

# Wood Furniture Value Chain Analysis: The Case of Small and Medium Scale Wood Manufacturing Industries in Wolaita Sodo, Ethiopia

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## Abstract

Current study aimed to identify and characterize different actors involved in wood furniture (Beds) value chain in Wolaita Sodo and to map the value chain of wood furniture (Beds) manufactured in Wolaita Sodo. The research has used primary and secondary data and descriptive analysis to obtain the following facts; diverse actors have been participated directly or indirectly in the chain. In input supply about 35% of the owners/managers of enterprises sourced their raw material far from Wolaita Sodo like (Adis Ababa, Shashmane, and Hawasa) while, the remaining obtained from local traders around Sodo area. Commonly Single, Medium, Double and King Bed size were produced in the area. The estimated volume of production was about 15804 pieces in the year 2014/15 costing 30279.2 Birr in average from which the manufacturers received average profit of Birr 10603.18 in total. In other side retailers cost and received average profit of 81.08 and 547.90 respectively. Additionally poor quality in raw material and low quantity, lack of modern technology and skilled man power are pointed as a problem in the area. As an opportunity existence of high market potential in the Country and raw material resource in the area were mentioned. Thus, government bodies should invest on capacity and performance building of enterprises engaged in furniture manufacturing by using various relevant institutions is highly needed to sustain furniture contribution to local as well as global economy.

**Keywords:** Furniture, manufacturing, small and medium scale, value chain

## 1. INTRODUCTION

Wood furniture production has relatively vast potential to significantly contribute to the country's GDP by using huge amount of local inputs but it is less competitive currently. Local owners and executives of the furniture industries are puzzled by the high quality and low price of imported furniture which are making their own products fail on the market miserably. As such, this may be no surprise since even index of competitiveness of manufacturing industries of neighboring countries like Kenya is many folds greater than that of Ethiopia according to the status of wood furniture sector data displayed on website. The Ethiopian manufactured wood products sector accounted for only 0.6 percent of the country's industrial production in the year 2009/10 the problem will exacerbate if Ethiopia is accepted to be member of WTO since all local products lose their comparative advantage obtained via various protection measures (CSAR, 2010).

Wolaita Sodo is one of the potential areas of wood products for furniture production. The supply of saw mills from Southern and neighboring forest resources rich regions makes it potential for furniture manufacturing. But the wood furniture manufacturing industries (especially the small and medium scale) in the area are working in inefficient and very rudimentary level. Most furniture needs of the area especially of Wolaita Sodo town are fulfilled through importing wood furniture and other furniture types like that of mica and metal.

Therefore, it is high time that efficiency and competitiveness of the value chain of manufactured wood products in Ethiopia in general and in Wolaita Sodo in particular should be upgraded and made to be efficient and competitive. So this study in Wolaita Sodo is initiated to contribute for improving the efficiency and competitiveness of the sector through identifying and characterizing different actors involved in the value chain; mapping the value chain of wood furniture manufactured in the different small and medium scale industries and identifying challenges and opportunities to upgrade the value chain.

## 2. Materials and Method

### 2.1 Description of the study area

Wolaita Sodo town is located in the center of southern Ethiopia in Wolaita zone at southern nation nationalities and people's regional state. The town is located at 390 km from Addis Ababa the capital city of Ethiopia and 170 km from the regional city, Hawasa. The absolute location of the town is 8° north and 37° east latitude and longitude

respectively. (Woliata sodo town administration, 2014)

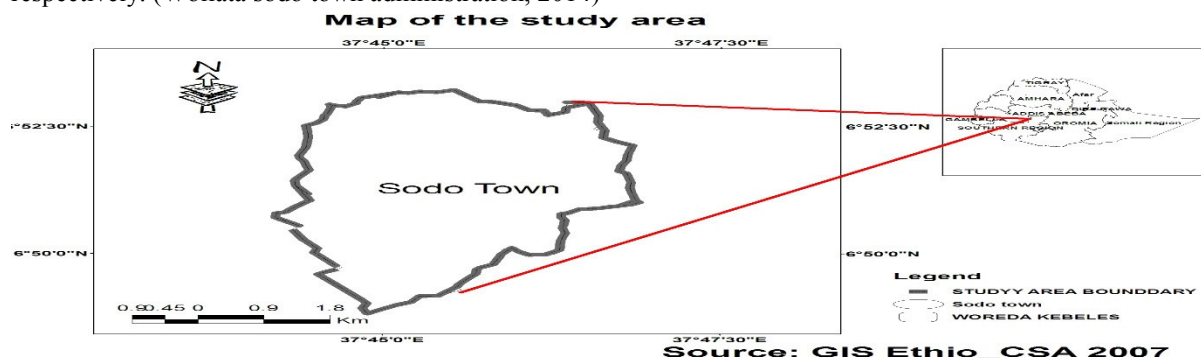


Figure 1: Map of the study area

## 2.2 Types and Methods of data collection

The data used for this study were collected both from primary and secondary sources. Primary data were collected from all primary data sources through structured questionnaires, group discussion and direct observation. In the course of interviewing, all the respondents were asked a basic set of questions which can help to get the right response to achieve each of objectives of the study. Key informants were availed with basic research questions for discussion through which the researchers can get insight knowledge. Secondary data were collected from different institutions, organizations and offices through face to face contact as well as through reviewing documents and publications.

