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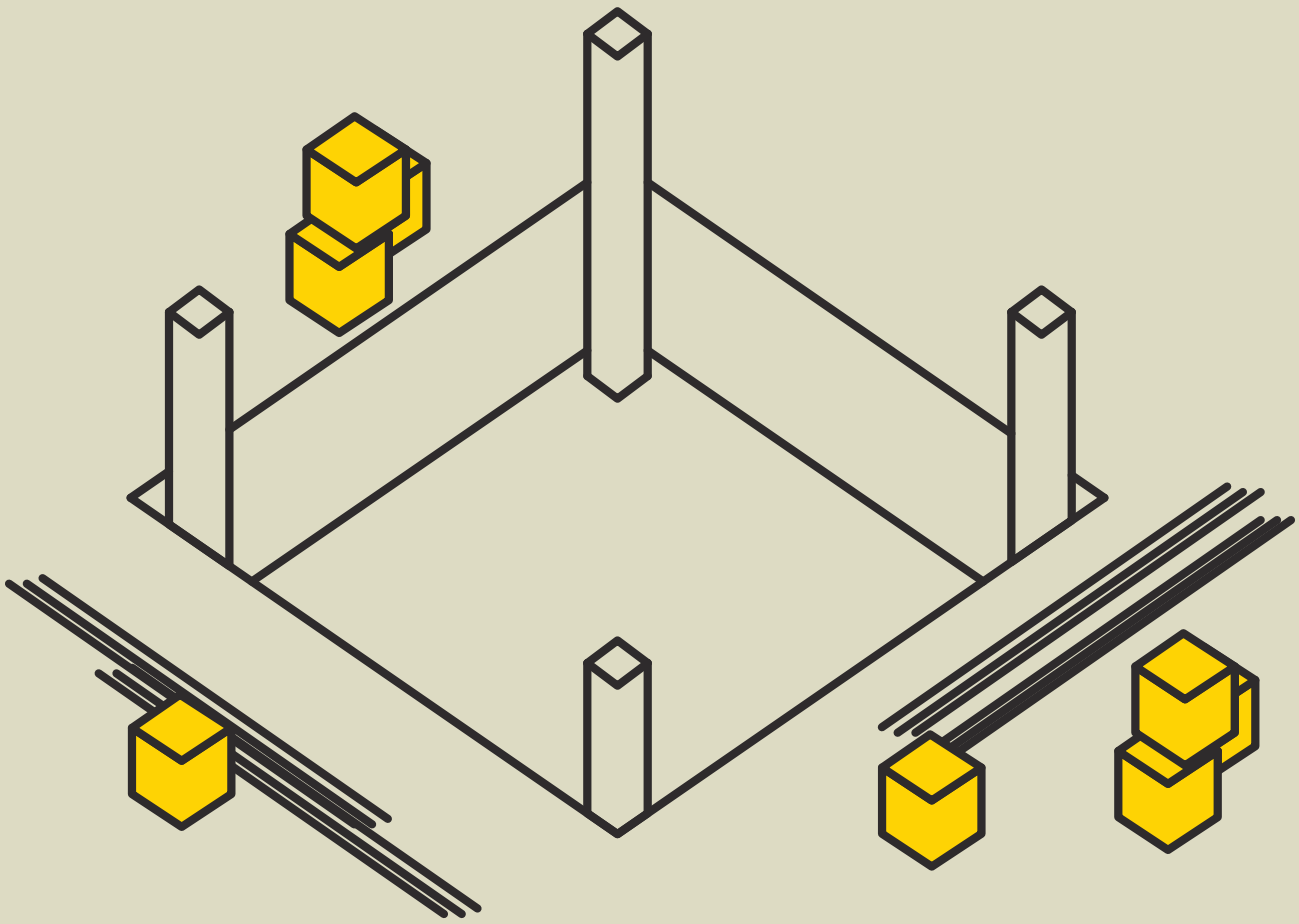
SPECIAL FOCUS ON CONCRETE PLACERS,
CONCRETE FINISHERS AND RELATED WORKERS



STUDY OF SKILLS NEEDS IN THE CONSTRUCTION SECTOR IN KOSOVO: SPECIAL FOCUS ON CONCRETE PLACERS, CONCRETE FINISHERS AND RELATED WORKERS

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Author: Dr. Ardiana Gashi

List of Abbreviations

EARK	Employment Agency
FDI	Foreign Direct Investments
GVA	Gross Value Added
HE	Higher Education
KAS	Kosovo Agency of Statistics
LFS	Labour Force Survey
MEST	Ministry of Education, Science and Technology
MLSW	Ministry of Labour and Social Welfare
VTC	Vocational Training Centers

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1. Introduction and methodology

Construction sector in Kosovo represents an important contributor to Gross Domestic Product (GDP) and employment, as it generates demand for other sectors, thus, producing multiplying effects in the economy. On average, the sector's gross value added[1] is about eight percent, the sector collects about one tenth of total turnover, it accounts for 13 percent of the net FDI and accommodates 15 percent of country's total employment. Nevertheless, the sector is constantly expanding and developing, which is characterized with a high number of newly established enterprises, investments and innovations.

The level of workforce skills has been identified as a barrier to construction sector development, as well as in other sectors. Accordingly, the quality of education and alignment of education with labour market needs, with a particular focus on vocational education, are recognised as key areas of intervention in key strategic documents of the Government of Kosovo. In this matter, Kosovo Education Strategic Plan (2017-2021) recognises as a key challenge the linkage of vocational education to the labour market and underdevelopment of quality assurance mechanisms. Similarly, the National Development Strategy (2016-2020) recognises matching workforce skills with labour market needs as a precondition for increased investments, employment, revenues and growth of existing enterprises, which would in turn be translated into higher economic growth and more sustainable development.

Although the sector contributes greatly to the economy, the sector is rather under-researched, particularly in area of skills needs. Existing studies (S&D, 2015; Riinvest, 2013) provide general assessment for the sector, emphasising lack of skilled workforce as a barrier to sector's development. This study fills the evidence gap, by providing additional information on the sector and also a perspective on the skill needs and gaps faced by employers, with detailed information for main prevailing occupations.

The methodology adopted in this study draws from previous literature/methodologies on skills needs in Kosovo (ALLED, 2016a, b; UNDP, 2016), as well as studies in other countries that, similar to this one, combine a sector- and occupation- level approach (e.g. see sector profile of the wood sector in Lithuania by MCVET, 2008). In line with the methodology developed by ALLED (2016a, b) the study analyses demand and supply of sector skills in the construction sector by bringing together information about employment and vacancies (demand for labour) and numbers of students/trainees in relevant study/training programs in vocational schools and higher education (supply of labour), in accordance with the methodology developed by (ALLED, 2016a, b). The analysis draws from: (i) previous studies; (ii) secondary data from the Tax Administration of Kosovo (TAK), Kosovo Agency of Statistics (KAS), Ministry of Education, Science and Technology (MEST); and Employment Agency of Kosovo (EARK). Additionally, this study also adds information from primary data collected through a survey of seventy one (71) enterprises operating in the construction sector and interviews with representatives of two (2) enterprises.

Additionally, the study builds on previous evidence on the sector, namely, the 'Market assessment for the construction sector' (S&D, 2015). The study provides information for skills providers and policy-makers in developing employability skills to match the existing market requirements. Findings can be directly used to develop occupational standard for the Concrete Placers, Concrete Finishers and Related Workers, thus, supporting completion of VET occupational framework.

