture[3] we see that many agricultural occupations are employed in the food processing industry and that the largest growth of agricultural jobs outside the economic sector of agriculture will be in this sector. Secondly, the value chain involving food processing industry includes agriculture as a provider of primary products and the success of the food processing industry depends very much on the development of agriculture.

Table 1 – Basic labour market indicators for the skill sector food processing (FOOD)

Region	TOTAL EMPLOYMENT	FOOD EMPLOYMENT	TOTAL REGISTERED UNEMPLOYMENT	FOOD REGISTERED UNEMPLOYMENT	FOOD LABOUR FORCE	TOTAL LABOUR FORCE	TOTAL UNEMPLOYMENT RATE, %	UNEMPLOYMENT RATE IN FOOD, %	FOOD SCOPE
KOSOVO	342,072	14,948	103,401	649	15,597	445,473	23.2	4.2	4.4
Occupations requiring NQA 5+ education	104,685	602	13,373	236	838	118,058	11.3	28.2	0.6
Occupations requiring NQF 3, 4 education	163,803	13,727	14,141	402	14,129	177,944	8.0	2.9	8.4
Occupations requiring less than NQF 3 education	73,584	619	75,887	11	630	149,471	50.8	1.8	0.8

Source: Labour Force Survey 2013 for employment data: Registered unemployment – Ministry of Labour and Social Welfare, 2015.

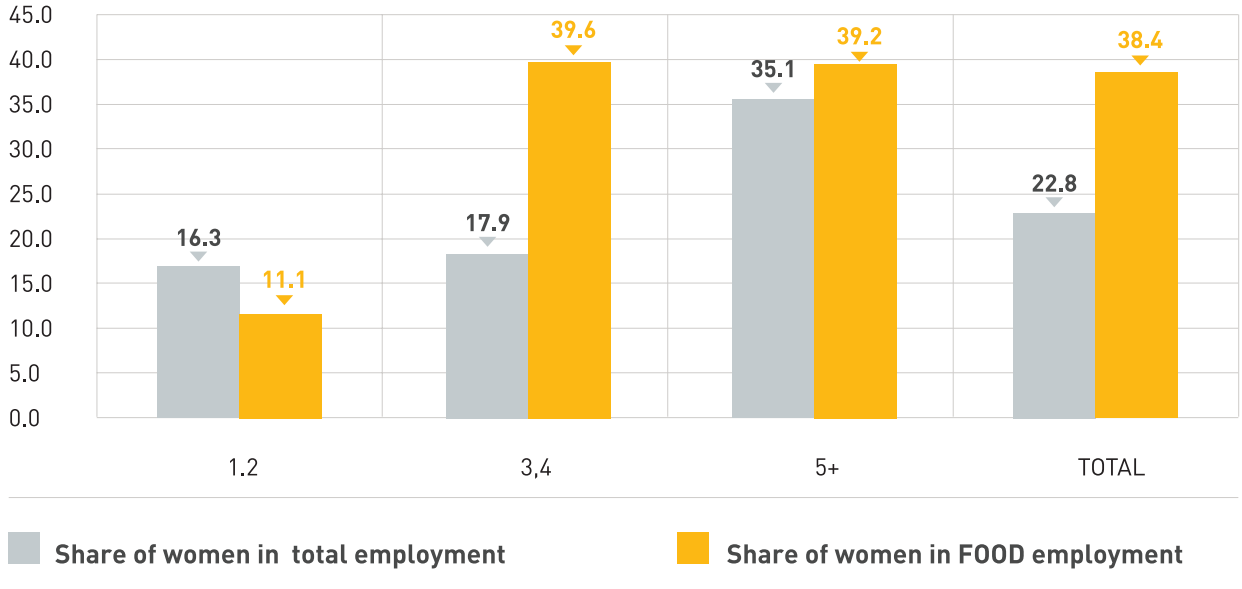
In terms of scope of the skill sector we can say that it represents 4.4% of total employment which gives this skill sector the characteristics of a SMALL sector whose share ranges from 3-8% of total employment.

[3] Sector Profile Agriculture is also developed and published by ALLED project. It can be found in ALLED project website www.alledkosovo.com.

EMPLOYMENT

There were about 15 thousand employed with FOOD occupations in the Kosovo economy in 2013, according to the Labour Force Survey. About 4% of FOOD employment is in occupations which require higher education (NQF level 5+), 91.8% are occupations for which secondary school qualifications are relevant and the remaining 4.2% are occupations requiring less than secondary education. The scope of the most numerous occupations as share of total employment with the same occupations is 8.4% which puts this group of occupations in the medium scope unlike the whole sector which is only 4.4%. This means that the FOOD occupations which require secondary education make a sizeable share of total employment which also requires this level of qualifications. Graph 1 shows the share of women with FOOD occupations in total FOOD employment and for comparison there is the share of women in total employment in grey colour bars.

Graph 1 - Share of women in FOOD and total employment by NQF



Source: same as table 1.

Apart from occupations which require qualification below secondary school, most other FOOD occupations have a higher share of female employment than all employed as presented by NQF requirements. In total, the share of women in the FOOD skill sector is 38.4% while it is only 22.8% in the total employment.

The biggest difference in the share of women can be found in occupations which require NQF qualifications 3 or 4 (39.6% in FOOD and only 17.9% in total employment) which is more than twice as high as the share of women in all occupations which require qualifications 3 or 4.

We can conclude that women have above average opportunities to find employment in the FOOD sector, particularly in those jobs which require secondary education. This is a signal for both young students as well as adults that these occupations present opportunities for women employment to a much larger extent than other sectors.

UNEMPLOYMENT

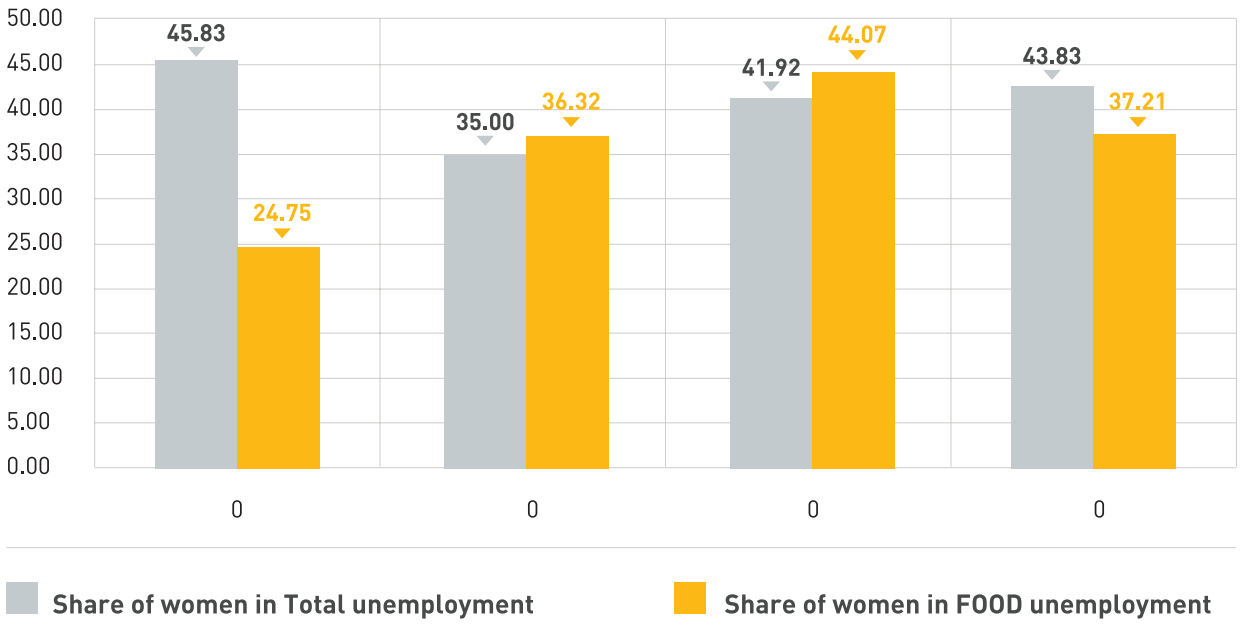
There were only 649 unemployed with skill sector occupations from FOOD on the unemployment register in 2015. Out of this number 61.9% had occupations for which qualifications 3 or 4 were required, 36.4% had occupations for which higher education was a prerequisite and the rest, amounting to 1.7% had occupations requiring qualifications below secondary.

The share of FOOD unemployment at all NQF level requirements is small in relation to total unemployment which does indicate that these occupations have a good position on the labour market.

The share of women in unemployment by NQF requirement is shown in graph 2. We can see that women have a smaller share in FOOD unemployment than they do in total unemployment. This means that women who have FOOD occupations have better chances than unemployed women as a whole.

In occupations requiring below secondary qualifications the share of women is only 24.8% while it is 45.8% in the general female employment which is a good sign. In occupations requiring secondary and higher education the position of women in FOOD is rather similar to the position of women in all other occupations in the economy.

Graph 2 - Shares of women in FOOD and total UNEMPLOYMENT by NQF level requirements, LFS 2013



Source: Same as Table 1.

Overall, women with FOOD occupations have a better labour market position than women in general but this position improves at lower qualifications.

UNEMPLOYMENT RATE

The unemployment rate is the most common measure of demand for occupations. Its' characteristic is that it is a short term measure and may be prone to changes in different periods, particularly if seasonal type of work is being analysed. In table 1 we have unemployment rates in FOOD occupations at different NQF level requirement and we can compare them to economy wide unemployment rates at the same level. Overall, FOOD occupations have lower unemployment rates than the general labour force. While the general unemployment rate was 23.2% it was only 4.2% in FOOD occupations. However, by NQF requirements the situation is very varied.

Occupations in the general labour force which require higher education have and unemployment rate of 11.3% while FOOD occupations in this category have an unemployment rate of 28.2%. This indicates that persons with these occupations have difficulty in finding work from the employment register. All other occupations at different NQF requirements have lower unemployment rates in FOOD than in the general labour force, particularly those occupations requiring NQF levels 3 or 4 where the unemployment rate is only 2.9%.

