

FACTORS EFFECTING THE WOOD INDUSTRY AND FURNITURE PRODUCTION IN BOSNIA AND HERZEGOVINA

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ABSTRACT

In the wood industry the furniture production in Bosnia and Herzegovina is affected by several factors such as Government tight regulations and lack of stimulations by Government. The wooden furniture production is divided into two main categories; primary and secondary. The wood production has major impact on Bosnian economy and there is a need for updating the current regulations and laws related to it. This research aims to investigate the effect of different regulations and laws on the development and improvement of wooden furniture production in B&H with comparison with different surrounding countries. Qualitative analysis based on preview of different literature and papers published on this topic were done to estimate the impact of different regulations on the development of this industry. This paper finds that benefit of final product in wood industry for private but also for government, profitability of each stage of finalization, contribution to economy, employment rate ... This paper recommends further investigation conducted in more companies from this industry to be done.

Key words: Wooden industry, Furniture production, Laws and Government regulations, primary production, secondary production, economy, contribution to economy, Bosnian forests, beech wood

1. INTRODUCTION

This research is about wood, wood industry and wood furniture production in Bosnia and Herzegovina. In this work difference between primary and secondary production will be shown. Also importance of wood sector, Bosnian forests, wood industry, furniture production its advantages and disadvantages, government regulations and impact on entire industry. All analyses in research are commissioned by the EU and monitored by the regulation on of the European Union to Bosnia and Herzegovina. In research I will try to show profitability of each segment of wood production, benefit for private and benefit for the government. Also government impact on the industry. Advantages and disadvantages of government regulations and comparison with third countries. Despite all the difficulties, I am optimistic for the future of wood industry in Bosnia and Herzegovina! The private companies succeeded because they had a own strategy and a good tactic for achieving all strategic goals by their own ways. There are still private companies in Bosnia and Herzegovina that are better than competition in the region. It is only evidence that these countries have natural and human potentials for achieving major goals in wood processing and furniture production. Only in our country should we provide legal security and stability. Everything else will be done by our people. Of course, with the help and support of our partners all over the world, and especially for the European Union, which was our target market but also for all around the World.

The family of writer is dealing with wood industry for more than 25 years. Following regulation and laws regarding to wood industry and profitability of industry I will show benefits of different stages of production (raw material, semi final and final product) and difference between profitability in each stage. Also some government regulation which should be changed to facilitate and make easier expansion for the start ups and already existing successful companies. Also importance of workforces and new employments in the state.

Through time I noticed many discouraging and aggravating things directly influencing the industry. I will notice advantages and disadvantages of industry for the government and government for the industry and contribution of industry for state economy. Also compare wood industry in Bosnia and Herzegovina with the wood industry in Balkan region its advantages and disadvantages. There is many things which should be changed in the government regulations and after implementing some new laws it will allow private companies to extend faster, hire new employee and directly contribute to economy.

2. LITERATURE REVIEW

Bosnia and Herzegovina (BiH) is a country located in the western Balkans. The larger region of Bosnia occupies the northern and central parts of the country, and the south and southwest is occupied by Herzegovina (Figure 1). Republika Srpska (Bosnian Serb Republic), located in the northern east, and the Federation of Bosnia and Herzegovina in central and western part. The Sarajevo is the capital of the state and the other important cities are Mostar, Banja Luka and Tuzla.



Figure 1. Geographical location of BiH in the Balkan Region.

Although the country is rich from forests, between 1990 and 2010, there was lost from the forests 1,250 ha or 0.06% every year. Altogether, in the vicinity of 1990 and 2010, Bosnia and Herzegovina lost 1.1% of its timberland cover, or around 25,000 ha (www.bhas.ba)

Bosnia and Herzegovina's timberlands contain 118 million metric huge amounts of carbon in living backwoods biomass. Biodiversity and Protected Areas: Bosnia and Herzegovina has somewhere in the range of 425 known types of creatures of land and water, feathered creatures, warm blooded animals and reptiles as per figures from the World Conservation Monitoring Center. Of these, 0.2% are endemic, which means they exist in no other nation, and 4.2% are debilitated. Bosnia and Herzegovina is home to no less than 0 types of vascular plants. (Agency for Statistics Bosnia and Herzegovina www.bhas.ba, Agency for Work and Employment of BiH).