An **overview of the sector** is drawn based on official statistics on gross valued added, number of new and terminated enterprises, and size of the net Foreign Direct Investment (FDI).

The sample for the enterprise survey was extracted from the TAK register of enterprises (2016). The register contains enterprises that were active, i.e. that have either declared one of the taxes or an employed person during 2016. The sample frame covered enterprises engaged in the Construction of residential and non-residential buildings sector (NACE Rev.2 code 41.2).

Given the focus of the study, big companies were selected in the sample under the assumption that their representatives are more informed about the skills of the workforce, the skills needed for the occupation, and the trends in terms of future skills needs and the overall development prospects of the occupation/sector. Accordingly, a size threshold of above 10 registered employees was imposed. All companies with above 50 registered employees in the TAK register (as of 2016) were selected in the sample, whereas the remaining of the companies selected had 10-49 registered employees.

In total 71 enterprises were interviewed, 28 percent of which were enterprises with more than 50 employees; whilst, 72 percent were with 10-49 employees. Construction of buildings was the main activity for 70 percent of all enterprises, followed by constructing houses for 14 percent and remaining ones were not specialised but engaged in construction sector in general. In most of interviews, responses were provided by the owner (56%), followed by managers. Based on responses received from 52 enterprises, on average, enterprises employed 38 regular employees and 23 seasonal workers. Given that the sample is not representative, quantitative sector specific indicators utilise official data from KAS, TAK and Central Bank of Kosovo, while qualitative responses represent reliable information for the sector.

The analysis for the selected occupation 'Concrete Placers, Concrete Finishers and Related Workers' occupation (ISCO 08 Code 7114) is based on the methodology previously developed and piloted by UNDP (2016) and ALLED, with the findings being validated and augmented from in-depth interviews with representatives of companies Redoni and KNAUF.

Due to the lack of reliable evidence on the most demanded sector's occupations, selection of the occupation was done based on the evidence from other countries and based on consultations with two prominent construction companies in Kosovo (Redoni and Tregtia). Based on desk research and assessment of consulted enterprises, the most demanded occupation that also employs a significant share of employees in the sector is the occupation of Concrete Placers, Concrete Finishers and Related Workers, which has been chosen for detailed skills needs investigation in this study. Additionally, it was identified that there is no occupational standard, approved by the National Qualifications Authority (NQA)[2] so far. List of relevant occupations for construction sector is provided in Annex 1.

The questionnaire of the survey was organised in the following modules: **Module 1** contained questions related to firm characteristics including: a) information on economic activity; investments, exports, employment by gender, age, occupations; mode of employment (regular versus seasonal); difficulties in filling vacancies; training; detailed information for selected occupation (number of employees and distribution by gender, age and education); b) Questions

[1] Gross value added at basic prices equals output at basic prices, minus intermediate consumption at purchaser`s price.

[2] A related occupation standard for the wood processing sector, "Interior design and wood technology" was developed by Ministry of Education, Science and Technology; however this was not approved by the NQA to date.

related to future expectations, regarding employment, turnover, exports and investments; c) Vocational education and training aspects i.e. review of skills and training provision; and d) Questions on status and areas of cooperation between the sector and labour supply providers. **Module 2** focused on the occupational-specific tasks for the chosen occupation. For each of the occupations specific tasks, included under ISCO-08 description for the concrete workers, enterprises were asked the following questions: if concrete workers currently perform the task, if they should do the task; if the relevance of the task will increase in the future. Moreover, enterprises were asked to list three main corresponding skills required to achieve the expected performance results. In addition, information on emerging skills needs and measures employed by businesses to address them was obtained. **Module 3** covered the importance and workers' preparedness to accomplish generic skills and **Module 4** incorporated background questions on major changes and innovations introduced in the interviewed businesses and their impact on the dominant occupational group.

Section 2 provides information on recent developments in the sector and prospects for the future, demand for labour and supply of labour and skills development. Section 3 discusses the findings from the skills needs for the selected occupation of Concrete Placers, Concrete Finishers and Related Workers, with a special focus on the tasks performed and required occupation specific and general skills. Section 4 provides some concluding remarks and recommendations.

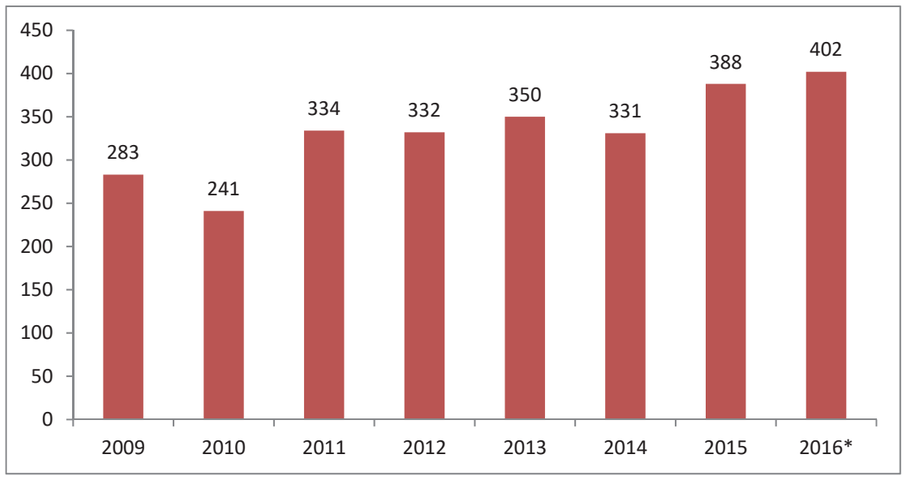
For simplicity, throughout the report, the title concrete workers will be referred for the Concrete Placers, Concrete Finishers and Related Workers.

2. Overview of the construction sector

2.1 Sector size

Construction sector continues to remain as one of the main contributing sectors to GDP. The sector plays a significant contribution to employment and drives economic growth by stimulating demand in many other areas of the economy. In this regard, throughout the period 2009 to 2016, the sector's contribution to the GDP ranged between 6 to 7.5 percent (Figure 1). In absolute terms, in 2016, construction sector's contribution to GDP amounted to 402 million Euros. The sector is growing and developing, moving away from the supply-driven to a more demand-driven market in which clients are increasingly looking for quality (S&D, 2014).

Figure 1: Gross value added (GVA) of construction sector (million Euros)



Source: ASKDATA

Except for year 2014, Net inflow Foreign Direct Investments (FDI) in the construction sector, were positive (Table 1). On average, 13 percent of total FDI were directed in this sector, though predominately driven by Diaspora investments (S&D, 2014).

Table 1: Foreign Direct Investments in construction sector, 2009-2016 (in million Euros)

	FDI	FDI in construction	Share to total FDI
2009	287.4	35.5	12%
2010	368.5	54.2	15%
2011	384.4	133.1	35%
2012	229.1	31.1	14%
2013	280.2	17.3	6%
2014	151.2	-19.9	-13%
2015	308.8	46.3	15%
2016	215.9	28.2	13%

Source: Central Bank of Kosovo

In 2015, there were 2,269 active enterprises, representing eight percent of the total number of enterprises. Time series data, available from ASK, show that over the period 2009-2014, enterprises in the construction sector accounted for about 7 percent of total business entities

(Table 2). The sector is very dynamic, with high number of newly established enterprises, with about 8,000 established, per year. On the other hand, exit rate in the sector is relatively low. During the period between 2009 to 2016, the average rate of new over terminated enterprises was 6.3meaning that for each of the terminated enterprise, 6 new enterprises were established.