2.2 INDICATOR 2: DISPERSION OF SKILL OCCUPATIONS

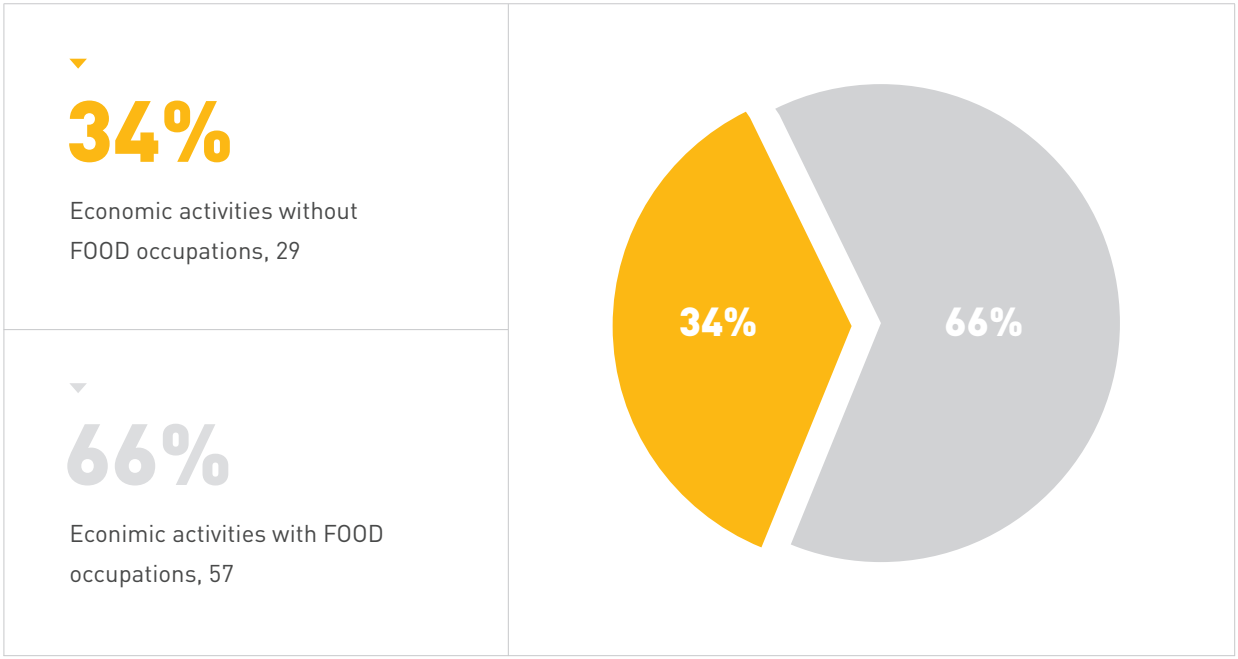
Measuring dispersion of occupations in the economy is important for understanding the use of occupations and skills in various economic activities. If skill sector occupations are widely spread in the economy, we can conclude the following:

1. The larger the dispersion of occupations – the larger will be the likelihood that demand for skill sector occupations will grow if they are needed in many sectors
2. Individuals with these occupations will be more employable and mobile on the labour market since they will be able to find work in more economic activities.

Therefore, the wider the dispersion, the higher the labour market relevance of the sector.

We have seen in Table 1 that the labour force in the food processing sector is about 15 thousand, which is 4.4% of total employment (according to LFS). In order to calculate the total demand for food processing occupations we have to see where persons with these occupations are employed in the economy. In order to do that we will cross-reference occupations from the skill sector FOOD by economic activity.

Graph 3 - Dispersion of food processing occupations in the economy, 2013



Source: Labour Force Survey, 2013, KAS

In the case of the sector of food processing we can see that these occupations are present in 57 out of 86 economic activities, i.e. in 66.2% of all economic activities on Kosovo. From this we can deduce that dispersion is high since it falls into the interval above 60% of all the economic activities[4].

It is also important to measure dispersion of occupations which require qualifications at different NQF levels. According to the Labour Force Survey, the widest dispersion of occupations can be found in simple occupations for which NQF levels 1 or 2 are required. These simple food processing occupations work in 44 economic activities; occupations which require qualifications NQF level 3 or 4 can work in only 17 economic activities while occupations which require post-secondary qualifications of NQF 5+ seem to work predominantly in 30 economic activities.

Therefore, overall the dispersion is good for the whole sector but particularly good in occupations requiring lower and higher qualifications.

[4] Values of indicator for dispersion: Up to 30% - Low dispersion; From 31 – 60% - Medium dispersion; above 61% - High dispersion.

CONCENTRATION

For understanding demand for food processing occupations it is important to identify those economic activities which employ considerable numbers of individuals with these skills. We call them the key economic activities. In order to identify them we will look at the share of these occupations in all the 57 economic sectors where they find work. If this share is high, it is safe to say that the change in employment in these economic sectors will significantly influence also the demand for food processing occupations. Therefore, if employment in these sectors is growing, so will the demand for food processing occupations, and if it is falling in time, the same will happen to food processing occupations[5].

In table 2 below we show the numbers of employed with food processing occupations in the economic activities which have at least 1% of employed persons with these occupations. In the second column we have numbers of employed with food processing occupations in 2013 in each of the economic activities. In the 3rd column we show the share of women in skill sector employment in each of the economic activities. In the 4th column we show total employment in each of the economic activities and in 5th column we show the % of skill sector employment in the total employment in each economic activity.

[5] Sometimes this assumption may not be entirely true. Namely, total employment in a particular economic sector could be decreasing while the share of skill sector occupations could be growing. An example is provided by industries which have tried to focus only on their core business and have decreased employment of those occupations which have nothing to do with the core business. For example, in Croatia the oil company INA decided to outsource all petrol stations. All employees who worked in INA were no longer in employment of INA but worked in separate entities. Therefore, the share of retail occupations which catered for the sales of petrol decreased in INA while the share of technicians and oil extraction experts increased. However, this type of change can only be analysed once Kosovo has long term trends in employment by occupation and economic sector.

Table 2 – Key economic activities for food processing occupations, 2013

NACE code 2-digit	Name of NACE economic activity	Total FOOD employment	Women	% of women	% by activity	Total employment	Women	% of women	% of FOOD in total employment
	TOTAL EMPLOYMENT	14,948	5,738	38.39	100	314,881	72,975	23.18	4.75
56	Food and beverage service activities	3,982	599	15.04	26.64	17,367	2,241	12.90	22.93
10	Manufacture of food products	3,299	266	8.06	22.07	10,333	1,518	14.69	31.93
98	Undifferentiated goods- and services-producing activities of private households for own use	2,282	2,079	91.12	15.27	5,274	2,586	49.04	43.28
01	Crop and animal production, hunting and related service activities	2,256	1,791	79.40	15.09	18,576	5,915	31.84	12.14
85	Education	717	301	42.01	4.80	38,118	15,576	40.86	1.88
47	Retail trade, except of motor vehicles and motorcycles	380	125	32.98	2.54	25,918	6,752	26.05	1.47
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	280	111	39.79	1.87	14,408	2,747	19.06	1.94
86	Human health activities	280	208	74.21	1.87	21,784	13,556	62.23	1.28
11	Manufacture of beverages	264	1	0.37	1.77	1,560	62	4.00	16.95
98	Other personal service activities	152	--	--	1.02	9,978	3,117	31.24	1.52
	Other sectors with less than 1% of FOOD occupations in their total employment	1,056	256	24.25	7.06	151,568	18,905	12.47	0.70

Source: Labour Force Survey, 2013, KAS

We can see that there are 14,984 persons employed in the economy with food processing occupations. 26.6% work in Food and beverage service activities, another 22.1% work in Manufacture of food products and a further 15.3% work in the Private households who process food products for their own use. A further 15.1% work in the economic sector Crop and animal production, hunting and related service activities and these four economic sectors together employ almost 70% of all food processing occupations and we can say that they are key economic activities for the Food processing skill sector. The medium term demand for skill sector occupations will change similarly as the total employment in these activities.

However, there are other economic activities where food processing occupations make up a high share in their employment which we can see in the 5th column. It is worth mentioning Manufacture of beverages where 17% of total employment in this activity have these occupations but this number is only 1.77% of all skill sector employment.

KEY ECONOMIC ACTIVITIES FOR OCCUPATIONS BY NQF REQUIREMENTS

What remains to be seen is whether FOOD occupations at different levels of complexity work in the same or in different key economic activities. The chart below shows the top 5 economic activities who tend to have highest shares of FOOD occupations by required NQFs.

FOOD occupations which require NQF 5+ qualifications are most frequently found in Education, Employment activities and in Extraterritorial activities and much less frequently in economic activities which are important for occupations requiring secondary qualifications or lower.

NQF 1,2	NQF 3,4	NQF 5+
32 Other manufacturing	Food and beverage service activity	Education
10 Food production	Food producton	78 Employment activities
27 Electrical equipment	Private households	99 Extraterritorial activities
43 Specialized construction activities	Crop and animal production	61 Telecommunication
Manufacture of furniture	Education	64 Financial intermediation

Occupations requiring secondary qualifications work in industry, agriculture and private households as well as education. Finally, occupations requiring below secondary education work in more diverse economic activities such as Other manufacturing, Food production, Manufacture of electrical equipment, Construction, etc.

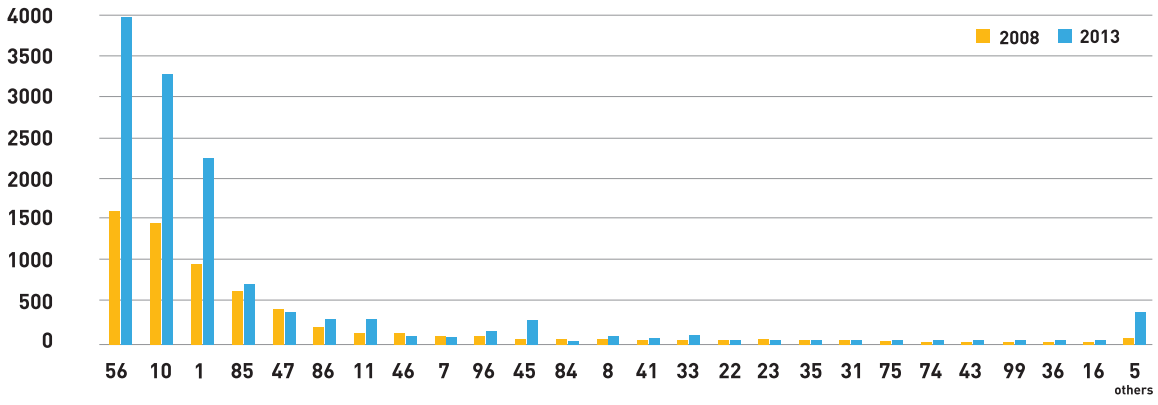
In summary, the indicator of DISPERSION of FOOD occupations is high covering 66% of all economic activities. Key economic activities differ somewhat depending on the qualification required for the occupations in question. Key activities for occupations requiring secondary education which are most numerous are in the area of manufacturing of food, beverages and food processing in private households and i agricultural activity. Those occupations requiring higher education are more present in education and other non-manufacturing activities.

2.3 INDICATOR 3: JOB GROWTH

One of the most important indicator of demand for labour which influences the decision on validation of standards and approval of qualifications is job growth. In order to calculate job growth by economic activity we will look at the change of employment by activity from 2008 to 2013 from the Labour force survey. In order to do that we will use the share of FOOD occupations in each of these activities in 2013 and assume that the share has not changed over the last 5 years and calculate the growth of employment only in FOOD occupations.

In the graph below we can see levels of employment in all economic sectors which employ Food processing occupations in the two chosen years and the change which has occurred in employment during this time. Based on this we can see what the job growth has been for FOOD occupations in each of the economic sectors.