2.1. Effect of the government regulations on wood industry

The government regulation regarding to industry is very week and very old. Government is not following trends and laws regarding to the industry. In our country there is no enough raw material (forests and logs) to satisfy all wood producers, And productions which are producing the final products and hiring hundreds of workers are not able to get raw material. The raw Materials are getting primary productions which are cutting the timbers and selling just the wood boards to the foreign countries. Government but also the privates have less usage of this kind of production then the production which are dealing with the final product.

Our neighbours like Croatia and Serbia have the much more better laws regarding to the industry. For example Croatian Government is supporting the wood industry and also giving importance to the final production by stimulating final producers by giving them lower cost of raw materials from forests and giving them much more amount of raw materials From government forests.

also Croatia Is using European grand founds to stimulate and help producers to buy new equipment and modernise their productions. Also the productions which are producing the final products are able to get bigger amount of raw materials by much more lower prices.

Bosnia and Herzegovina has very old laws regarding to industry which is not stimulating the final producers but is stimulate the trade of just raw materials.

Our government Doesn't have a vision about the future of the industry. They should just follow the laws and regulations from European Union. Because the European Union is protecting their final producers specially the producers which are producing furniture.

By protecting this kind of productions the government is securing the workplace, increasing the number of employees in the industry but also increasing their taxes like Vat, tax on net income , health insurance, pension insurance etc...The government regulations has a huge impact to the industry. By the changing some regulations and laws our government Should easily give opportunity to producers to improve and extend the operations and their productions.

However, if we keep in mind how huge size of the EU market it is, we will conclude that the Bosnian production and exports are still very small because government regulation are disputing the extend of furniture production. But there is a huge space for the existing and future BiH wood furniture-productions. Specially, the Bosnia and Herzegovina is exporting furniture worth over 60 billion euros per year to the European Union. The Germany itself is the biggest market for Bosnian wood furniture production, They are importing over 15 billion euro worth of these final products every year so far. So, our government should learn from the Germany and implement regulations which are already existing in their country.

The main motivation behind why the Bosnian organizations are available on the all European market is their adaptability and capacity to deliver excellent wooden furniture by the value that is lower than rivalry cost for a similar level of value from some other European nation. Bosnia and Herzegovina has numerous points of interest and openings which numerous EU nations don't have. As work in the wood business part and work which is 3-4 time less expensive than in Germany or some other nation, additionally area has figured out how to accomplish better than expected work development contrasted with different fragments of assembling and industry all in all.

Bosnia has rate of employment growth of 5.7% annually, the wood industry employs about 24.500 people, from which 14.500 are employed directly in the processing of wood and production of different wood products available in the market, while 9.800 were employed in furniture production what is not bad, but this number easily may be increased by changing already existing laws by the new laws which will support and motivate privates to hire bigger number of workers in the industry. From this kind of approach the huge benefit will have private as the government. Bosnia and Herzegovina itself in comparison with the neighbour countries in the region and European Union, is offering investors very low and competitive operating costs.

Tax liabilities, raw materials, labour costs are very low compared to European standards, also the cost of electricity, cost of transportation and utilities is the lowest in the all Eastern Europe region. Policy of taxes in BH is the most stimulating in the all region, with a low rate of income tax, profit tax and aggregate contribution rate. The rate of VAT is also very stimulating according to other countries in region and all Europe and it is only 17%.

The tax on net income is 10% which is again lowest in all Europe.

Many foreign companies see the chance and opportunity to move their productions to Bosnia and Herzegovina. With the entry of Bosnia and Herzegovina into force the Stabilization and Association Agreement (June 1st 2015) it is enabled the free export in the European Union of almost all wood goods, which meet the EU standards, and at the same time it opens the BH market for goods from the EU. Many foreign investors may be exempt from import duties on equipment placed in free circulation, which represents the investment of foreign entities. The foreign companies are expecting fair competition, government protection and laws which are securing the raw materials from the forests. Also our domestic

operating companies should be able to extend much more faster and employ new workforce which is huge benefit for both. (A report of the Agricultural Sector in Bosnia and Herzegovina 2007, Ministry of Foreign Trade and Economic Relations, 2008)

2.2. Wood industry in BiH

The wood business incorporates individuals, places and employments that emphasis on developing trees for wood, cutting those trees in forests, transporting them from cutting place to processing facility called sawmill, transforming and sawing trees or logs into stumple or wood boards, shaping and designing the wood into usable articles and some other wooden product including the utilization of wood for biomass and fuel. From foresters to carpenters, and from apparatus producers to conveyance drivers, the wood business incorporates a wide scope of occupations and exercises that make wood usable for utilization.