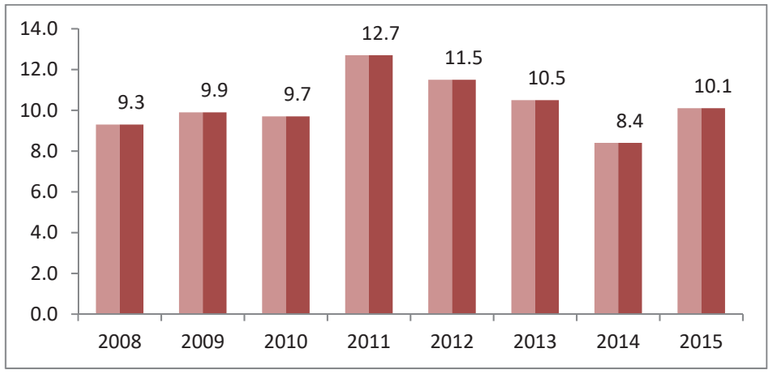
Table 2: Number of active, new and terminated enterprises

	Number of active enterprises	% of total enterprises	New enterprises	Terminated enterprises	New/terminated
2009	2,456	6%	7,505	1,136	6.61
2010	2,564	6%	7,729	1,363	5.67
2011	2,702	7%	7,879	924	8.53
2012	3,038	7%	9,592	1,081	8.87
2013	2,094	7%	9,421	1,508	6.25
2014	2,150	7%	9,405	1,671	5.63
2015	2,629	8%	9,833	2,205	4.46
2016 (Q1 and Q2)			5,697	1,384	4.12

Source: ASKDATA; ASK, 2016, Results of the Structural Business Statistics 2015

Over the period 2008-2014, on average, one tenth of overall turnover collected by enterprises[3] was collected by the construction sector (Figure 2). In 2015, the sector contribution to total turnover was 10.1 percent, which shows an increase of 1.7 percentage points, as compared to 2014.

Figure 2: The share of construction sector turnover, 2008-2015 (in %)



Source: ASKDATA; ASK, 2016, Results of the Structural Business Statistics 2015

According to data collected from the survey implemented for this study, during the last two years (2015 and 2016), a large share of enterprises have invested in land, buildings and machinery, with 47 percent; 61 percent; and 90 percent respectively. The sector's activity

[3] The value of turnover includes the amounts invoiced by the enterprise during the reference period and corresponds to market sales of goods and services provided to others.

predominantly takes place inside Kosovo, with only few enterprises being engaged in export activities. In this matter, only 9 out of 71 interviewed enterprises have been engaged in export activities, mainly in the region (6 of them in the region, 3 in EU and one in other countries).[4]

2.2 Employment

According to Kosovo Labour Force Survey (LFS) data, between 2012 and 2016, the sector's employment varied between 28.000 to 39.000 (Table 3). Furthermore, as compared to 2015, in 2016, employment increased by 37 percent, recording employment figure of 38.600. The sector workforce is vastly male dominated as women represent only 1 percent of the sector's employment. In absolute terms, in 2016, the sector employed only 400 women as opposed to 38.200 men.

The sector is an important employer for men as it accommodates nearly 15 percent of employed men, but only 0.5 percent of employed women. This can be as a result of gender segregation in education system and prevailing gender stereotypes.

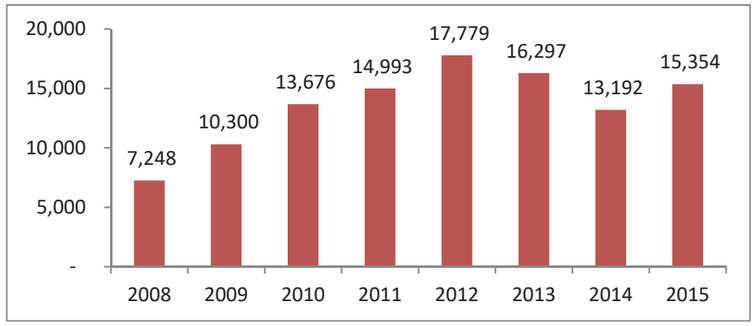
Table 3: Employment in the construction sector, 2012-2016 (in 000)

	Number employed in construction			Share to total employment		
	Male	Female	Total	Male	Female	Total
2012	28.7	0.3	29.0	11.9	0.4	9.5
2013	38.2	0.8	39.0	14.5	0.9	11.4
2014	34.7	0.9	35.6	13.9	1.2	10.9
2015	27.7	0.5	28.2	12.0	0.7	9.5
2016	38.2	0.4	38.6	14.7	0.5	11.5

Source: KAS, ASK Data: http://askdata.rks-gov.net/PXWeb/pxweb/en/askdata/

On the other hand, Structural Business Statistics Survey (2015) shows a significant lower share of workers as compared to LFS. In this regard, the report outlines that the sector's employment was 15,354, representing half of the total employment recorded by LFS. The discrepancy shown between these two sources derives mainly from the prevalence of informal[5] and seasonal employment in the sector[6], which are better captured with LFS, as it collects data directly from individuals. Discussions with two construction enterprises, confirmed that the sectors'employment is much larger than the official statistics.

Figure 3: Number of employed person in the construction sector, 2008-2015



Source: ASKDATA; ASK, 2016, Results of the Structural Business Statistics 2015:

4 Enterprises were asked to indicate three main exporting markets.
5 According to Riinvest survey in 2013, it is estimated that 20 percent of employment in the sector is informal.
6 A study commissioned by EYE in 2014, found that 77% of the companies surveyed, indicated that they employ seasonal workers, though the share of those employees was not reported.

About two thirds of employees are employed in small, medium and large sized enterprises. Around one fourth are employed in enterprises with 2-9 employees, while self-employed people represent only 8 percent of total sector's employment numbers (KOSME, 2014).

Based on responses received from 52 enterprises, on average, enterprises employed 38 regular employees and 23 seasonal workers. The most commonly found occupation is concrete workers and concrete finishers, employed in 96 percent of enterprises, followed by bricklayers (in 90% of enterprises); roofers (in 83% of enterprises); insulation workers (in 66% of enterprises); and plasterers, floor layers and painters employed in between 42-45 percent of interviewed enterprises (Table 4).

Table 4: Employment by occupations

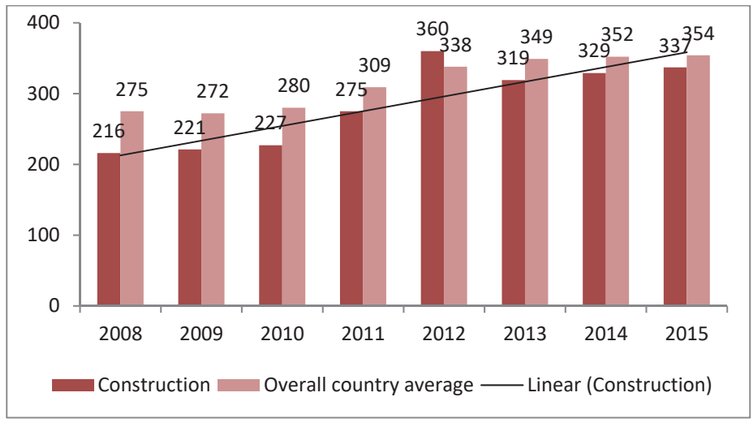
	Concrete workers	Roofers	Bricklayers	Insulation Workers	Floor layers and tile setters	Plasterers	Painters
Number of enterprises employing selected occupations	96%	83%	90%	66%	44%	45%	42%
Average number of employees	8	8	11.2	7.3	6.7	8.8	8.4
Min-max number of employees	1-80	2-30	2-45	2-30	1-20	1-40	2-50

Source: Survey data

The average number of concrete workers is eight, though with a large variation between enterprises, ranging between 1 to 80 employees.