Graph 4 - Employment of Food processing occupations by economic sector[6] , 2008, 2013



2008	160	147	968	658	428	206	126	114	98	75	70	63	56	44	42	33	32	31	31	29	26	17	15	13	9.9	65
2013	398	329	225	717	380	280	264	52	59	152	280	42	84	49	101	27	30	20	36	42	45	37	14	11	17	384

Source: LFS (2008, 2013).Calculations made by the author using LFS (2013) share of skill sector occupations in key economic sectors.

[6] Names of economic sectors: 56 – Food and beverage service activity, 10 – Food production, 1 – Crop and animal production, 85 – Education, 47 – Retail trade, 86 – Human health services, 11 – Beverage production, 46 – Wholesale trade, 7 – Mining of metal ores, 96 – Other personal services, 45 – Whole sale with repair of vehicles, 84 – Public administration, 8 – Other mining and quarrying, 41 – Construction, 33 – Repair and installation of machinery, 22 – Rubber and plastic production, 23 – Production of non-metals, 35 – Electricty and gas, 31 – Furniture production, 75 – Veterinary activities, 74 – Other professional services, 43 – Specialized construction activities, 99 – Activities of extraterritorial organisations, 36 – Water collection, treatment and supply, 16 – Manufacture of wood products.

Total growth of employment in FOOD occupations in this period was 46.35% i.e. the index of growth was 146 but it has varied from one economic activity to the next. Highest employment growth was in those economic activities which are key for the Food processing skill sector such as Food and beverage service activities where the number of employed doubled, in manufacturing of food products (10) and Crop and animal production (01) as well as Education (85). In most of the other economic activities both the level of employment and the growth rate was not significant but the use in other sectors which are not typical for food processing has expanded which can be seen in the rise of employment in Other economic sectors which have less than 1% of these occupations rise from 65 to 384.

If we extrapolate this growth into the next 5 year period up until 2018 and assume that the skill structure will not change in each of the economic sectors we will have approximately 7,813 new jobs or approximately 1,562 annually.

JOB GROWTH BY NQF REQUIREMENTS

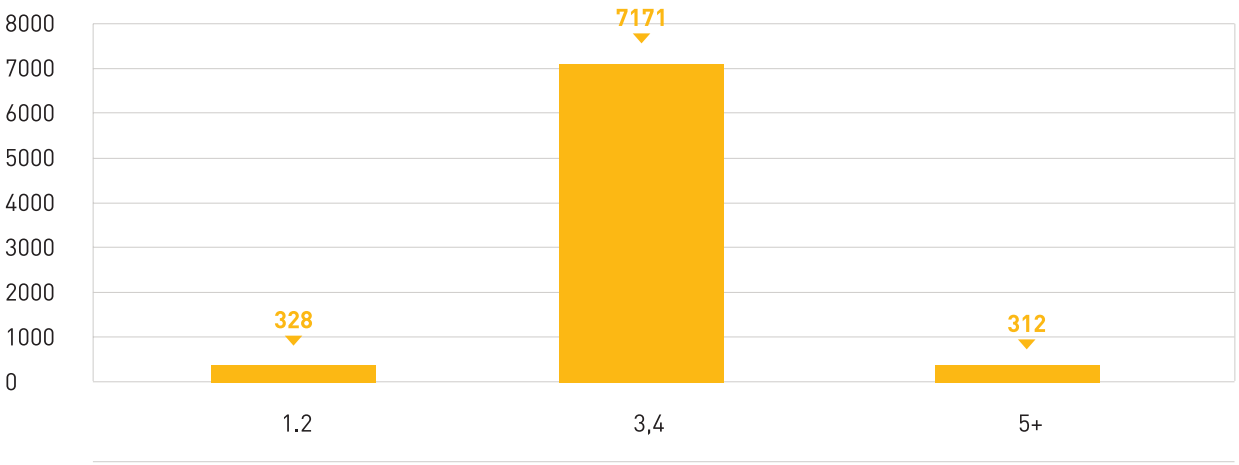
In order to see what the demand will be for occupations at the 3 different levels of complexity of occupations or NQF levels, we have to divide the job growth by occupation groups which require higher education, VET education and adult education by using our correspondence table.

If we assume that the structure of occupations by NQF requirement has not changed, then the jobs created will have the following shares of occupations at different NQF requirements: most of the jobs will require secondary education at NQF 3 and 4 (7,171 jobs) followed by simpler jobs for which NQF qualifications suffice (328) and finally the lowest job growth will be for occupations requiring higher education (312 jobs).

This breakdown is again dependant on the assumption that the skill structure in economic sectors will not change over the next few years. If, however, more technological development occurs with new organisational principles and larger firms appear, this will increase the demand for highly educated personnel in Food processing.

In summary, the structure of demand for qualifications based on the need for occupations show that there is still relatively low absorption capacity of the economy for highly educated graduates and their number will not be great in the future but there is substantial demand for VET qualifications.

Graph 5 - Job growth by NQF requirements



2.4 INDICATOR 4: EMPLOYMENT POTENTIAL

Employment potential is measured as the ratio of vacancies for a particular occupation and the average number of unemployed with this occupations on the register of the Employment service. The larger the number of vacancies, the greater the demand for a particular occupations or groups of occupations. However, employability depends on how many unemployed have these occupations and if the ratio is unfavourable, employability will be low.

The structure of the unemployed by ISCO major groups shows that most of the unemployed (60%) have occupations in the Individual trades and crafts group (389), followed by technicians (162), professionals (74) and finally simple occupations (11). However, the numbers of vacancies are largest for individual trades and crafts (692) which means that this occupation group is very employable and has a high vacancy to unemployment ratio of 178.

Since these occupations require secondary education this means that the demand for NQF qualifications of 3 and 4 will be high. Overall the vacancy to unemployment ratio for the whole sector is 137 and should thus be considered as a sector with high demand for skills even though there is low demand for some qualifications like Technicians and partly also professionals (66.2).

Table 3 – Persons Registered as Unemployed by ISCO Major Group, Vacancies and the Vacancy to unemployment ratio, in 2015

Major ISCO occupation groups	UNEMPLOYED TOTAL	VACANCIES	VACANCY/ UNEMPLOYMENT RATIO, %
PROFFESIONALS	74	49	66.2
TECHNICIANS	162	54	33.3
INDIVIDUAL TRADES AND CRAFTS	389	692	178
MACHINE OPERATORS	13	19	146
SIMPLE OCCUPATIONS	11	75	682
TOTAL	649	889	137

Source: Ministry of Labour and Social Welfare, 2015

Machine operators and simple occupations are also quite well demanded but they are a very small share of total unemployment in this skill sector. With an overall vacancy to unemployment ratio of 137, this skill sector has high demand for its skills which are more pronounced for occupations requiring secondary education than for occupations requiring higher education where the demand is medium.

More details about this segment of labour supply can be seen in the next section below.

2.5 SUMMARY OF LABOUR DEMAND

What we can say about the Food processing skill sector is that the dynamics of employment growth has been high (index 147 over 5 years), which will result in the increase of the SCOPE of the sector. However the demand for occupations in this skill sector for the time being is not great, because we are talking about a relatively small sector with a small SCOPE, i.e. the share of skill sector employment in total employment is 4,4% at this time.

The DISPERSION of FOOD occupations is very good which means that the use of this skill is wide and that growth of the economy will also bring the growth of demand for FOOD occupations but at the same time most of these occupations are concentrated in 5 main economic activities. The job growth in these 5 activities is positive over time which will also be reflected in the growth of demand for FOOD skills in the future.

The COVERAGE of occupations by qualifications at the appropriate NQF levels is adequate but there is a potentially dangerous missing skill gap for technicians which could be a barrier to industrial growth of the sector. Although demand for technicians is not very high at this time since the vacancy to unemployment ratio is only 33.3, this lack of coverage may cause problem in the adequate supply of labour at this NQF level in the future.

3.
LABOUR SUPPLY

Labour supply consists of those offering their work related services on the labour market. Typically, they are the unemployed and the newly qualified students (graduates) from the education sector who are looking for work[7]. Below we will look at both sources of labour supply and will intentionally disregard possible immigration from outside of the country.

LABOUR SUPPLY 1: THE UNEMPLOYED

There are 2 sources of unemployment data on Kosovo. The labour force survey publishes unemployment data quarterly and applies international standards in their calculation. The second source is the Public employment service which publishes quarterly and annual data on **registered unemployment**. Registered unemployment is significantly higher than unemployment measured in the Labour force survey and tends to overstate the actual figure but there is a category of active job seekers among the registered unemployed which is provided by the Ministry of Labour and Social Welfare and which tends to be lower than even the LFS unemployment count and which will be used for our analysis of the skill sector.

Table 4 – Persons registered as unemployed, employed from the register by occupation and gender, in 2015

Major ISCO occupation groups	UNEMPLOYED TOTAL	UNEMPLOYED WOMEN	EMPLOYED FROM REGISTER TOTAL	EMPLOYED FROM REGISTER WOMEN	VACANCIES	SHARE OF WOMEN IN UNEMPLOYMENT	SHARE OF WOMEN IN EMPLOYMENT FROM REGISTER
2 - PROFFESIONALS	74	38	13	4	49	51.4	30.8
3 - TECHNICIANS	162	66	11	6	54	40.7	54.5
7 - INDIVIDUAL TRADES AND CRAFTS	389	139	30	5	692	35.7	16.7
8 - MACHINE OPERATORS	13	7	6	2	19	53.9	33.3
9 - SIMPLE OCCUPATIONS	11	3	1	0	75	27.3	--
TOTAL	649	253	61	17	889	39.0	27.9

Source: Ministry of Labour and Social Welfare, 2015

[7] Not all young people want to work after their acquire their first diploma which makes them eligible for the labour market. Many secondary school graduates decide to continue studying, some want to start a family or delay their entry to the labour market. Here we are concerned with those graduates who are looking for work.

From the MLSW database for 2015, we see that there were 649 unemployed persons who have food processing occupations. Among the unemployed are occupations for which higher education qualifications are required, so called professionals (ISCO major group 2) like food technologists and school teachers from this skill sector, (11.4% of the unemployed), technicians (ISCO code 3 with 24.9% of the unemployed), food processing trade and craft workers (ISCO major group 7 with 59.9% of occupations), machine operators (ISCO major group 8 with only 2% of unemployment and manufacturing labourers (ISCO major group 9) with 1.7% of unemployment.

In total there were 889 vacancies announced by employers during 2015 but only 61 persons were employed from the register of the Employment service. This is an indication that mediation for these occupations is not very successful but may arise from several factors:

1. The unemployed with these occupations do not have the skills required by employers for the vacancies they announced
2. The unemployed do not want to accept the offered jobs, due, perhaps to the fact that they are already working, may not be available for work or consider the salary to be too low
3. The mediation counsellors are not doing a good job in the mediation process so that vacancies remain unfilled even though there are unemployed who are capable and willing to work.

The gender situation in this area is interesting since there are some jobs where women seem to be able to find jobs more successfully than the men, even though there are less of them on the unemployment register. This is the case for technicians where women are 40% of the unemployed but they are 54% of persons who find employment from the register. In all other occupational groups women have more difficulty than men to find work.
In jobs which belong to the group of Food processing, craft and trade workers are the most frequent occupations and they are mostly filled by men. Women dominate only in some occupations such as confectionary, pastry and ice-cream makers as well as food tasters. Other occupations in this occupation group are mostly male occupations where they also find work more often .