From cutting timber in the forest until final product there is a huge chain, from developing new trees and parts of forest suitably and mature for cutting, overseeing timberland development, chopping down trees for transport, processing it in saw mill, steaming and drying it. Whole those activities are becoming one huge apparatus and chain. (A report of the Agricultural Sector in Bosnia and Herzegovina 2007, Ministry of Foreign Trade and Economic Relations, 2008, p. 6.).



Figure 2. Logs stock in wood processing

In Figure 2 Stock in wood industry should looks like. Large scape of machinery is piece of the wood business, as excavators, bulldozers and other substantial machines are frequently utilized as a part of the forest ranger service process as shown in Figure 2. Conveyance trucks and uncommonly composed wood trucks can be utilized to pull the merchandise; forklifts are utilized to stack and empty trucks with wood.

Other machinery might be utilized for sawing the wood, putting away it, or generally forming it for next step of semi final and final products (Figure 3). Lumber plants or sawmill are key parts of the wood business, as these factories are the place the trees are cut and transformed into usable timber such us wood board or mashed for wood pellet or briquette (Bio Fuel). Parts of the tree can be utilized to make some wood products, for example paper, while different parts might be utilized for mashing and making best quality wood fuel such us pellet and briquette which has huge percentage of usage in household but also in different type of industry such us furniture making, wood construction, bolster structures, wood joinery and etc. (Action Plan for Environmental Protection Bosnia and Herzegovina (National Environmental Action Plan of Bosnia and Herzegovina), Ministry of nment, 2003)



Figure 2.3. Bosnian beech wood logs in forests are carried by machines



Figure 2.4. Bosnian most popular beech wood board (*Fagus sylvatica*), white beech.

Figure 2.4 is Beech wood or *Fagus sylvatica* is a very large and wide tree, It may reach heights of up to 50 m tall and 3 m in trunk diameter, A ten year old tree will stand about 4 m tall. It has a typical lifespan of 150–200 years, but in some cases up to 300 years. Thirty years are needed to become full maturity . Like many trees, its form depends on the location. The beech is very popular in Bosnia and Herzegovina. Many productions are based only on beech wood and its very demanded in all Europe but also the China, Egypt, Dubai, etc...

The general population of B&H are appropriately glad for their long convention in dealing with wood. In the event that you need to discover special strong wood or hand cut things you have gone to the correct place. **Figure 4.** Bosnian most popular beech wood board ready for next step of production. By the chance that you are searching for current furniture at sensible costs, this is the place to be. It is not really astounding to find that the B&H wood industry is such an imperative piece of the nation's business given that the greater part of the nation is secured by woodlands. An abundant supply of residential normal assets gave the first jolt to the advancement of the business which has from the beginning been send out arranged. Driving B&H wood items for foreign and domestic market:

Wood

Fitted kitchens

Furniture parts

Strong wood furniture

Boards

Contract furniture

Facade

Garden furniture

Parquet flooring

Pre-assembled wooden structures

Decking

Development items (windows, entryways and sheets)

Furniture– room, family room, lounge area, washroom cupboards

Beds and bundling materials

Upholstered furniture

Wood chips and pellets

(A report of the Agricultural Sector in Bosnia and Herzegovina 2007, Ministry of Foreign Trade and Economic Relations, 2008, p. 6.)

Results accomplished in the modern wood handling are generally an aftereffect of its similar points of interest. (a huge offer of local crude materials, modest work, moderately low interest underway, offices, and so on.). The structure and the collection of the results of the BIH wood handling industry are very adaptable, and nearly everything that can be created in the plants the world over, can be created in the offices of the BIH wood preparing industry.