As outlined in Figure 4, the sector, though with lower than the average wage level, has been subject to continuous positive growth.

Figure 4: Average wage level, 2008-2015



Source: ASKDATA; ASK, 2016, Results of the Structural Business Statistics 2015:

2.3 Demand for labour

2.3.1 Current demand for labour: Registered vacancies

There are no reliable data on the current and future labour demand in Kosovo. The only available source, for the current demand, is collected from the Agency of Employment, through Public Employment Offices. However, vacancy statistics must be treated with caution because public employment services do not manage to identify all vacancies for two main reasons: enterprises do not report vacancies and employment counsellors rely only on field visits to identify vacancies (i.e. they do not use other sources of information such as private job portals). Moreover, as emphasised during interviews with two employers, enterprises operating in the construction sector rarely publish vacancies, but rely on informal channels of recruitment instead.

In 2016, there were in total 1,244 vacancies identified by the Public Employment Services (PES), constituting nearly 10 percent of the total number of vacancies (Table 5). In the same year, PES intermediated employment of 459 unemployed in the sector, accounting for 11.4 percent of total number of employment intermediation. Huge variations are observed, in the number of vacancies and intermediation of employment through PES services.[7] Introduction of performance assessment system[8] is one of the contributing factors to the increased number of identified vacancies.

Table 5: Number of vacancies and intermediated employment, through Public Employment Services

	2012	2013	2014	2016
Number of vacancies	1,929	651	598	1,244
Number of employed through PES intermediations	1,326	408	534	459

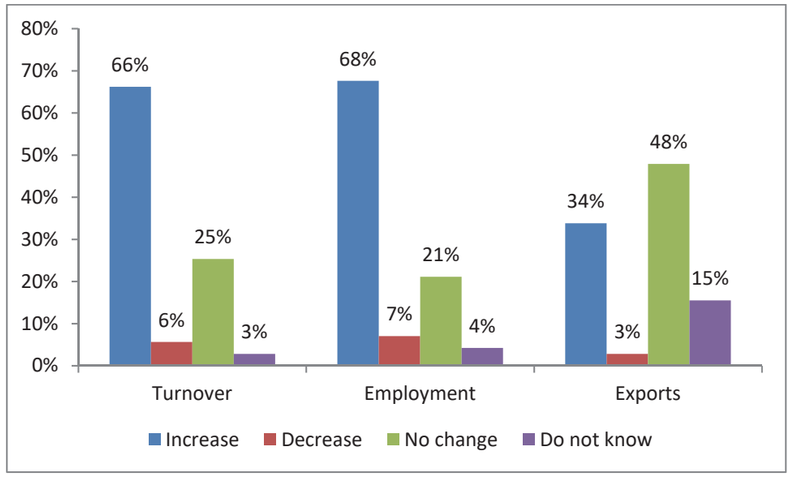
Source: MLSW, Work and Labour annual reports of 2014 and 2016.

2.3.2 Future prospects for labour demand

Kosovo does not have a system that forecasts skills requirement in the labour market (NDS 2016-2020). Therefore, in order to fill this gap, for the sector, interviewed employers were asked about their future expectations in regards to employment, turnover, exports and investments, for the next three years in the construction sector. Results from the survey, show that nearly two thirds of enterprises (out of 68 respondents) stated that the sector is growing; 26 percent stated that the sector remains the same; and, only 9 percent stated that the sector is declining. Likewise, nearly 70 percent of enterprises expect that employment in the construction sector will increase, 66 percent envisage increase in turnover and 34 percent stated that sector's exports will increase in the three coming years (Figure 5). The share of enterprises expecting employment, turnover or export decline, in the medium turn, is relatively small (ranges between 3-7%).

[7] The annual Work and Labour report of 2015 does not provide data by economic activities.
[8] Performance assessment of employment counsellors, among others, takes into account the number of vacancies identified in the field, towards meeting the annually set targets for each PES.

Figure 5: Expectations for three coming years, for turnover, employment and exports



Source: Survey. For exports, for non-exporters, plans to start exporting is recorded as increase

Segregated by occupations, 62 percent of interviewed enterprises expect employment to increase for concrete workers; 58 percent expect that the number of bricklayers will increase, followed by 45 percent for roofers; 34 percent for plasterers; and 27 percent of enterprises declare that the number of painters and insulation workers will increase in the coming three years (Table 6). Remaining enterprises, mainly expect stagnation in the number of employees, with few of them forecasting a decline in selected occupations.

Table 6: Employment expectations for three coming years, by occupations

Occupation	Share of enterprises
Concrete workers	
Increase	62%
Decrease	1%
No change	31%
Do not know	6%
Total	100%
Number of observations	71
Roofers	
Increase	45%
Decrease	4%
No change	41%
Do not know	10%
Total	100%
Number of observations	71
Bricklayers	
Increase	58%
Decrease	1%
No change	33%
Do not know	8%
Total	100%
Number of observations	71
Insulation Workers	
Increase	37%
Decrease	4%
No change	42%
Do not know	17%
Total	100%
Number of observations	71
Floor layers and tile setters	
Increase	27%
Decrease	3%
No change	46%
Do not know	24%
Total	100%
Number of observations	71
Plasterers	
Increase	34%
Decrease	4%
No change	41%
Do not know	21%
Total	100%
Number of observations	71
Painters	
Increase	27%
Decrease	3%
No change	45%
Do not know	25%
Total	100%
Number of observations	71

Source: Survey data

With regards to investments, nearly all enterprises plan to invest in machinery (94% out of 71), 56 and 52 percent plan to invest in new building and machinery, respectively (Table 6).

Table 7: Plans for investments, for the three coming years

	Land	Buildings	Machinery
Plan to invest	52%	56%	94%
Do not plan to invest	48%	44%	6%

Source: Survey data

2.3.3 Education level: typical and preferred level of education

For the selected occupations, enterprises were asked to indicate the most common and the preferred level of education. Data outlined in Table 8, show that for all occupations, the most typical level of education is general secondary education (gymnasium). However, about two thirds of enterprises have stated that the most preferred level of education, for each occupation, is the vocational secondary education. This mismatch could be due to a combination of number of factors, including: insufficient supply of vocational secondary education graduates for the sector, lack of information among employers about relevant schools, and lack of satisfaction

among employers with graduates from these schools. This also implies that the sector is operating with employees, which need trainings on all aspects of work, and which may as well, be of lower productivity, as compared to their VET counterparts. From a policy perspective, this implies that an improvement of the quality and relevance of secondary vocational education coupled with effective information to, and cooperation with, the private sector can improve the employment prospects of secondary education graduates.