Overall, the most demanded occupations are[8] : Manufacturing labourers for food processing, Butchers, Mechanical operators – chocolate production and confectionery, Pastry preparers, Bakers, Milk controllers, Ice-cream makers and millers. The least demanded occupations are: Food industry technicians, head bakers, vegetable preservers, machine operators for bread and confectionary products and food processing technologists. This finding shows that occupations for which higher education levels are needed are not as demanded as occupations for which secondary school or lower qualifications are required. Since most of the highly educated unemployed are young and without experience, low demand for them could be related to the fact that they have no work experience.

[8] See Annex 2 with data on individual occupations of the unemployed and their respective indicators of employability.

LABOUR SUPPLY 2: GRADUATES FROM VET TRAINING PROGRAMMES

The second source of labour supply are graduates from VET programmes. When assessing this source we have to take care of several factors which influence the labour supply. They are:

- How many VET students decide to enter the labour market and how many continue their studies?
- How many graduates at all levels decide to work at all instead of starting families or leaving the country or are limited by illness?

We can approximate the answers to these questions by using the age-related participation rate which shows the share of young people who are active, i.e. they are either working or looking for work.

Labour force and labour force participation rate by educational attainment and age group 2013-2014

	NO SCHOOL		I-IX CLASSES		SECONDARY VOCATIONAL		SECONDARY GYMNASIUM		TERITARY	
	Labour force (000s)	Share of the labour force (%)	Labour force (000s)	Share of the labour force (%)	Labour force (000s)	Share of the labour force (%)	Labour force (000s)	Share of the labour force (%)	Labour force (000s)	Share of the labour force (%)
15-24 2014	0.3	0.3	18.4	22.3	35.1	42.5	22.3	27.0	6.5	7.9

Source: Kosovo Agency of Statistics, https://ask.rks-gov.net/ENG/pop/tables

The excerpt from the KAS database above shows the participation rates for age group 15-24 which is the age of our VET graduates by educational attainment. We can see that 42.5% of VET graduates are economically active, i.e. work or are looking for work. Others either continue their education or become inactive due to family obligations or illness. Therefore, we have to take this into account when we consider how many graduates to expect on the labour market.

In the table below we can see enrolment in VET schools by training programme in the Food technology skill sector.

Table 5 – Enrolment in VET Secondary Schools by Training Programme in the School Year 2014/15 and Graduates who will enter the Labour Market in 2016

Region and Schools	FOOD TECHNOLOGY	MILK PROCESSING	BAKERYAND PASTRY	FRUIT AND VEGETABLE PROCESSING	MEAT PROCESSING	TOTAL	GRADUATES*
FERIZAJ	**234**	**0**	**0**	**0**	**0**	**234**	**33**
Naim Frasheri	21	0	0	0	0	21	3
Zenel Hajdini	213	0	0	0	0	213	30
GJAKOVE	**59**	**0**	**0**	**0**	**0**	**59**	**9**
Kadri Kusari	20	0	0	0	0	20	3
Selajdin Mullaabazi-Mici	39	0	0	0	0	39	6
GJILAN	**139**	**0**	**0**	**0**	**0**	**139**	**20**
Arbëria	76	0	0	0	0	76	11
Jonuz Zejnullahu	63	0	0	0	0	63	9
MITROVICA	**185**	**0**	**0**	**0**	**0**	**185**	**24**
Anton Çetta	58	0	0	0	0	58	8
Arkitekt Sinani	66	0	0	0	0	66	9
Bahri Haxha	61	0	0	0	0	61	7
PEJA	**197**	**0**	**0**	**0**	**0**	**197**	**28**
Ali Hadri	119	0	0	0	0	119	17
Fehmi Agani	78	0	0	0	0	78	11
PRISHTINA	**137**	**52**	**19**	**52**	**23**	**283**	**41**
Abdyl Frashëri	0	52	19	52	23	146	21
Fehmi Lladrocvci	116	0	0	0	0	116	17
Isa Boletini	21	0	0	0	0	21	3
PRIZREN	**173**	**0**	**0**	**0**	**0**	**173**	**24**
SHMP Shirokë	51	0	0	0	0	51	7
Ymer Prizreni	122	0	0	0	0	0	18
KOSOVO	**1124**	**52**	**19**	**52**	**23**	**1270**	**179**
%	**88.50**	**4.09**	**1.50**	**4.09**	**1.81**	**100**	**--**

* Graduates are calculated by dividing the enrolment by 3 to get the students in the final year. Then we multiply this number by the participation rate of children who are in the age group 15-24 to get the economically active individuals who enter the labour market.

Source: Ministry of Education, Science and Technology, Kosovo.

There are 16 schools across Kosovo which provide training programmes in food processing. All the Kosovo regions have at least one such school and many also have 2 or more. 88.5% of total enrolment is into the programme Food technology while only the school "Abdyl Frashëri" in Prishtina has other types of food processing programmes such as Milk processing, Meat processing, etc. In the school year 2014/2015 there were 1,270 students enrolled in these programmes and if we divide this number by 3 to get the approximate number of students in the final year. However, when we apply the participation rate for this group or the share of those who will not continue studying and stay on the labour market, we see that the actual number of graduates is only 179 for the whole of Kosovo. Is this enough for the labour market needs?

LABOUR SUPPLY 3: GRADUATES FROM HIGHER EDUCATION INSTITUTIONS

From table 6 we can see that there are not many training programmes in the field of Food processing. We have two programmes at the Bachelor in Prishtina and Mitrovica universities; two MA programmes and one doctoral programme. The numbers of students have varied significantly and are not logical which means they have to be cross-checked with the main source.

Table 6 – Enrolment by Faculty, Training Programme, Gender and Chosen Years

	Total 2012-13	Women 2012-13	Total 2013-14	Women 2013-14	Total 2014-15	Women 2014-15
FAKULTETI I TEKNOLOGJISË USHQIMORE - MITROVICA	--	--	446	226	751	394
NUMBER OF GRADUATES	--	--	--	--	--	--
TOTAL NUMBER OF STUDENTS	--	--	223	113	431	226
FAKULTETI I AGROBIZNESIT - PEJA	--	--	--	--	74	34
NUMBER OF GRADUATES	--	--	--	--	0	0
TOTAL NUMBER OF STUDENTS	--	--	--	--	74	34
BUJQËSISË DHE VETERINARISË - PRISHTINA	81	34	278	94	244	99
NUMBER OF GRADUATES	0	0	0	0	1	0
TOTAL NUMBER OF STUDENTS	49	20	139	47	141	54
GJEOSHKENCAT DHE METALURGJIA / PRISHTINA	703	376	--	--	--	--
NUMBER OF GRADUATES	34	15	--	--	--	--
TOTAL NUMBER OF STUDENTS	478	264	--	--	--	--
TOTAL STUDENTS	**527**	**284**	**362**	**160**	**646**	**314**
TOTAL GRADUATES	**34**	**15**	**0**	**0**	**0**	**0**
GRADUATION RATE, TOTAL	**6.5**	**5.3**	**0.0**	**0.0**	**0.0**	**0.0**

Source: PM Office, database prepared for analysis of the implementation of the Kosovo Education Strategy in 2015.

There are sudden changes in the numbers of enrolled students and almost no graduates in the last two years from all training programmes. This is difficult to understand and some deeper causes need to be addressed. It is not clear what influences both enrolment and graduation in this case, so that the data source needs to be carefully checked for possible mistakes. If we discount the very few graduates over the last 2 academic years, the average annual number of graduates would be approximately 30.

3.1 INDICATOR 5: TRAINING COVERAGE

A skill sector comprises of two corresponding groups of data: occupations and competences on the one hand, and training programmes or qualifications with learning outcomes on the other, as shown in the chart below. We define the sector by choosing occupations which use competences from this field of knowledge and training programmes or qualifications which have learning outcomes adequate to create the right skill sector competences. For the skill sector to have some importance for education it is clear that information about the use of skills must come from the economy, i.e. the employers who are involved in economic activities which require certain types of skills and knowledge. Below we show food processing occupations and qualifications which use and create skills for the sector on Kosovo by NQF levels.

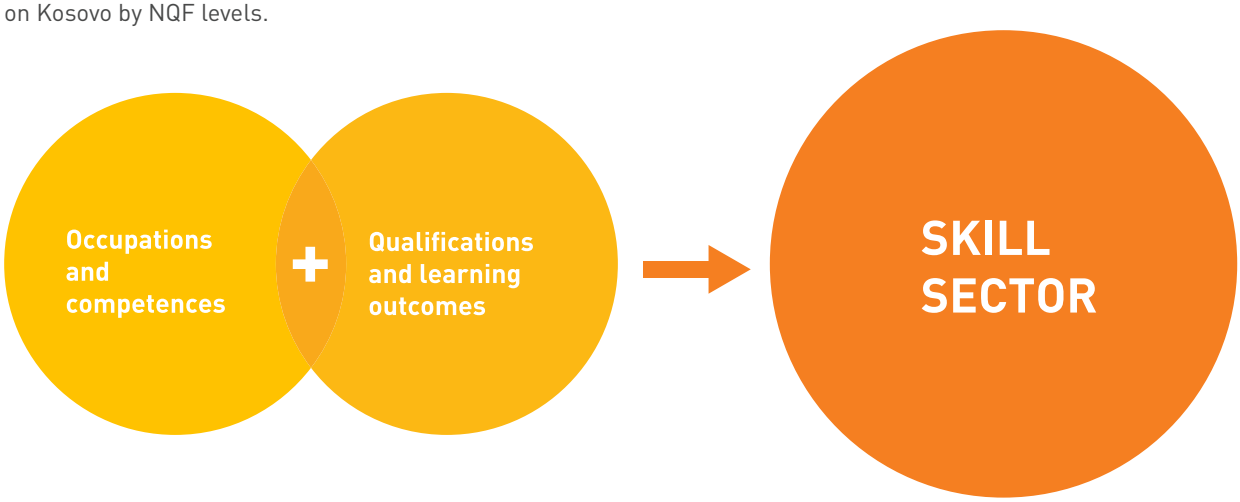


Table 7 – Occupations and qualifications in the skill sector Food Processing[9]

NQF/MAJOR ISCO GROUP	OCCUPATIONS IN ISCO88/08[10]	QUALIFICATIONS
NQF 1-2 / MAJOR GROUP 9	1 occupation (type: Elementary occupations)	No qualifications
NQF 3 / MAJOR GROUP 8	32 occupations (type: Machine operators)	5 VET TRAINING PROGRAMMES (NQF 3 and 4)
NQF 4 / MAJOR GROUP 7	29 occupations (type: Crafts and individual trades)	
NQF 5 / MAJOR GROUP 3	3 occupations (type: technicians)	No qualifications
NQF 6+ / MAJOR GROUP 2	10 occupations (type: professionals)	10 HE programmes (5BA,4MA,1DOC)

Source: Labour Force Survey, 2013, MEST and KAA – data on training programmes in HE and VET 2013.