The lead of the BIH wood industry is the creation of the accompanying items:

- ✓ Furniture components;
- ✓ All sorts of furniture (softwood and hardwood, wood-based boards, strong wood, bedding, sleeping pads, pads and so forth.)
- ✓ Wood developments, carpentry and joinery items (windows, entryways, bureau creators),
- ✓ Engineered items (instrument bodies, handles)
- ✓ Prefabricated houses;
- ✓ Parquet boards;
- ✓ Plywood, facade, sawn blunder, planed and measurement stock, wood boards
- ✓ Wood holders, Wood bundle product and boxes;
- ✓ Pallets, stack sheets, instrument bodies and handles;
- ✓ Pellets and briquette, (Figure 5)
- ✓ Confectionery, improving and elaborate.



Figure 5. Beech wood pellet (one of Bosnian wood product), used for heating energy.

2.3. How Wood Industry Is Divided?

The wood industry is divided to primary and secondary production. The primary production is production where logs are processed. After cutting timbers in the forests, the logs are coming to the stock. After stocking logs are going to be sorted by lengths and being washed from ground and other wastes. After washing its going to be peel from bark which will be used as energy or biomass. The logs free from bark are going in sawmill, the place where it will be sawed, cut and sorted by lengths and thickness by customer needs and wants. After this stage, its going to be steamed for about 8 hours. (steaming process is protecting and impregnating wood also giving different colour). After steaming is done wood boards will be dry in KD (Kiln dryer) depend kind of wood from 20 to 60 days. (https://en.wikipedia.org/wiki/Wood_industry)



Figure 6. The wood KD or Kiln Dryer, used to dry wood lumbers to wanted humidity

The secondary production is semifinal and final production. Form dry wood boards is possible to make many different products such as panels, ply wood, furniture (chairs, beds, kitchens, tables, cabinets, different types of wood interior, etc..) also the wood waste at this stage by using shredding machine and hammer mill is processing into saw dust or biomass used for renewable sources of energy or cogeneration for producing electricity and heating energy. Also from this waste very popular wood pellets and briquettes are made. The wood panels are most recent specialized and mechanical bits of knowledge and advancements for proficient, financially savvy and adaptable wood-based board generation. There are many types of panel such us finger joint panels, long lamella panels, ply wood panels, OSB panels, mdf panels etc.. Each of this panels production is processing by different types of technology and technics with different types of wood or wood waste.

Furniture alludes to versatile articles proposed to help different human exercises, for example, seating (e.g., seats, stools, and couches), eating (tables), and resting (e.g., beds). In every daily lives we us furniture, specially nice wood furniture. Furniture is additionally used to hold objects at an advantageous tallness for work (as even surfaces over the ground, for example, tables and work areas), or to store things (e.g., pantries and racks). Furniture can be a result of plan and is viewed as a type of improving craftsmanship. Notwithstanding furniture's practical part, it can fill a representative or religious need. It can be produced using numerous materials, including metal, plastic, and biggest percent of wood. Furniture can be made utilizing an assortment of carpentry joints which frequently mirror the neighborhood culture.

Furniture is also the crown of wood industry it is the final product and most valuable wood product. By producing furniture 100% of wood is used and in the wood industry this is 100% rounded cycle.

Pellet fuels (or pellets) are biofuels produced using packed natural issue or biomass. Pellets can be produced using any of five general classifications of biomass: modern waste and co-items, nourishment squander, rural buildups, vitality harvests, and virgin lumber. Wood pellets are the most well-known sort of pellet fuel and are for the most part produced using compacted sawdust or wood waste and related mechanical squanders

from the processing of timber, make of wood items and furniture, and construction. Other mechanical waste sources incorporate void organic product bundles, palm portion shells, coconut shells, and tree tops and branches disposed of amid logging operations. So-called "dark pellets" are made of biomass, refined to take after hard coal and were created to be utilized as a part of existing coal-discharged power plants. Pellets are ordered by their warming quality, dampness and powder substance, and measurements. They can be utilized as fuel for control age, business or private warming, and cooking. Pellets are to a great degree thick and can be delivered with a low dampness content and humidity (underneath 10%) that enables them to be singed with a high burning proficiency. This type of fuel is well known all around the World.