Table 8: Typical and preferred level of education, by occupations

	Typical level of education	Preferred level of education
Concrete workers		
Primary school	4%	11%
General secondary school (gymnasium)	81%	24%
VET school	10%	62%
Higher education	4%	3%
Number of observations	67	66
Roofers		
Primary school	3%	9%
General secondary school (gymnasium)	84%	21%
VET school	12%	67%
Higher education		
Number of observations	58	57
Bricklayers		
Primary school	3%	7%
General secondary school (gymnasium)	87%	25%
VET school	10%	69%
Higher education		
Number of observations	62	61
Insulation workers		
Primary school	4%	5%
General secondary school (gymnasium)	91%	30%
VET school	4%	65%
Higher education		
Number of observations	45	41
Floor layers and tile setters		
Primary school	6%	6%
General secondary school (gymnasium)	91%	42%
VET school	3%	52%
Higher education		
Number of observations	32	31
Plasterers		
Primary school	6%	6%
General secondary school (gymnasium)	91%	25%
VET school	3%	69%
Higher education		
Number of observations	32	32
Painters		
Primary school	14%	10%
General secondary school (gymnasium)	76%	24%
VET school	7%	66%
Higher education		
Number of observations	29	29

Source: Survey data

2.3.4 Difficulties in recruiting skilled workers

Lack of skilled labour force, across all selected occupations, is confirmed with this study, which shows that between 52 and 62 percent of enterprises that have had vacancies have faced difficulties in recruiting (Table 9).

Table 9: Difficulties in filling vacancies

	Concrete workers	Roofers	Bricklayers	Insulation Workers	Floor layers and tile setters	Plasterers	Painters
Share of enterprises that have faced difficulties in filling vacancies	52%	58%	51%	62%	52%	55%	57%
Number of enterprises who have had vacancies	62	55	59	42	29	31	28

Source: Survey data

From data presented in Table 9, it can be observed that the vast majority of interviewed enterprises have had vacancies for concrete workers, bricklayers and roofers, confirming that these occupations are the most demanded ones.

2.4 Supply of labour and skills development

2.4.1 Labour supply from secondary vocational schools

Displaced data in Table 10 shows that currently VET schools offer 4 different study profiles, namely, 1) Technology of construction material; 2) Construction; 3) Low construction and 4) High construction. During the school year 2016/17, there were 908 students (grades 10-13) attending upper secondary vocational education in construction field. These study programs are mainly dominated by men, as female students represent only 27 percent of the total (Table 5) and with no female students enrolled in high construction study program. A declining enrollment trend is noticed in VET schools, where the number of enrolled students in 2015/16 was 348, which dropped down to 233 in school year 2016/17, indicating 33 percent decline across two consecutive years.

Table 10: Number of enrolled and total students in VET schools: school year 2015/16 and 2016/17

	2015/16			2016/17		
Study profile	**Enrolled /inflow**	**Number of students/ stock**	**Share of women**	**Enrolled /inflow**	**Number of students/ stock**	**Share of women**
Technology of construction material	42	82	46%	32	86	40%
Construction	131	363	16%	174	400	22%
Low construction	154	290	39%	20	337	37%
High construction	21	35	0%	7	85	0%
Total		770	27%	233	908	27%

Source: MEST, 2017

2.4.2 Labour supply from Vocational Training Centers

Training courses are provided by VTC in Prishtina, Peja and Mitrovica. In 2016, there were in total 457 training participants in Construction training program, as compared to 226 that were undergoing trainings in 2015 (Table 11). This marks a significant increase of nearly 70 percent. The same applies for the number of certified trainees. Since 2017, in line with ISCO-08 classification of occupations, VTCs have re-organised training program of construction into the following occupations: Concrete Finishers, Concrete Placers and Related Workers (7114); Roofers (7121); Floor Layers and Tile Setters (7122); Plasterers (7123); Bricklayers and Related Workers (7112); Painters and Related Workers (7131).

Table 11: Number of trainees in Construction training program, in VTCs, 2015 and 2016

	2015		2016	
VTCs	**Number of trainees**	**Number of certified trainees**	**Number of trainees**	**Number of certified trainees**
Prishtina	50	44	88	83
Mitrovica	64	57	102	87
Peja	158	125	267	206
Total	**272**	**226**	**457**	**376**

MLSW, Work and Labour annual reports of 2015 and 2016.

2.4.3 Labour supply from higher education

Faculty of Construction and Architecture of University of Prishtina offers the following study programs: Constructive (BA and MA); Hydro technique (BA and MA); Geodesy (BA); and Road Infrastructure (MA). In academic year 2016/17, in total 2,524 students were studying construction related fields of study, while the number of first year registered students was 343 (Table 12). Female students represent only 12 percent of the total number of students, 22 percent in the Hydro Technique study program and only 6 percent in the Geodesy study program.

Table 12: Number of enrolled and active students in BA level at Faculty of Construction and Architecture: academic year 2016/17

	Enrolled	Total number of active students	Share of women
Constructive	170	849	15%
Hydro Technique	80	413	22%
Geodesy	93	1,262	6%
Total	343	2,524	12%

Source: Kosovo Accreditation Agency, September 2017

2.4.4 Skills development in enterprises

According to data collected for this study, about three fifth of enterprises undertake a regular review of skills needs for all (38% of enterprises) or group of employees (37% of enterprises), while about one fifth do not perform such a review (Table 13). Although reviewing of skills is quite common, data reveal that only 30 percent of enterprises reported that employees have participated in any external or internal training courses, wholly or partly paid by the enterprise.

On-the-job training is the most commonly used training approach, applied by 55 percent of enterprises (Table 10). The second most common is the learning circles-whereby groups of employees gather together on a regular basis with the primary aim of learning more about the requirements of the work organization, work procedures and workplaces. Quality circles and external trainings have been applied by a limited number of enterprises.

Table 13: Training provision

	% of enterprises	No of observations
Trained in 2016	30%	21
On-the-job training	55%	39
Learning circles	37%	26
Quality circles	14%	10
External trainings	7%	5

Source: Survey data

2.4.5 Cooperation between employers and labour supply providers

This study shows that there is a weak cooperation between private sector and education & training system, in particular VET schools and VTCs (Table 14). Only 16 percent of enterprises in the sector have provided internships for VET schools, only 11 percent of enterprises have been engaged in developing VET curricula, and a somewhat higher share of them (19%) have received visits from VET students.

Cooperation with higher education institutions is more developed, in regards to three studied aspects. Nearly 30 percent of enterprises have provided internship places for higher education students, 25 percent have contributed in HE study program development and 31 percent of enterprises have hosted visits of HE students.

Table 14: Cooperation between construction sector and education and training providers

Cooperation with VET schools	**Share of enterprises**
Provision of internship places	16%
Contributed in curricula development	11%
Students' visits	19%
Cooperation with HE institutions	**Share of enterprises**
Provision of internship places	27%
Contributed in curricula development	25%
Students' visits	31%
Cooperation with VTCs	**Share of enterprises**
Training for VTC trainees	4%
Contributed in development of training programs	4%
Visits from VTC trainees	11%

Source: Survey data

Data reveal that there is nearly inexistent cooperation between private sector and VTCs. Very few enterprises have received trainees from VTCs, have been engaged in developing training programs or have been visited by VTC trainees.