[9] See all detailed occupations and qualifications from the skill sector in Annex 1.

[10] Some of these occupations may not be present in the Kosovo labour market at this time but we have difficulty in assessing their presence at the level of individual occupations since the LFS collects data only at the aggregated of minor group.

We can see that most of the occupations in this skill sector are machine operators by type. Usually machine operators have to have at least 2 years of secondary education at the NQF level 3, but can also be trained through adult training. Since NQF level 3 qualifications are available after 2 years of VET secondary education, and if these programmes do educate for this type of occupations we would have coverage of these occupations by training programmes.
The second group of occupations are the crafts and individual trades by type and they generally require secondary VET education at the level 4 of NQF. There are up to 29 such occupations and they are covered by 5 VET programmes at the required level.

For NQF level 5 qualifications which lead to occupations of the type Technician, there are no qualifications and this could be a problem in the future since technicians are key occupations in industry and act as support workers for professionals and researchers. We can see that technicians exist in the Kosovo labour market through the LFS and the unemployment database of the MLSW, but if no level 5 programmes are introduced it will be difficult to replace them and to support industrial development with the required human resources.

2 out of 5 minor group occupations are not covered by training programmes at the adequate NQA level programmes. Value of indicator 3/5[11] indicates GOOD coverage but it is important to remember that there are no qualifications for the level of technicians which could seriously affect the supply of skills at this level for the manufacturing industry in the future. The tasks which technicians usually undertake are tasks of chemical analysis of inputs and outputs from the food processing, monitoring of quality and supporting food processing technologists in research, problem solving and similar. These types of skills require post-secondary training which is currently missing in the Kosovo education system.

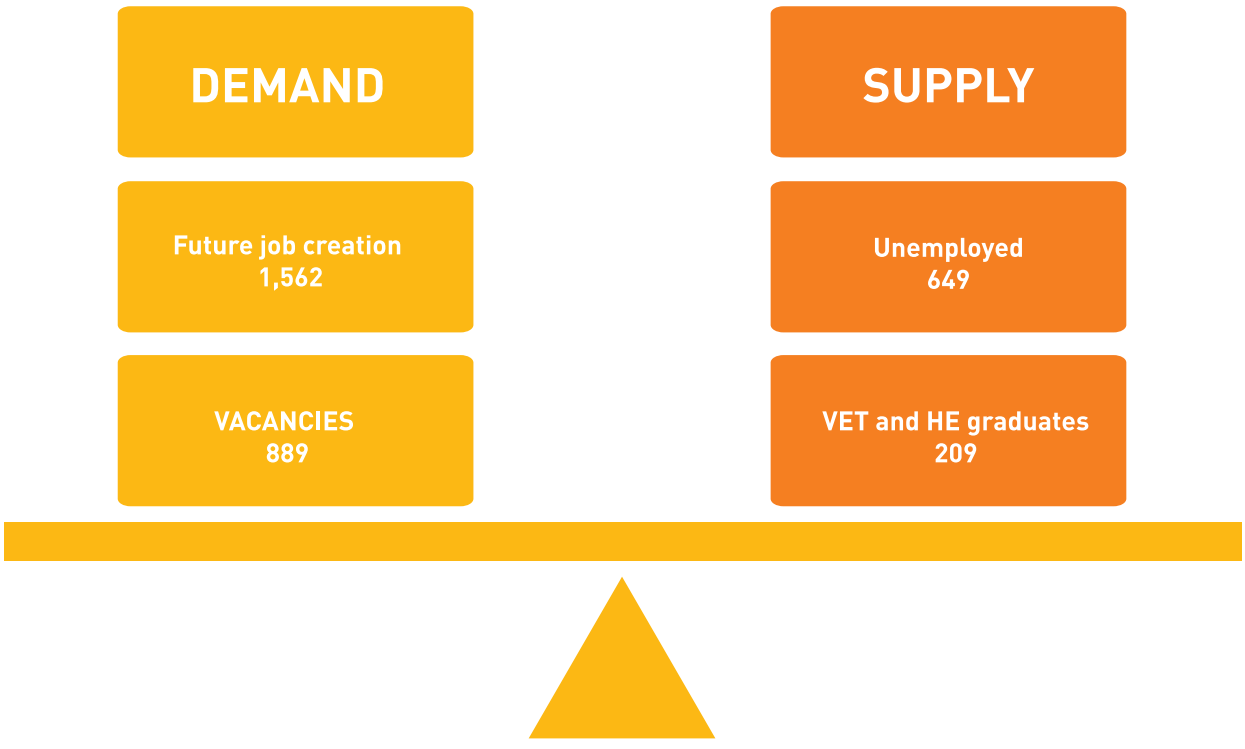
There are 10 different higher education programmes in the FOOD skill sector which includes 5 BA programmes, 4 MA programmes and one doctoral programme. At the same time, we have 10 occupations on the labour market which require higher education and this could indicate that there may be too many training programmes for so few occupations. Usually one training programme should cover several occupations and not the other way around. It is true that in a country which intends to specialize in different forms of food processing it may be important to have specializations in higher education to follow this need. Is Kosovo at this stage already or should it create more general qualifications without necessarily going into high levels of specialization?

[11] Values of indicator for coverage: 5/5 = Excellent coverage; 4/5 = Very good coverage; 3/5 = Good coverage; 2/5 Limited coverage; 1/5 Very limited coverage.

4.

INDICATOR 6: THE BALANCE OF DEMAND AND SUPPLY OF FOOD PROCESSING OCCUPATIONS

A very rough calculation based on all the above evidence is shown in the chart below. If we take the future demand for food processing of 7,813 which will appear over the next 5 years we would have annual job creation of about 1,562. If we add the declared vacancies to this average annually amounting to about 889 this together would give us demand of 2,452 annually. On the supply side we have 649 unemployed which is the annual average and 209 graduates from VET schools and HE which give us a total supply of 854 persons. This means that demand may be greater than supply if the assumptions we have made should hold in the future.



However, this is a very rough estimate and based on elements which may change in a different way from the expected. It is important to notice that the number of vacancies is larger than the number of registered unemployed and this indicates that there is some unfilled demand. Also the graduates from VET schools and particularly from universities are relatively few due to a low graduation rate which shows that large numbers are enrolling into higher education and only few are getting a qualification. If this changes and the success rate of finalizing studies improves, so will the supply of labour to the labour market. On the other hand, the estimate of demand may be on the high side since it is difficult to imagine that demand will grow as fast as it did in the past, so this estimate is possibly too high. Nevertheless, we have to be aware that in this sector demand may exceed supply even though there are many unemployed and many enrolled students.

5.
INTERPRETATION OF INDICATORS

In the following table all the above indicators can be found for quantifying the information from each of the above chapters in an attempt to make an evidence based assessment of the demand on the labour market for food processing occupations. There are 4 indicators of demand for skills each of which covers a different aspect of demand.

The indicator of SCOPE (indicator 1) is measured as the share of employed with sector occupations in total employment. The bigger sector employment is, the greater the potential demand but this indicator cannot be used without a look at the GROWTH indicator (indicator 3) which tells us about the direction of change in employment. Therefore, if a sector has large scope but a fast decrease of employment, demand will be falling even if there are many employed with the sector occupations. This is not the case with food processing where job growth has been considerable and demand seems to be rising which will eventually increase the scope as well.

EMPLOYMENT POTENTIAL (indicator 4) is measured by the vacancy to unemployment ratio in occupations or groups of occupations in employment services. Vacancies are requests for workers by the employers and relate to certain individual occupations or groups of occupations. This ratio has to be looked at for individual occupations since it varies very much from occupation to occupation. This serves as an indicator of the employability of individual occupations which is important for the assessment of labour market need of various occupations.

The indicator of COVERAGE (indicator 5) serves as a supply side assessment to identify training gaps which may be present, i.e. when certain occupations are demanded but there are no training programmes which prepare graduates for these jobs. This was the case in food processing where there are technicians working on the labour market but there are no programmes which prepare graduates for the technician level which mostly lasts from 4 to 5 years of post-secondary education.

Finally the indicator of DISPERSION (indicator 2) is a measure of how widely skill sector occupations are used in the economy as a whole and to identify key economic sectors which are important for employment of skill sector occupations. Generally, the wider the dispersion, the more choice there is for finding employment. For example, economists and lawyers are needed in many economic activities and their dispersion is great in the economy. This is why so many training programmes are in the field of economics but there still could be too many of them. Food processing occupations do have quite substantial dispersion in 57 out of 86 economic activities but most of the employed in skill sector occupations actually work in 5 economic activities indicating large numbers of occupations in only a few economic activities.

Table 8– Indicators of demand and supply and indicator values for the Food processing sector

INDICATORS	NAME	VALUES OF INDICATORS	DESCRIPTION OF INDICATOR	LEVEL
LABOUR DEMAND INDICTORS				
Indicator 1	SCOPE	More than 20% share in total employment – Large scope; From 8 – 20% - MEDIUM; 3 – 8% SMALL SCOPE Below 3% - VERY SMALL	The share of employed with skill sector occupations in total employment	4.4% -SMALL SCOPE
Indicator 2	DISPERTION	Up to 30% - Low dispersion; From 31 – 60% - Medium dispersion Above 61% - High dispersion	The number of economic sectors which employ skill sector occupations in relation to all sectors	57/86 or 66% HIGH DISPERSION
Indicator 3	GROWTH	Indices values: 140+ - Strong growth 110-139 – Medium to fast growth 100 - 109 – Slow growth Less than 100 – Negative growth	Index of employment growth over the last 5 years for economic sectors which employ agricultural occupations	Index 2011-2014 = 147 MEDIUM TO FAST GROWTH
Indicator 4	EMPLOYMENT POTENTIAL	Vacancy to unemployment ratio: High demand: 100 and above; medium demand 50-99; low demand 30-50; below 30 very low demand	VET = 134 HE = 66	VET high demand; HE medium demand
Indicator 5	COVERAGE	60%+ - Good coverage 20-40% - Medium coverage Below 20% - Low coverage	Ratio between ISCO minor groups and NQF qualifications	3/5 GOOD COVERAGE
Indicator 6	DEMAND/SUPPLY BALANCE	To what extent is the demand for workers covered by supply of workers from the same skill sector	If the balance is positive, supply is greater than demand; if the balance is negative, demand is greater than supply	Medium excess demand for labour of about 1,600 unfilled vacancies

The balance between DEMAND and SUPPLY tells us a little about the numbers of persons with skill sector occupations who are demanded on the labour market in relation to the numbers of persons with the same occupations who are looking for work. Clearly, if this balance is heavily disturbed in either direction (too many job seekers or too many unfilled vacancies) then we know that the skills gap needs to be addressed and tackled if we want to have adequate human resources for development for the needs of the labour market and more employability for job seekers.

In the case of this skill sector, there is small medium excess of demand to be recognised as a potential problem for the future. If we would like to reduce this excess demand we have to look at the graduation rates from university, graduation rates and labour market activity of VET graduates and the relevance of skills of the unemployed. Particularly important is the fact that there are many unfilled vacancies in the employment service and this matter has to be looked into to see if it is skill related. If the unemployed do not have the right skills, no number of vacancies will increase their employability. This is a challenge for lifelong learning training strategies.

