



STAFF AND EDUCATION IN WOOD INDUSTRY REGION SI BIH

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Poreski broj: 03011755; Banka: NLB Tuzlanska Banka; Račun: 132-100-03117019-42
Broj PDV obveznika: 209683030008; Identifikacioni broj: 4209683030008

Sufinasira "Sida"
Co-funded by "Sida"



In accordance with the project activities CREDO II, the activity_reference 2.3.1.4. "Initiate cooperation, discussions between industry and education system representatives in order to meet the needs of industry", the collection and analysis of data on secondary schools to educate staff for the wood industry in the region, north eastern Bosnia has been done.

The analysis was done on the basis of the submitted questionnaires.

These questionnaires included some questions related to specified basic information on institutions, the number of employees, the profiles which educate, the number of enrolled students at orientations / classes, number of students enrolled / graduated for the period 2003 ÷ 2008, the number of students graduated / departments for the period 2003 ÷ 2008, equipment of laboratories and cabinet and laboratory practical classes as well opportunities to provide specific education services.

There are 5 secondary schools in the Region NE that include occupations related to the wood industry (wood technicians, carpenters, upholsterers) in their educational program. These data were collected from all five secondary schools, which are: Public Institution(PI) Mixed Secondary School Zivinice, PI Mixed Secondary School Kladanj, PI Mixed Secondary School Gračanica, PI Mixed Secondary School Gradacac and High School in Vlasenica.

Tab. No 1. Number of enrolled students at the moment

SCHOOL	TOTAL NUMBER OF STUDENTS ACCORDING TO THEIR ORIENTATIONS /CLASSES					
	Occupation	The first class	The second class	The third class	The fourth class	TOTAL
Živinice	Final working technician	-	32	-	-	31
	Forestry technician	30		31	32	93
Kladanj	Final working technician	-	-	-	-	
	Forestry technician	30	30	-	-	60
Gračanica	Final working technician	19	-	-	-	19
	Carpenter	19	21	21	-	61
Gradačac						
Vlasenica	Wood working technician	26	-	-	-	26
	Forestry technician	26	-	30	26	82

Tab. No 2. Number of graduate students

NUMBER OF GRADUATE STUDENTS ACCORDING TO YEARS AND OCCUPATIONS			
	Year	Occupation	
		Final working graduate	Forestry graduate
ŽIVINICE	2008	-	26
	2007	29	-

	2006	33	-
	2005	-	29
	2004	30	-
	2003	-	31
KLADANJ	2008	-	-
	2007	-	-
	2006	-	-
	2005	-	-
	2004	-	-
	2003	-	-
GRAČANICA	2008	-	-
	2007	-	-
	2006	-	-
	2005	-	-
	2004	-	-
	2003	-	-
GRADAČAC	2008		
	2007		
	2006		
	2005		
	2004		
	2003		
VLASENICA	2008	-	-
	2007	-	-
	2006	-	-
	2005	-	-
	2004	-	-
	2003	-	-

Tab. No3. Staff registered on Central Employment Office NE BiH

	Tuzla Canton 13 towns	Region of Bijeljina 10 towns	Brčko District	Orašje	Domaljevac
Wood graduate working engineer (MSc)	-	-	-	-	-
Wood working (BSc)	1	0	1	1	-
Forestry graduate engineer (MSc)	2	4	2	-	-
Graduate designer (BSc)	-	-		-	-
Marketing expert in DI	-	-		-	-
Wood technician	318	102	19	-	-

Carpenter	1041	294	75	3	3
Upholsterer	21	5	9	1	-

Tab. No 4. Required occupations according to the questionnaire:

Company	Occupation	Number of employees
MTK Omorika Han Pjesak	Wood-processing worker (high school) Wood departure – graduated (BSc) Locksmith (high school)	
Gama Prom Bratunac	Highly skilled workman	30 long-term
Bjelaković Han Pjesak	Carpenter 2	2
Intal Milići	Carpenter	5
	Fitter	5
Stolar Vlasenica	Carpenter	2 experienced
Migent Milići	Technologist	1
	Designer	4
Megadrvo Bijeljnia	Carpenter	2
	Sales manager	1
Drinjača	Carpenter	10
BMD	MSc. engineer	1
		2
	Carpenter	
Final wood working Šekovići	MSc. engineer	1
	Designer	1
	Carpenter	5