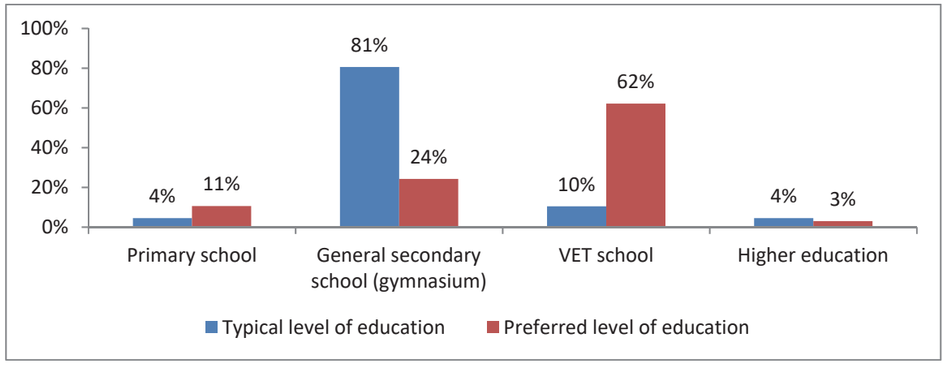
3. Skills needs for Concrete placers, concrete finishers and related workers

According to the ISCO-08 classification, concrete placers, concrete finishers and related workers erect reinforced concrete frameworks and structures, make forms for moulding concrete, reinforce concrete surfaces, cement openings in walls or casings for wells, finish and repair cement surfaces and carry out terrazzo work.

3.1 Education, difficulties in filling vacancies and training provision

There is a significant mismatch between the actual and preferred level/type of education for concrete workers (Figure 6). According to data collected for this study, 81 percent of construction sector enterprises have stated that a typical concrete worker in Kosovo has completed general secondary education (gymnasium), whilst this type of education is preferred by only 24 percent of enterprises. On the other hand, only 10 percent of enterprises have stated that a typical employee has completed a VET school while for nearly two thirds of them, this represents the most desired level and type of education. Due to this mismatch, all enterprises provide initial training, though majority provide one month of training (75%) but there are also enterprises providing trainings between 6-12 months (13%). Higher education seems not to be present nor preferred in the sector.

Figure 6: Typical and preferred level/type of education for concrete workers



Source: Survey data

The sector is also accompanied with difficulties in filling vacancies for concrete workers-since 52 percent out of 62 enterprises have reported such difficulties (Table 9). To address the new emerging skill needs for the concrete workers, enterprises mainly choose to train their employees and/or conduct internal re-organisation to better utilise existing skills and competences, rather than recruiting new staff (Table 15).

Table 15: Response to new emerging skills

Mechanisms to address skills needs	Share of enterprises
Training of available staff	44%
Internal re-organisation to better use the existing skills and competences	45%
Recruitment of new staff	13%

Source: Survey data

About one fourth of enterprises have stated that they incurred difficulties finding courses or trainers for the newly emerging skills for concrete workers.

3.2 Occupation-specific tasks and skills for concrete workers

For each of the ISCO-classification task of the concrete workers, surveyed firms were asked to indicate the respond to following questions: if employers in this occupation undertake such tasks; if enterprises consider that these employees should perform the task; and if the relevance of the task will decline, remain the same or become more important in the future. Overall, data indicate that concrete workers in construction sector in Kosovo, undertake similar tasks to the ISCO-08 definitions (Table 15).

More than 90 percent of enterprises declared that concrete workers construct and repair reinforced concrete floors, walls, tanks, silos and other concrete structures, 80 percent of which envisage that the importance of this task will remain or increase in importance.

The task of making shuttering or assembling prefabricated forms for moulding concrete, is performed by concrete workers in 89 percent of enterprises. For the vast majority of enterprises, this task is expected to remain or increase in importance.

Cementing openings in walls or casings for wells is performed by concrete workers in 76 enterprises and its relevance will remain or increase in the future, for nearly 80 percent of enterprises.

For majority of enterprises (78%), concrete workers conduct finishing and smoothing surfaces of concrete structures and apply a durable smooth surfacing composed of cement, sand pigment and marble particles to floors, known as a terrazzo finish. A similar share of enterprises, forecast that the importance of these task will either remain the same or increase.

Table 16: Tasks of a concrete worker

Tasks	Concrete workers undertake this task	Concrete workers should undertake this task	The importance of the task will remain the same or increase
Constructing and repairing reinforced concrete floors, walls, tanks, silos and other concrete structures	93%	90%	87%
Making shuttering or assembling prefabricated forms for moulding concrete	89%	83%	90%
Cementing openings in walls or casings for wells	76%	75%	78%
Finishing and smoothing surfaces of concrete structures	80%	78%	78%
Applying a durable smooth surfacing composed of cement, sand pigment and marble particles to floors, known as a terrazzo finish	80%	78%	78%

Source: Survey data

3.3 Skills requirements to adequately perform tasks of a concrete worker

For each of the listed task, employers were asked to name three main necessary skills. Findings for each task are provided in following boxes.

Task 1: Constructing and repairing reinforced concrete floors, walls, tanks, silos and other concrete structures

- Reinforcing concrete floors;
- Construct structures;
- Set the forms that hold concrete to the desired pitch and depth, and align them;
- Spread concrete in walls;
- Pouring concrete;
- Position construction forms or molds;
- Cementing openings in walls;
- Levelling and smoothing concrete; and
- Check the forms that hold the concrete to see that they are properly constructed.

Task 2: Making shuttering or assembling prefabricated forms for moulding concrete

- Making shuttering;
- Opening shuttering;
- Assembling shuttering;
- Skills enforcing shuttering;
- Repair of shuttering;
- Identification of frameworks; and
- Preparation of concrete forms.

Task 3: Cementing openings in walls or casings for wells

- Cementing openings;
- Concrete preparation;
- Structuring of concrete; and
- Application of additives

Task 4: Finishing and smoothing surfaces of concrete structures

- Finishing concrete;
- Extraction of concrete structure;
- Preparation for resistant substances;
- Spread, level, and smooth concrete, using rake, shovel, hand or power trowel, hand or power screed, and float
- Spread and levelling of floors;
- Performing terrazzo finish; and
- Measuring materials and concrete composition.

Task 5: Applying a durable smooth surfacing composed of cement, sand pigment and marble particles to floors, known as a terrazzo finish

- ✓ Concrete levelling;
- ✓ Spreading cement;
- ✓ Combination of materials;
- ✓ Controlling the quality of concrete;
- ✓ Controlling the hardness of concrete; and
- ✓ Placement/instalment of marble floor.

Employers also indicated the necessary knowledge that concrete workers should posses, which are listed as following:

- Knowledge on pigments;
- Knowledge of machines and tools, including their designs, uses, repair, and maintenance;
- Knowledge on smoothing surfaces;
- Knowledge on concrete structures and frameworks;
- Knowledge on pigments; and
- Knowledge on application of a durable smooth surfacing composed of cement, sand pigment and marble particles to floors.

3.4 General skills requirements

Table 17 provides the requirements of some of the key general skills for concrete workers, as ranked according to the likelihood of their importance increasing, as reported by the surveyed enterprises. Findings show that half of employers stated that no reading is required to perform tasks of the concrete workers, about 30 percent stated that these employees have to be able to read simple instructions, guidelines and texts, 15 percent stated that concrete workers need to be able to read complex content and only 7 percent declared that they need to read occupation specific texts with some technical content.