ABOUT THE USE OF INDICATORS IN VERIFICATION PROCESSES

The values of indicators are only an indication of the relevance of the occupations for which standards are being developed. They are to be used by the verifiers more as a help in the assessment process rather than as a rigid check list which disqualifies the applicant. If more than half of the indicators are in the large to medium range, the relevance is high. If some of the indicators have low values, **the applicants should be asked for further clarification why the standard could nevertheless be important**. For example, the sectors of natural sciences are of very small scope, dispersion and even growth, but these occupations are necessary in smaller numbers in the economy for important jobs. The applicant must provide such explanations which can be considered to be qualitative indicators, if the quantitative indicators are not adequate.

Assessment of labour market relevance should use values of all indicators shown above as well as experts' knowledge of the labour market and education. Strategic documents both domestic and international are also a valuable source which can be used to prove the future relevance of certain qualifications in Kosovo.

6.
THE FOOD PROCESSING INDUSTRY IN KOSOVO

DAIRY PRODUCTS

The dairy products sector is dominated by imports mainly due to inefficient small holdings within the sector and severe under-capitalization. Despite a good supply of local milk, imports of processed dairy products account for more than 70% of locally consumed products. Kosovo imports around €25 - 30 million of dairy produce annually, mainly UHT milk, yogurt, fruit yogurt, butter, white cheese and yellow cheese. About 80% of its imports come from the EU, mainly from Hungary, Slovenia and Germany.

The sector provides attractive opportunities for import substitution by investment in modern equipment, techniques and product branding. Further, the sector is well organized to provide support for such investment via two main trade organizations – the Kosovo Dairy Processors Association and the Kosovo Milk Producers Association.

FRUIT AND VEGETABLES

A similar picture exists within the fruit and vegetables sub-sector. Imports account for over 70% of local demand. For example, despite the availability of local fruits, there are few fruit processing companies and no facility to produce fruit juice concentrates. There is an immediate investment opportunity here for a new 'greenfield' manufacturing operation or a joint venture with a local fruit processing company.

About 30,000 hectares is devoted to vegetables and potatoes including crops such as tomatoes, peppers, onions, cabbages and melons. The present supply is not sufficient to cover local demand but this could be changed with increased investment to prolong the supply season for example through greenhouses, tunnel production and improved long-term storage facilities. There are definite opportunities for export of high quality vegetable products through the extension of off-season production.

MEAT PRODUCTS

In the meat processing sector, Kosovo has a tradition of large-scale meat production. In the former Yugoslavia, the meat industry was characterized by its own unique system of farming. Socially-owned enterprises operated large-scale agricultural farms and big meat processing complexes. One legacy of this tradition is that today there are six major meat processors in Kosovo who supply around 15% to 20% of Kosovo's domestic market.

Although the sector has adequate processing capacity to meet current local demands, there is a lack of equipment and knowledge to complete the processing cycle. There is still a high dependence on imports of raw materials for production and packaging materials. Investment opportunities exist for joint ventures with existing processors who are interested in partnering with foreign companies.

WINEMAKING

Grape-growing and wine production has a long tradition in Kosovo. The continental climate and vineyard height of 300 to 400 meters above sea is very well suited to the production of high quality grapes. There are more than 200 sunny days annually to ripen the grapes, on a par with some much better known wine-producing regions. While local small-scale wine production was developed extensively during the last two centuries, the wine industry peak in 1989, the wine industry had 9,000 hectares of vineyards, divided into private and public ownership, and spread mainly throughout the south and west of Kosovo.

The major share of wine production was for export, mainly to the German market. The wine industry in Kosovo currently consists of about 5,000 hectares of vines. In order to stimulate and support grape growing and wine production, the Government has enacted a Wine Law governing high standards for wine production. Further, the creation of a Wine Institute in 2007 is expected to result in a revitalization and modernization of the wine industry in Kosovo through higher quality wine production and greater use of technology-based winemaking techniques.

There are good investment opportunities to raise new plantations and substitute less productive domestic varieties with well-known international varieties. There are also opportunities to invest in wine tourism and the local municipalities are willing to consider the provision of infrastructural support.

OTHER BEVERAGES

Apart from wine production, there are also opportunities for investment in other beverages such as bottled and carbonated), soft drinks and beer. Kosovo has a number of beverage companies which are active in local and export markets and both 'greenfield' investment as well as partnership arrangements with existing investors are possible.

7.

THE FUTURE OF FOOD: AN OVERVIEW OF TRENDS AND KEY ISSUES

Food production is an activity which is crucial for retaining health and sustenance of the domestic population as well as providing an export platform in food products which may have a competitive advantage in the global market. Healthy and high quality food is going to become more and more important globally and there is no doubt that ecologically grown and chemical free food will remain to be and continue to grow in importance in the future. Kosovo has to find its' competitive advantage in food and link into global food processing chains as well as cover more of its' domestic needs. There are two reasons for this. Firstly, Kosovo still has the human and land resources which can be recruited for the food producing and processing activity. Secondly, imports of food is growing and even domestic food processing companies have to import their raw materials even though there is low use of domestic agricultural production. These two growth potentials have to be looked at together rather than separately. The future of food is a huge opportunity and Kosovo could take full advantage of it in the future.

A LOOK AT THE OECD FOOD PROSPECT

Twenty years from now, the way food is produced, sold and consumed in OECD countries will in all probability have drastically changed. Projections of food supply and demand, as presented in the first part of this paper, suggest substantial transformations in consumption patterns, in technologies, in policies, and in international trade.

THE LONG-TERM OUTLOOK FOR GLOBAL SUPPLY AND DEMAND

World agricultural production to 2020 is expected to grow at an average rate of around 1.8 per cent a year, a slower pace than in preceding decades but fast enough to improve per capita food production as world population growth gradually loses momentum. The bulk of the expansion in production will be in developing countries, largely due to the intensification of agriculture and a widespread use of agro-chemical inputs. OECD countries, by contrast, will contribute only marginally to the rise in world production. In Russia and the Ukraine, agricultural supply is expected to recover, but slowly, from its collapse of the early 1990s. Growth projections in global and regional food supply principally reflect the likely evolution of effective demand. Food demand is expected to increase vigorously in developing countries – with the exception of some least developed countries – at about 2.6 per cent per annum, primarily as a result of demographic changes. The population outside the OECD is expected to increase by 80 million each year in the next two decades, pushing up food requirements and, in some regions, aggravating the risks of food shortages. Economic growth, rising incomes and urbanisation, particularly in Asia and Latin America, may also contribute to the expected surge in food demand, not least via rapid changes in diets in favour of more grain-intensive foods such as meat, and in particular red meat. In OECD countries, on the other hand, per capita food demand could gradually off, and consumption is likely to change much more in composition and quality than in volume over the next two decades. Trade in agricultural commodities looks set to remain at around 10 per cent of world production, although trade in processed food should grow somewhat faster. Developing countries are expected to become net agricultural importers. This will provide OECD producers with an attractive export outlet as well as considerable opportunities for foreign direct investment, as their own domestic markets gradually stagnate.

The most promising markets for OECD exports are those of livestock and some processed foods, where local production is unlikely to match demand in regions such as East Asia or Eastern Europe. In this context, the United States, Australia and New Zealand might well gain substantial market shares in world exports at the expense of the European Union (at least under the assumption that present policies continue). Indeed, with their higher efficiency, lower costs and more market-oriented policies, these countries seem better prepared than Europe for new competitive conditions. Imports would nonetheless surge in all OECD countries as a result of lower protection, so that the import penetration rate for the OECD area could reach 20 per cent in 2020 compared to 7 per cent in 1992, mainly as a result of increased trade among OECD countries. In turn, increased import penetration is likely to put yet more pressure on OECD countries to pursue structural adjustment in their agriculture sectors. A range of uncertainties is associated with this "baseline" scenario. They concern primarily demand, supply and policy.

DEMAND SIDE UNCERTAINTIES

On the demand side, uncertainties relate, among other things, to traditional determinants of food demand – mainly population and income growth – as well as changes in food habits. With respect to population forecasts, a variety of factors, including enhanced family planning and reduction of poverty, could lead to lower demographic growth, and thus to a lower increase of food demand. Moreover, for a given of national income, a more uneven distribution among the population might also weaken food demand. This could be the case in China, for instance, where half of the population is expected still to be located in rural areas in 2030.

AN OVERVIEW OF TRENDS AND KEY ISSUES

On the other hand, incomes may rise more strongly than expected in several countries, including most notably China and India, pushing up food demand. The evolution of consumer tastes and diets may gain in importance at the expense of the traditional determinants of demand, in particular in OECD countries. It is possible, for instance, that growing safety and ecological concerns may lead to a sustained demand for products with certain organic attributes ("semi-organic" produce), although, it is generally assumed that the market for purely organic products will remain marginal. In developing countries, diets may change rapidly towards higher meat consumption, as a consequence of factors such as urbanisation and openness to trade.

On the supply side, the availability of land, water, and other natural resources emerges as a matter of major concern. Water resources, which have been affected by intensive use of fertilizers and pesticides or by excessive pumping, are becoming scarce in many parts of the world, inhibiting the development of irrigation.

Regarding land, it is generally acknowledged that the net expansion of cultivated area will be modest in the future, not least due to urbanisation and the need to preserve forests. Some analysts even consider there is a risk that land losses due to erosion, salinization, waterlogging or contamination may actually outweigh new lands brought into cultivation. Finally, wild fish stocks have been decimated (in some waters perhaps beyond recovery) almost worldwide, and the further expansion of fish farming could eventually come up against environmental limitations. These issues can be at least partly addressed by better policies, including targeted measures to combat waste of water. Another major source of uncertainty, is the evolution of productivity. On the positive side, traditional techniques still offer the potential for major improvements in productivity, most notably in developing countries. And alongside these, a new generation of techniques is emerging. Information technology, for example, could allow more efficient management of stocks and input flows, thanks for instance to geographical positioning systems. More importantly, however, biotechnology is gradually emerging as the most promising field of research and application in various areas. These include yield enhancement, reduction in chemical inputs, adaptation to specific natural conditions, and disease management. As products using genetic engineering are increasingly developed in OECD countries by private companies, the focus is expected to shift gradually from the technical feasibility of such products to competition and market conditions.