According to the statistics of the Federation of BiH, there are about 17% of employees in wood industry, which is slightly higher than pre-war situation. The statistics qualification structure in the wood industry indicate that there are about 4% of graduate employees (BSC and MSc), 29% of high school graduate, 33% skilled and about 34% of unskilled workers. As for the results of surveys and questionnaires received from the companies and the institutions from BiH SI, they show that a significant number of other educational staff profiles have worked there, while the Central Employment Office of Canton of Tuzla has registered over 1000 carpenters. There is a shortage of highly educated staff. There will be no development of new products, technologies and organizations without these people. There are not any BSc or MSc in wood engineering registered on the Central Employment Office. The analysis of the questionnaires also showed that there are many companies that hire over 50 employees but without any BSc or MSc in this profession which is an obstacle and constraint to further development. The results show that 5 schools in SI region educate

personnel for wood sector: Zivinice, Gracanica, Gradačac, Vlasenica, Kladanj, some of them do not enroll students each year, a school in Kladanj has not enroll any students at wood department since 2000 because of the fall of the timber industry in Kladanj. As for the faculties ,Mechanical Engineering in Sarajevo, department for the wood industry has so far educated over 700 engineers. Also the Department of the College of chemical engineering has been registred in Banja Luka, but the department has no staff and laboratory, and does not enroll students. The problem of Mechanical Engineering is the motivation of students, about 25 students are enrolled per year,ten of them will graduate a year. Practice must have done in two ways: the practice in school workshops and practice in companies. Practical classes should be run in the companies to a greater extent, so that students can become familiar with new technologies and materials, but students must be get ready to practice in companies through training in school workshops, where they can learn to be responsible and work in teams.

Apart from investing in new technologies, it is necessary to invest in the education of personnel, especially engineers and technologists. Entrepreneurs have entered in the production and businesses, but they had no awareness of the need to provide staff. Graduate timber engineers are not on the list of the Central Employment Office , they are required, because there are too few. Entrepreneurs who have entered in this business must educate their families' members, if they want to survive and develop.

The concept of higher education in the rest of the world has developed on two levels: scientific-research and professional, practical. In our country,there is a lack of space and discipline, because of material deprivation, and leans more towards the academic. However, the Faculty of Mechanical Engineering has organized even study for students who work work, in two cycles, with over 100 candidates.

In comparison with Slovenia , there is so insignificant investment in the staff : until the beggining of the war there was the same number of engineers, the number of engineers after the war in Bosnia barely crossed 700, which is doubled in Slovenia. Not a great situation there, even in DI, but all people can find a job,a production of the staff is great, not just technologists, but also managers and other profiles for the wood industry.

The third aspect of education, what we do not have, it is the education people who work (study with work), specialist ways of education in technology centers, or clusters, and giving additional qualifications for staff who have already worked, but do not have adequate knowledge. There are plenty of them and they must enable the continuous education (in certain areas for a period of a month or two months), and retraining of the labor market.

Recommendations:

- Knowledge and human factors are the basis of development, 21st centure is the century of development, FP7 programs, scientific research and development plans to achieve in the EU.
- Investment in education directly and indirectly means to increasing employment and increasing in total revenue, exports, etc. However, recommendations and promotion in high schools and universities, the image of industry and profession is very inferior. The educational center in the role of permanent education personnel from industry, education, universities, institutes / designed program should be considered.

Attachment

We enclose a list of the high schools that educate staff required for the wood industry, economical region of north eastern Bosnia

- Gračanica, PUBLIC Institution (PI) Mixed Secondary School Gračanica
- Gradačac, PI MSŠ Hasan Kikić
- Kladanj, PI MSŠ "Musa Ćazim Ćatić"
- Vlasenica, High School "Milorad Vlačić"
- Živinice, PI Mixed Secondary School MSŠ Živinice

Faculties (Colleges) in Bosnia and Herzegovina:

University of Sarajevo, the Faculty of Mechanical Engineering, Wood technology Department
University of Banja Luka, the Faculty of Mechanical Engineering, there is a registered department but there are no staffs or students