Similarly to the reading skills, responses on requirements for writing skills differ across enterprises. Half of enterprises declared that concrete workers need to be able to write simple texts, fill in forms and prepare self reports (for 50% of enterprises), for 17 percent they have to be able to write text that describes occupation specific content, but for 28 percent these employees writing is not required for this occupation.

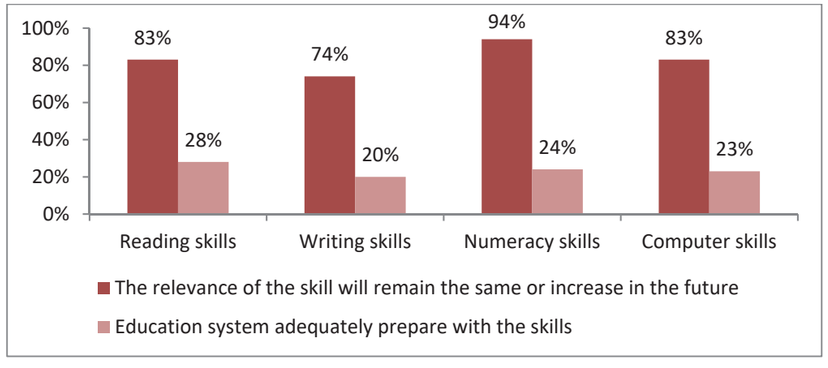
Concrete workers are required to do simple calculations and for some employers these employees are required to calculate averages, shares, percentages, etc. Half of enterprises report that elementary computer use skills as required for concrete workers for half of enterprises, one fifth require that these employees possess skills in working with word processing and excel sheets, whilst 15 percent of enterprises do not require any computer use skills and 6 percent require complex and advanced computer use skills.

Table 17: Level of necessary reading, writing, numeracy and computer skills

Reading skills enterprises	**% of**
No reading is required on this job	49%
Reading simple instructions, guidelines, texts	27%
Reading occupation specific texts with some technical content	7%
Reading with understanding complex texts which are important for work	1%
Reading complex content from a wider context	15%
Writing skills	
No writing is required on this job	28%
Writing simple texts, filling in forms, self-reporting on activities	51%
Writing texts which describe known occupation specific content	17%
Writing complex occupation specific texts	4%
Writing analyses, reports which assess the wider context of the business	
Numeracy skills	
No need for this skill	3%
Doing simple calculations (addition, division, multiplication)	62%
Calculation of averages, shares, percentages, etc.	32%
Knowing advanced calculus, statistical methods, etc.	3%
Developing models, performance indicators, complex calculations	
Computer use skills	
None	15%
Elementary (e.g. data entry, sending and receiving e-mails, printing)	53%
Moderate (e.g. word processing or spread sheets)	20%
Complex (e.g. analysing information or design, including computer aided design; using statistical analysis packages)	6%
Advanced (e.g. software programming, managing computer networks)	6%

A large share of employers expect that in the future, the relevance of the reading, writing, numeracy and computer use skills will remain the same or increase. However, between 20-28 percent of employers declare that education system is preparing adequately the labour force for the four noted skills (Figure 7).

Figure 7: Expected relevance and skill availability



Source: Survey data

Other general skills required for concrete workers are listed in Table 18. For vast majority of employers, concrete workers should possess problem-solving skills, creativity/innovation, manual dexterity, teamwork skills, sales skills, skills to implement practices to reduce usage of raw material, energy and water, skills to determine their own tasks and ability to undertake resource planning. An important finding is that enterprises require that concrete workers should be able to teach and instruct their peers, which can be related to the finding that on-the-job training, is a key mechanism for workforce development.

Table 18: Level of importance of other general skills

Skills	**Required skills for concrete workers**	**Remaining/will increase importance**
Solving complex problems	99%	97%
Foreign languages	37%	69%
Manual Dexterity	94%	96%
Communication skills	75%	83%
Team work	99%	99%
Sales skills	93%	94%
Creative/Innovative skills	99%	99%
Technical skills	100%	99%
Teaching/instructing skills	97%	97%
Implementation of practices to reduce the use of raw materials, energy and water	96%	87%
Determining their own tasks	87%	90%
Resource planning skills	86%	86%

Source: Survey data

Overall, according to employers, importance of the above listed general skills will either remain the same or increase, which informs the education sector, to consider these aspects when developing or revising curricula.

Foreign language is considered as important for only 37 percent of enterprises, however its importance is expected to increase in the future. As for their preparedness, only one fourth of enterprises declared that employees coming directly from school/university are adequately or well prepared.

3.5 Drivers of change, impact on skills requirements

During the last two years, the majority of enterprises have introduced work organisation (87% of surveyed enterprises). Firms whose innovative activities are in sales and marketing categories represent 62 percent, followed by 49 percent that focused in innovation in goods and services, and 42 percent of enterprises have introduced changes in processes, either for producing goods or supplying services.

Changes in work organisation have influenced tasks of concrete workers in nearly two thirds of enterprises, followed by changes in sales and marketing practices, changes of processes and goods and services (Table 19).

Table 19: Impact of changes/innovations on concrete workers' tasks

Impact of changes/innovations	Share of enterprises
Processes (for producing goods or supplying services)	28%
Goods or services	21%
Sales and marketing methods	32%
Work organisation	62%

Source: Survey data

Results from the survey reveal that nearly half of enterprises have undergone changes to protect environment, which have also lead to changes in the tasks undertaken by concrete works (in 43% of enterprises).

Fifty-two percent of firms reported that from all occupations employed by surveyed firms, concrete workers are currently the group most affected by changes in working tasks and skill requirements. When asked to name three other occupational groups that are undergoing the greatest changes, the following were mentioned: plasterer, roofers, bricklayers, isolation workers, etc.

3.6 Working conditions and required physical preparedness of employees

Just above half of enterprises declared that concrete workers perform their tasks both off and on work premises, 37 percent stated that the work of concrete workers takes place on working premises; and, reaming ten percent stated that the work takes place only off working premises. Responses from enterprises show that concrete workers perform their tasks in difficult working conditions (Table 20). Hot, cold and changing environments, noise, windy are the prevailing described working conditions.

Table 20: Working conditions

	% of enterprises
Hot	70%
Cold	58%
Windy	51%
Noise	69%
Temperature changes	70%
Vibrations	27%
Damp	28%
Radiation	6%
Artificial light	9%
Toxic environment	28%

Source: Survey data

Nearly all enterprises (89%) stated that concrete workers need to have considerable physical strength; 53.5 percent declared that they need to be able to stand, walk, kneel or lie down, for most of the working time. One third of enterprises declared that concrete workers must have good hand-eye coordination, and only 18 percent stated that these employees should be able to remain seated most of the time.

4. Concluding remarks and recommendations

Construction sector remains an important contributor to GDP, turnover, FDI and employment. Data collected from this and previous research point to a further growth of the sector, accompanied also with enhanced quality, innovation and investments. In 2015, nearly three thousands of enterprises were operating in the sector, representing one tenth of annual private sector turnover. According to Labour Force Survey data, the sector employs about 15 percent of total employment, vastly dominated by men, with women represent only one percent of the total sector's employment.

Based on developments in the previous years and findings from this survey, the sector is expected to grow further. A large number of interviewed enterprises (around two thirds of them) forecast sector growth, measured by employment and turnover. In line with their positive expectations, most enterprises plan to invest in land, buildings and machinery.