THE FUTURE OF FOOD

The linkage of genetic modification of plants with upstream agro-chemical activities, which may have an important contribution to make to the sustainability of agriculture in the future, could also give substantial market power to a handful of companies, at least in the early stage of development. Existing and potential safety as well as ecological side-effects will need to be cautiously and credibly assessed. Finally, labelling and more generally providing adequate information to the consumer will be essential ingredients of success for such techniques. A hasty rejection of biotechnology applications by consumers or governments, which remains possible for instance in Europe, could severely damage the development of these techniques and therefore hamper the productivity growth of agriculture in the future. On the negative side, there is the impact of declining rates of investment. In many developing countries, investment in agricultural research as well as development has fallen to 0.5 per cent of the value of agricultural production or less, compared to 2 per cent in OECD countries. Given the fact that in some of these countries the market outlook is too uncertain – or weak – for the private sector to provide all the investment needed, public investment in research and development may have a greater role to play if the potential of domestic food supply is to be preserved and developed. All in all, in spite of the existence of major downside risks, it is widely assumed that food supply will be highly responsive to price signals in the two next decades. An increase in world prices would trigger an intensification of production and the use of reserves of land, not least in some OECD countries where set-aside programmes could be relaxed. Large efficiency gains could also be obtained in feeding, handling, distribution, and stockholding. Though food security problems could be aggravated by short-term increases in prices, the high elasticity of supply seems to rule out the risk of a lasting global food shortage.

Local imbalances, however, cannot be excluded. For some less developed countries and transition economies, the market infrastructure is still poorly developed. Constraints on natural resources could limit the agricultural capacity of specific countries where demand is expected to surge, thus increasing their net imports. Some analysts, for instance, underline the risk of agricultural supply in China being handicapped by substantial land losses due in particular to urbanisation, and a weakening of productivity gains linked to insufficient investment in agricultural research. Were such an imbalance to appear in a specific region of the world, increased trade and investment, coming in particular from OECD countries, would seem to be the key to preventing a food crisis

Excerpt from a Report prepared by Reza Lahidji, Wolfgang Michalski and Barrie Stevens OECD Secretariat, Advisory Unit to the Secretary-General of the OECD.

Annex 1

OCCUPATIONS IN THE FOOD-PROCESSING SECTOR[12] BY NQF LEVEL REQUIREMENTS

The structure of the ISCO88 classification consists of 10 major groups each of which is further subdivided into sub-groups and finally individual occupations which relate closely to jobs or workplaces. For any analysis of the labour market to be possible, it is important to code occupations in employment and unemployment by using this classification which is also international and thus enables cross national comparisons.

Each skill sector has all or some of the major groups in the classification. For example, in the skill sector of Food processing there are no occupations which belong to the major group 4 – Clerks and major group 5 – Service workers and shop and market sales workers. On the other hand, in the skill sector Business and administration there are no occupations in major group 8 – Plant and machine operators and assemblers or major group 6 – Skilled agricultural and fishery workers, because these type of occupation groups are found only in manufacturing or agriculture.

Table 1 – ISCO-88 with number of subgroups and skill levels

Major groups		SUB MAJOR GROUPS	SUB GROUPS	UNIT GROUPS	ISCO SKILL LEVEL
1	Legislators, senior officials and managers	--	8	33	--
2	Professionals	4	18	55	4th
3	Technicans and associate professionals	4	54	73	3rd
4	Clerks	2	7	23	2nd
5	Service workers and shop and market sales workers	2	9	23	2nd
6	Skilled agricultural and fishery workers	2	6	17	2nd
7	Crafts and related trades workers	4	16	70	2nd
8	Plant and machine operators and ssemblers	2	20	70	2nd
9	Elementary occupations	3	10	25	1st
0	Armed forces	1	1	1	--
TOTALS		28	116	390	--

Source: ILO, ISCO-88, Geneva 1990.

[12] Values of indicator for coverage: 5/5 = Excellent coverage; 4/5 = Very good coverage; 3/5 = Good coverage; 2/5 Limited coverage; 1/5 Very limited coverage.

As shown in the table above each major ISCO group has one or more sub groups, for example there are 4 sub-major groups of Professionals, 18 sub-groups and 55 unit groups. Finally, there are 620 professional occupations in the Kosovo classification of occupations. Each national classification is slightly different since labour markets reflect the structure of the economy and occupations in a country like Kosovo which is still largely rural, cannot have the same occupations as Germany, which is dominantly industrial or service economy. The table below shows all the occupations by major and sub groups which we believe belong to the field of knowledge used in Food processing and in this sense make up a skill sector. Each skill sector, therefore has occupations at different levels of complexity and type. Occupations in each major group are related to ISCED classification of education which is shown in the last column of table 1. The 1st refers to primary education, 2 refers to secondary education, 3 refers to above secondary but below tertiary and 4 relates to university education and higher. In this way we can say that each occupation has a level of education which is required for productive work.

OOCCUPATIONS IN THE SKILL SECTOR FOOD PROCESSING

ISCO88 CODES		ISCO88 NAME OF MAJOR GROUP, MINOR GROUP, UNIT GROUP AND INDIVIDUAL OCCUPATION
NQF 5+		
1	2	PROFESSIONALS
3	214	Architects, engineers and realated professionals
4	2146	Chemical and food technologicsts
6	2146.08	Technologist, food processing
1	3	TECHNICIANS AND ASSOCIATE PROFESSIONALS
3	311	Technical and technology technicians
4	3116	Chemical and food technology technicians and related technicians
6	3116.05	Technician, laboratory/food industry
6	3116.14	Technician, food industry

OOCCUPATIONS IN THE SKILL SECTOR FOOD PROCESSING

ISCO88 CODES		ISCO88 NAME OF MAJOR GROUP, MINOR GROUP, UNIT GROUP AND INDIVIDUAL OCCUPATION
NQF 3,4		
1	7	CRAFT AND RELATED TRADES WORKERS
3	741	Food processing and related trade workers
4	7411	Butchers, fishmongers and related food prepares
6	7411.01	Butcher
6	7411.02	Butcher, master
6	7411.03	Butcher, animal and poultry
6	7411.04	Peeler, animal skin
6	7411.05	Sausage maker
4	7412	Bakers, pastry-cooks and confectionery makers
6	7412.01	Headbaker
6	7412.02	Baker, bread and pastry
6	7412.03	Maker, pastry
6	7412.04	Preparer, pastry
6	7412.05	Maker, pie
4	7413	Dairy-products makers
6	7413.01	Controller, milk
6	7413.02	Maker, butter
6	7413.03	Processor, milk
6	7413.04	Maker, cheese
6	7413.05	Maker, ice-cream
4	7414	Fruit, vegetable and related preservers
6	7414.01	Preserver, fruit and vegetable juices

OOCCUPATIONS IN THE SKILL SECTOR FOOD PROCESSING

ISCO88 CODES		ISCO88 NAME OF MAJOR GROUP, MINOR GROUP, UNIT GROUP AND INDIVIDUAL OCCUPATION
NQF 3,4		
6	7414.02	Expeller, oil
6	7414.03	Preserver, fruit
6	7414.04	Preserver, vegetable
6	7414.05	Preserver, wine
6	7414.06	Producer, alcoholic drinks
4	7415	Food and beverage tasters and graders
6	7415.01	Grader, food
6	7415.02	Taster, food
6	7415.03	Grader, liquor
4	7416	Tobaco products makers and related trade makers
6	7416.01	Maker, tobacco
6	7416.02	Maker, tobacco products
6	7416.03	Grader, tobacco
4	7419	Food makers and related workers not elsewhere classified
6	7419.01	Miller
6	7419.02	Maker, honey
1	8	PLANT AND MACHINE OPERATORS AND ASSEMBLERS
3	827	Food and related products machine operators
4	8271	Meat- and fish-processing-machine operators
6	8271.01	Machine-operator, meat processing
6	8271.02	Machine-operator, fish processing
4	8272	Dairy-products machine operators

OOCCUPATIONS IN THE SKILL SECTOR FOOD PROCESSING

ISCO88 CODES		ISCO88 NAME OF MAJOR GROUP, MINOR GROUP, UNIT GROUP AND INDIVIDUAL OCCUPATION
NQF 3,4		
6	8272.01	Machine-operator, dairy products
4	8273	Grain-and spice-milling-machine operators
6	8273.01	Machine-operator, milling/grain
6	8273.02	Machine operator, milling/spices
6	8273.03	Machine-operator, milling/ crops
6	8273.04	Machine-operator, milling/fodder
4	8274	Baked-goods, cereal and chocolate-products machine operators
6	8274.01	Machine-operator, chocolate production
6	8274.02	Machine-operator, bread production
6	8274.03	Machine-operator, confectionery production
6	8274.04	Machine-operator, pastry production
4	8275	Fruit-, vegetable- and nut-processing-machine operators
6	8275.01	Press-operator, edible oils
6	8275.02	Machine-operator, fruit processing
6	8275.03	Machine-operator, vegetable processing
6	8275.04	Machine-operator, other plant processing
4	8276	Sugar production machine operators
6	8276.01	Machine-operator, sugar production
6	8276.02	Machine-operator, honey production
6	8276.03	Machine-operator, starch production
4	8277	Tea-, coffee-, and cocoa-processing-machine operators
6	8277.01	Machine-operator, tea processing

OOCCUPATIONS IN THE SKILL SECTOR FOOD PROCESSING

ISCO88 CODES		ISCO88 NAME OF MAJOR GROUP, MINOR GROUP, UNIT GROUP AND INDIVIDUAL OCCUPATION
NQF 3,4		
6	8277.02	Machine-operator, cocoa processing
6	8277.03	Machine-operator, coffee processing
4	8278	Brewers, wine and other beverage machine operators
6	8278.01	Machine-operator, non-alcoholic drinks production (except various fruit and vegetable juices)
6	8278.02	Machine-operator, beer production
6	8278.03	Machine operator, wine production
6	8278.04	Machine-operator, alcoholic drinks production
6	8278.05	Machine-operator, vinegar production
6	8278.06	Machine-operator, ferment production
4	8279	Tobacco production machine operators
6	8279.01	Line operator tobacco processing
6	8279.02	Machine-operator, tobacco processing
6	8279.03	Operator, equipment/tobacco processing
6	8279.04	Machine-operator, production/tobacco products
6	8279.05	Installation-operator, production/tobacco products
NQF 1,2		
1	9	ELEMENTARY OCCUPATIONS
3	932	Manufacturing labourers
4	9320	Manufacturing labourers
6	9320.01	Labourer, elementary work/food, drink, food, animal

Annex 2

THE UNEMPLOYED WITH FOOD PROCESSING OCCUPATIONS BY GENDER AND NQF LEVEL REQUIREMENTS, 2015

SOURCE: MINISTRY OF LABOUR AND SOCIAL WELFARE

NFQ	CODE AND NAME OF INDIVIDUAL OCCUPATION IN THE FOOD SKILL SECTOR	TOTAL UNEMPLOYMENT	UNEMPLOYED WOMEN	UNEMPLOYED MEN	SHARE OF WOMEN, %
	TOTAL	649	253	396	39.0
NQF 3,4	7412.02 - Baker, bread and pastry	140	7	133	5.0
NQF 5+	3116.14 - Technician, food industry	118	48	70	40.7
NQF 5+	2146.08 - Technologist, food processing	71	38	33	53.5
NQF 3,4	7412.03 - Maker, pastry	69	65	4	94.2
NQF 3,4	7412.04 - Preparer, pastry	58	48	10	82.8
NQF 3,4	7414.04 - Preserver, vegetable	48	4	44	8.3
NQF 5+	3116.03 - Supervisor, food technology	29	10	19	34.5
NQF 3,4	7412.01 - Headbaker	24	1	23	4.2
NQF 5+	3116.05 - Technician, laboratory/food industry	15	8	7	53.3
NQF 3,4	7411.01 - Butcher	13	1	12	7.7
NQF 1,2	9320.01 - Labourer, manufacturing/ food, drink, food, animal and tobacco	11	3	8	27.3
NQF 3,4	7413.03 - Processor, milk	9	6	3	66.7
NQF 3,4	7414.01 - Preserver, fruit and vegetable juices	8	2	6	25.0
NQF 3,4	7411.02 - Butcher, master	4	0	4	0.0
NQF 3,4	7412.05 - Maker, pie	4	1	3	25.0
NQF 3,4	7414.03 - Preserver, fruit	4	1	3	25.0
NQF 3,4	8274.02 - Machine-operator, bread production	3	3	0	100.0
NQF 3,4	8272.01 - Machine-operator, dairy products	2	2	0	100.0
NQF 3,4	8275.03 - Machine-operator, vegetable processing	2	0	2	0.0
NQF 3,4	7415.02 - Taster, food	2	2	0	100.0
NQF 3,4	7419.02 - Maker, honey	2	0	2	0.0