Action Plan for Environmental Protection Bosnia and Herzegovina (National Environmental Action Plan of Bosnia and Herzegovina), Ministry of nment, 2003)



figure 2.4. (The furniture, river table in combination of beech wood and glass new trend in the market)

2.5. The Importance Of Industry For Government

Manufacturing is an imperative piece of the administration motivation in numerous nations since it makes lucrative employments, drives mechanical development, and creates more monetary movement than some other division. The opposition for a solid assembling industry is a worldwide one and activities to advance and propel fabricating from different governments.

The technique to invigorate, keep up and draw in producers has numerous measurements, including advancing innovative work, enhancing the business charge code, preparing the assembling workforce, and setting up great exchange arrangements that open worldwide markets and chop down exchange boundaries. The earth and suggestion for setting up manufacturing plants in the state should be focused with different regions on the planet. The nation ought to keep up the convention of a solid assembling industry — based upon an establishment of diligent work, assurance and advancement. The administration assumes a part in innovative work of new assembling advances.

2.6. How Finished And Raw Material Production Contribute To Economy?

A raw material, otherwise called a feedstock or most effectively natural material, is a fundamental material that is utilized to deliver merchandise, completed items, vitality, or middle of the road materials which are feedstock for future completed items. As feedstock, the term hints these materials are bottleneck resources and are profoundly critical as to delivering different items. A case of this is raw wood, which is a crude material and a feedstock utilized as a part of the semifinal and final production for furniture, panels, veneer, ply wood, raw material as timber or wood lambs are used to deliver an assortment of items including a wide range of furniture.

The expression "raw material" means materials in negligibly handled or natural in states; e.g., crude latex, unrefined petroleum, cotton, coal, crude biomass, press metal, air, logs, or water, etc. "...any result of farming, ranger service, angling and some other mineral that is in its normal frame or which has experienced the change required to set it up for globally promoting in considerable volumes.

Just by processing and selling goods as a raw material the government has not many benefits as the processing company does not. By next step of finalization and processing those raw materials the company is creating extra value or new value. The benefits of this are wide for company but specially for government. The processing company will hire new employee and reduce rate of unemployment in the state. Also by adding new value to the raw material the company as the government will have benefit by making extra profit and added value. Government will take its part through many different types of taxes.

3. CONCLUSION

The benefit of final product in wood industry for private but also for government is huge. Private companies dealing with wood industry from timber to final product has 7 times higher revenue than just selling wood lumbers or 3 times higher revenue from selling semifinal product. Also number of workers is 3 times higher than number of workers in one sawmill. The benefit for private is higher revenue and higher profit. The benefit for government is reduced rate of unemployment, higher VAT and many different taxes. Also the benefit for state are in export in foreign countries through borders of state and making new value. Importing new "fresh" money and capital in the state. Also by making new value the GDP is growing.

Wood production has a huge potential if the government operates the forests by planting new trees, if there is support for companies tax support, the salaries will be higher so workers will not leave, also, if there is final furniture production, the contribution will be increased much more. The benefit of final product in wood industry for private but also for government is huge. Private companies dealing with wood industry from timber to final product has 7 times higher revenue than just selling wood lumbers or 3 times higher revenue from selling semifinal product. Also number of workers is 3 times higher than number of workers in one sawmill. The benefit for private is higher revenue and higher profit. The benefit for government is reduced rate of unemployment, higher VAT and many different taxes. Also the benefit for state are in export in foreign countries through borders of state and making new value. Importing new "fresh" money and capital in the state. Also by making new value the GDP is growing. Also government has lower rate of unemployment. Higher revenues in different types of taxes taking from producers financial operation. By implementing the production of final products the private companies are getting stronger, increasing the revenues, increasing the number of their employees and also increasing their profit margins.

The government benefit is increased export of high-value products and developing foreign trade. That means the government benefit is making new value and importing fresh money into the state.

Government should stimulate the final production in the wood industry because they have direct benefit of it.

By producing final product government but also the private are presenting our country through branded furniture product in the world market. Also branded furniture is much more valuable than the furniture which is produced by drawings from buyers. By producing branded furniture the company is getting much more recognizable and much more valuable in the market so many customers are deciding to purchase products of some certain brands. By this way the company has extra profit when sells one unit of furniture.

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