The **demand for labour**, measured by the number of vacancies, is revealing a significant increase of demand. According to data collected for this study, the most common occupations that also employ the biggest share of the sector's employment are: concrete workers and concrete finishers, bricklayers, roofers; insulation workers; plasterers; floor layers and painters.

In accordance with previous evidence, this study finds that enterprises face difficulties in filling vacancies for sector specific occupations. As a result, enterprises end up employing unskilled employees, leading to lower labour productivity and additional costs to training the newly hired employees.

Sector's labour supply providers are vocational schools, Vocational Training Centers of Employment Agency, and higher education institutions. In 2016, there were 908 students in VET schools; 457 unemployed persons were trained in Vocational Training Centers and 2,524 students were studying in higher education construction study programs. A declining trend in enrollment is noticed in VET schools but an increase in higher education and in VTCs.

Overall, there is a poor cooperation between private sector and education and training providers. Very few enterprises have accommodated VET students for internship purposes and few enterprises have been engaged in development of curricula. Although Vocational Training Centres can serve for re-training of employees, data reveal that this opportunity is very rarely used. This implies loss of opportunities for enterprises, to benefit from free of charge trainings offered by these centers but also lost opportunity for VTCs to receive first-hand information on labour market demand for skills.

The sector is undergoing changes, through innovations in work organisation, sales and marketing processes, products and services, changing of processes. This puts additional pressure on education and training system, requiring alignment with the sector's developments.

Findings on skills needs for Concrete placers, concrete finishers and related workers

Concrete workers are employed in nearly all enterprises and constitute a sizeable sector's workforce. The sector seeks for the VET graduates but most of them have difficulties in filling vacancies. As a consequence, enterprises mainly employ gymnasium graduates, who do not possess occupation specific knowledge and skills.

In general, based on data on occupation specific tasks, concrete workers perform similar tasks as those defined under ISCO-08 classification; who have to be capable to undertake the following tasks:

- ✓ Constructing and repairing reinforced concrete floors, walls, tanks, silos and other concrete structures;
- ✓ Making shuttering or assembling prefabricated forms for moulding concrete;
- ✓ Cementing openings in walls or casings for wells;
- ✓ Finishing and smoothing surfaces of concrete structures; and
- ✓ Applying a durable smooth surfacing composed of cement, sand pigment and marble particles to floors, known as a terrazzo finish

As declared by enterprises, the importance of named tasks is expected, to either remain or increase in the future. For each of the tasks, enterprises have listed number of skills, which serve as a sound basis, in developing occupational standards.

As findings reveal, for employers, skills encompass not only occupation specific skills, but also general skills that would enable concrete workers to properly accomplish the following tasks:

- ✓ Read simple instructions, guidelines and texts;
- ✓ Write simple texts, fill in forms and prepare self reports;
- ✓ Simple calculations, calculate averages, shares, percentages; and
- ✓ Use computers (elementary skills);

Whilst the relevance of the reading, writing, numeracy and computer use skills is expected to remain the same or increase, a significant share of enterprises declared that these skills are not acquired during education.

Concrete workers are required to be equipped with problem-solving skills, creativity/innovation, manual dexterity, teamwork skills, sales skills, skills to implement practices to reduce usage of raw material, energy and water, skills to determine their own tasks and ability to undertake resource planning, should be able to teach and instruct their peers. About 40 percent of enterprises stated that concrete workers should also know foreign languages and large share of them declared that relevance of these skills will remain or increase in the future.

Stemming from these findings, main recommendations to building a more employable workforce, hence more effective and productive enterprises are as follows:

- Cooperation between employers and education and training providers should be strengthened. This is a key prerequisite in aligning labour market needs with education and training offer. This will ensure that graduates and trainees to gain the required knowledge and skills, enriching the labour supply available to the private sector. This will also ensure efficient use of public funds;
- Expedite the process of occupational standards for key occupations. This study assesses the labour market demand, at occupational level, meeting one of the key criteria to developing occupational standards. Therefore, findings should be utilised for developing occupational standard for Concrete Placers, Concrete Finishers and Related Workers;
- Similar skills needs assessment, as this one, should be pursued for other most labour intensive occupations, particularly for bricklayers, roofers, insulation worker, plasterers, floor layers and painters;
- Practical/technical skills are of central importance for sector specific occupations;
- Although a range of skills can be learned at school, professional practice carried out in school workshops, provide a simulated rather than a real working environment. To support employment and facilitate successful career pathway, professional practice at work premises is of crucial importance. This is particularly relevant for construction sector. Even if schools are fully equipped, tasks of the concrete workers cannot be entirely performed within school workshops and premises; As emphasised in the 2016-2020 NDS, so far eenterprises have had no incentives to hire interns. Therefore, there is a need to design and pilot working approaches, to incentivize enterprises to offer internship. Sustainable approaches are those that induce benefits to both parties, employers and interns;
- Vocational Training Centers should closely cooperate with employers, as this will produce two fold benefits: first, it will contribute to capacity enhancement of sector's employees, and second it will enable VTCs to receive updated and free of charge information on labour market developments, which would be used for revising training curricula;
- There is a need to readdress the gender occupational segregation. Based on discussions with employers, there are several tasks that women can perform in the construction sector. Therefore, schools should design proper information material and incentives, to incentivise girls' enrolment in construction related occupations. Additionally, MEST activity on 'Girls' days' should organise visits to construction companies as well;
- The ongoing challenge of lack of services for career guidance should be addressed. Early career orientation should be provided, that may as well lead to improved educational background of enrolled students in VET schools;
- Despite occupational specific skills, graduates and trainees should be equipped with general skills. The relevance of these skills is driven by changes in consumers' taste and increased quality standards for construction; and
- There seem to be a need to enrich the training offer and properly prepare trained experts to deliver training courses for concrete workers.

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Annex 1: Occupations in the skill sector of Construction (ISCO-08)

13 Production and Specialized Services Managers

132 Manufacturing, Mining, Construction and Distribution Managers

1323 Construction Managers

21 Science and Engineering Professionals

216 Architects, Planners, Surveyors and Designers

2161 Building Architects

31 Science and Engineering Associate Professionals

312 Mining, Manufacturing and Construction Supervisors

3122 Construction Supervisors

7 Craft and Related Trades Workers

71 Building and Related Trades Workers (excluding Electricians)

711 Building Frame and Related Trades Workers

7111 House Builders
7112 Bricklayers and Related Workers
7113 Stonemasons, Stone Cutters, Splitters and Carvers
7114 Concrete Placers, Concrete Finishers and Related Workers
7115 Carpenters and Joiners
7119 Building Frame and Related Trades Workers Not Elsewhere Classified

712 Building Finishers and Related Trades Workers

7121 Roofers
7122 Floor Layers and Tile Setters
7123 Plasterers
7124 Insulation Workers
7125 Glaziers
7126 Plumbers and Pipe Fitters
7127 Air Conditioning and Refrigeration Mechanics

713 Painters, Building Structure Cleaners and Related Trades Workers

7131 Painters and Related Workers
7132 Spray Painters and Varnishers
7133 Building Structure Cleaners

Concrete finishing machine operator – 8114

9 Elementary Occupations

93 Labourers in Mining, Construction, Manufacturing and Transport

931 Mining and Construction Labourers

9313 Building Construction Labourers

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