NFQ	CODE AND NAME OF INDIVIDUAL OCCUPATION IN THE FOOD SKILL SECTOR	TOTAL UNEMPLOYMENT	UNEMPLOYED WOMEN	UNEMPLOYED MEN	SHARE OF WOMEN, %
	TOTAL	649	253	396	39.0
NQF 5+	2324.09 - Teacher, fruit and vegetable processing	2	0	2	0.0
NQF 3,4	8273.03 - Machine-operator, milling/ crops	1	0	1	0.0
NQF 3,4	8274.01 - Machine-operator, chocolate production	1	0	1	0.0
NQF 3,4	8274.03 - Machine-operator, confectionery production	1	1	0	100.0
NQF 3,4	8275.01 - Press-operator, edible oils	1	1	0	100.0
NQF 3,4	8276.01 - Machine-operator, sugar production	1	0	1	0.0
NQF 3,4	8278.01 - Machine-operator, non-alcoholic drinks production except various fruit and vegetable juices	1	0	1	0.0
NQF 3,4	7413.01 - Controller, milk	1	0	1	0.0
NQF 3,4	7413.05 - Maker, ice-cream	1	1	0	100.0
NQF 3,4	7414.06 - Producer, alcoholic drinks	1	0	1	0.0
NQF 3,4	7419.01 - Miller	1	0	1	0.0
NQF 5+	2324.04 - Teacher, milk processing	1	0	1	0.0

Annex 3

LIST OF TRAINING PROGRAMMES FROM THE FOOD PROCESSING SKILL SECTOR 2014-2015

Here find listed training programmes which are providing and disseminating knowledge in the field of food processing at the secondary VET school level. We can see that there are general programmes called Food technology and specific, specialized programmes for fruit processing and wine production, confectionary and pastry, bakery and meat processing.

TRAINING PROGRAMMES IN THE FIELD OF FOOD PROCESSING

MUNICIPALITY	SCHOOL NAME	PROFILE[13]
Deçan	**SHk.M.Teknike "Tafil Kasumaj"**	Food technology (OS)
FERIZAJ	**SH.M.B "Z.Hajdini"**	Food technology
FERIZAJ	**SH.M.B "Z.Hajdini"**	Fruit crops - winery
Gjilan	**SH.M.B."Arberia"**	Confectioner
Gjilan	**SH.M.B."Arberia"**	Food technology
Gjilan	**SH.M.B."Arberia"**	Fruit crop and winery
Klinë	**SH.M.T-"F. Agani"**	Food technology
Mitrovicë	**SH.M.T "Arkitekt Sinani"**	Food technology
PEJË	**SH.M.E. "Ali Hadri"**	Food technology
PEJË	**SH.M.E. "Ali Hadri"**	Fruit crop and winery
Podujevë	**SH.M.T "Fan S. Noli"**	Food technology
Prishtinë	**ShMAT "Abdyl Frashëri"**	Bakery (OS)
Prishtinë	**SH.M e mak. "Sh. Gjeqovi"**	Confectioner
Prishtinë	**ShMAT "Abdyl Frashëri"**	Meat processor (OS)
Prishtinë	**Sh.M.T.H.T."7 Shtatori"**	Pastry

[13] The training profiles with the addition of (OS) are based on an occupational standard verified by the NQA and CVET.

TRAINING PROGRAMMES IN THE FIELD OF FOOD PROCESSING

MUNICIPALITY	SCHOOL NAME	PROFILE
Prizren	**SH.M.E."Ymer Prizreni"**	Food technology
Rahovec	**Sh.M. "Xh..H.-Toni"**	Food technology
Rahovec	**Sh.M. "Xh..H.-Toni"**	Fruit crop and winery
SHTIME	**SH.M "N.Frasheri"**	Fruit crops - winery
Skenderaj	**SH.M.T "Anton Çeta"**	Food technology
Viti	**SH.M.P. "J.Zejnullahu"**	Food technology
VUSHTRRI	**SH.M.P "Bahri Haxha"**	Confectioner
VUSHTRRI	**SH.M.P "Bahri Haxha"**	Food technology
VUSHTRRI	**SH.M.P "Bahri Haxha"**	Fruit crop and winery

Annex 4

ENROLMENT IN HIGHER EDUCATION BY FOOD PROCESSING PROGRAMME, VARIOUS YEARS

Place, faculty, type of study, name of programme	TOTAL 2010/11	WOMEN 2010/11	TOTAL 2011/12	WOMEN 2011/12	TOTAL 2012/13	WOMEN 2012/13	TOTAL 2013/14	WOMEN 2013/14	TOTAL 2014/15	WOMEN 2014/15
FAKULTETI I TEKNOLOGJISË USHQIMORE - MITROVICA	--	--	--	--	--	--	446	226	751	394
BACHELOR	--	--	--	--	--	--	386	194	640	324
Inxhinieri dhe Teknologji Ushqimore	--	--	--	--	--	--	--	--	--	--
Number of graduates	--	--	--	--	--	--	0	0	0	0
Number of students in the first year	--	--	--	--	--	--	167	84	167	94
Total number of students	--	--	--	--	--	--	167	84	245	134
Teknologji	--	--	--	--	--	--	52	26	228	96
Number of graduates	--	--	--	--	--	--	0	0	0	0
Number of students in the first year	--	--	--	--	--	--	26	13	110	47
Total number of students	--	--	--	--	--	--	26	13	118	49
MASTER	--	--	--	--	--	--	60	32	95	64
Programi studimor Inxhinieri dhe Teknologji Ushqimore	--	--	--	--	--	--	60	30	95	64
Number of graduates	--	--	--	--	--	--	0	0	0	0
Number of students in the first year	--	--	--	--	--	--	30	16	35	24
Total number of students	--	--	--	--	--	--	30	16	60	40
Programi studimor Teknologji	--	--	--	--	--	--	0	0	16	6
Number of graduates	--	--	--	--	--	--	0	0	0	0
Number of students in the first year	--	--	--	--	--	--	0	0	8	3
Total number of students	--	--	--	--	--	--	0	0	8	3

Place, faculty, type of study, name of programme	TOTAL 2010/11	WOMEN 2010/11	TOTAL 2011/12	WOMEN 2011/12	TOTAL 2012/13	WOMEN 2012/13	TOTAL 2013/14	WOMEN 2013/14	TOTAL 2014/15	WOMEN 2014/15
FAKULTETI I AGROBIZNESIT - PEJA	--	--	--	--	--	--	--	--	74	34
BACHELOR	--	--	--	--	--	--	--	--	74	34
Teknologji ushqimore	--	--	--	--	--	--	--	--	74	34
Number of graduates	--	--	--	--	--	--	--	--	--	--
Number of students in the first year	--	--	--	--	--	--	--	--	74	34
Total number of students	--	--	--	--	--	--	--	--	--	--
FAKULTETI BUJQËSISË DHE VETERINARISË - PRISHTINA	--	--	48	14	81	34	278	94	244	99
BACHELOR	--	--	--	--	--	--	222	80	222	92
Teknologji ushqimore	--	--	--	--	--	--	222	80	222	92
Number of graduates	--	--	--	--	--	--	0	0	0	0
Number of students in the first year	--	--	--	--	--	--	111	40	102	45
Total number of students	--	--	--	--	--	--	111	40	120	47
DOKTORATURË	--	--	--	--	18	10	--	--	--	--
Shkencat e ushqimit dhe teknologija ushqimore	--	--	--	--	18	10	--	--	--	--
Number of graduates	--	--	--	--	0	0	--	--	--	--
Number of students in the first year	--	--	--	--	9	5	--	--	--	--
Total number of students	--	--	--	--	9	5	--	--	--	--

Place, faculty, type of study, name of programme	TOTAL 2010/11	WOMEN 2010/11	TOTAL 2011/12	WOMEN 2011/12	TOTAL 2012/13	WOMEN 2012/13	TOTAL 2013/14	WOMEN 2013/14	TOTAL 2014/15	WOMEN 2014/15
FAKULTETI I AGROBIZNESIT - PEJA	--	--	--	--	--	--	--	--	74	34
MASTER	--	--	48	14	63	24	56	14	22	7
Ekonomia e bujqesise dhe ushqimeve	--	--	48	14	63	24	56	14	22	7
Number of graduates	--	--	0	0	0	0	0	0	1	0
Number of students in the first year	--	--	24	7	23	9	28	7	--	--
Total number of students	--	--	24	7	40	15	28	7	21	7
GJEOSHKENCAT DHE METALURGIA - PRIHSTINA	462	228	521	224	703	376	--	--	--	--
BACHELOR	370	208	468	225	606	338	--	--	--	--
Teknologji inxhinieri ushqimore	370	208	468	225	606	338	--	--	--	--
Number of graduates	26	9	7	1	34	15	--	--	--	--
Number of students in the first year	141	53	117	50	156	84	--	--	--	--
Total number of students	203	146	344	174	416	239	--	--	--	--
MASTER	92	20	53	19	97	38	--	--	--	--
Teknologji inxhinieri ushqimore	92	20	53	19	97	38	--	--	--	--
Number of graduates	9	1	13	3	0	0	--	--	--	--
Number of students in the first year	24	6	31	14	35	13	--	--	--	--
Total number of students	59	13	9	2	62	25	--	--	--	--
TOTAL NUMBER OF STUDENTS	262	159	377	183	527	284	362	160	572	280
TOTAL NUMBER OF GRADUATES	35	10	20	4	34	15	0	0	1	0

TOTAL NUMBER OF STUDENTS

TOTAL 2010-11
TOTAL

262

TOTAL 2010-11
TOTAL

159

TOTAL 2011-12
TOTAL

377

WOMEN 2011-12
TOTAL

183

TOTAL 2012-13
TOTAL

527

WOMEN 2012-13
TOTAL

284

TOTAL 2013-14
TOTAL

362

WOMEN 2013-14
TOTAL

160

TOTAL 2014-15
TOTAL

572

WOMEN 2014-15
TOTAL

280

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