## 2.3 Sampling size and procedures

The samples which were used for this study included representatives of different types of participants in the value chain. Per each chain actor class the sampling strategy were different.

For industries CSA categorizes the manufacturing industry among other criteria based on type of ownership, size of employees and size of paid up capital. The category which is based on size of capital was used in this study since it is relatively stable and information on was obtained from trade and industry offices. Based on list obtained then stratification of the industries for small scale, meddle scale and large scale based on ownership and size of employee on the first stage were done. From each of both small and middle scale wood furniture manufacturing industries the sample were proportionately selected, except from large scale industries. Thus, from the total of 248 small and medium furniture industries 98 respondents were selected.

For retailers of wood furniture, the sample size of wood furniture (bed) whole sellers and assemblers were determined on the number of traders that were known after getting the profile from town administration industry and trade office. Since their number is small, all ten retailers were taken.

## 2.4 Methods of Data Analysis

Both descriptive statistics and econometric methods of data analysis were used. That is the collected data were analyzed by using a combination of descriptive statistics and value chain. Data collected through group discussions, observation, and qualitative interviews were analyzed qualitatively. Data regarding production-to-consumption systems, actors, and processes were mapped and described by using the value chain analysis guidelines of Kaplinsky et al. (2003). The results of the in-depth, semi-structured interviews with the managers/owners of medium scale wood manufacturing industries producing and trading wood furniture in different parts/sub-cities of Wolaita Sodo provide the empirical base of the paper. Interviewing scenarios which were designed on the basis of the Kaplinsky and Morris methodology described in A Handbook for Value Chain Research (2003) were used to obtain expert assessments from respondents inside the value chain, permitting the researchers to characterize value-chain patterns, to identify the composition and roles of their agents, and to explore the potential for increase in added value.

## 3. Results and Discussion

### 3.1. Socio-Economic Characteristics of respondents

From total number 98 sampled small and medium scale enterprises considered in this study, all of the sampled respondents were male owners/managers (100%) as shown in Table 1. The reason might be due to differences in gender related culture. Even though the current Ethiopian constitution calls for affirmative action to allow women to participate equally with men in political, economic, and social fields, in the past four decades, the government has failed to adequately address the plight of women entrepreneurs (Bekele & Jacobs 2008). Bekele and Jacobs (2008) provide a longitudinal analysis of entrepreneurs in Ethiopia between 1996-2001. According to the study,

78% of all failed businesses (that were included in the study) were owned or operated by women - this number is indicative of the level of support, or the absence thereof, to female entrepreneurs. The main concern expressed by women entrepreneurs in the study was lack of adequate financing (69%). Furthermore, female entrepreneurs displayed higher levels of poor managerial skills (72%), shortage of technical skills (74%) and lower levels of education (55%) when compared to their male counterparts.

According to Nichter and Glodmark, (2005), women entrepreneurs face a constrained business environment where culture dictates access to market, education and business skills. Similarly, Gomez, (2009), found that disproportionate domestic obligations limit competitiveness of women entrepreneurs to enjoy benefits of additional growth opportunities such as visiting multiple markets to purchase cheaper inputs and tap market demand. Satisfying their and their families' daily consumption needs is their business goals and economic shocks of any kind can force them to remain subsistent forever. In order to facilitate their full contribution to poverty reduction, relevant support services for the promotion of women entrepreneurship should, therefore, be identified and supported.

With regard to, the age of owners/managers the average furniture industry owner age was 45.5, the minimum and maximum age being 30 and 70. The average year of production experience of the furniture enterprises owners/managers was 10, the minimum and maximum production experience of the medium and large scale furniture manufacturing owners/managers were 3 and 20 respectively. An empirically rigorous study of high-growth entrepreneurs provides telling insights about the importance of skills and business contacts gained during past employment (Tiruneh 2011). Among Latin American and East Asian entrepreneurs, contacts were found to be a key benefit of work experience, helpful in identifying business opportunities, obtaining financing and other resources, and alleviating management challenges (Brown *et al.*, 2004). Capelleras and Rabetino (2008) in their study found no relationship between prior MSE experience and firm growth. The same is true for the medium and large scale furniture manufacturing in Wolaita Sodo. As the results of the study showed that, the previous experience of the medium and large scale furniture manufacturing owners/managers had no contribution on the marketable supply of Bed.

Table 1: Socio-Economic Characteristics of respondents in average

Indicator	N	Minimum	Maximum	Mean	Std. Deviation
Age (years)	98	30	60	45.49	8.722
Sex(M or F)	98	1	1	1.00	.000
Experience in years	98	3	20	10.20	11.425

As revealed on below educational level of owner/manager of medium and large furniture manufacturing enterprises/ industries, the result showed that (10.2%) had primary school education; (14.48%) had secondary school education (18.36%) had 10+2, (20.4%) had TVET Diploma, (18.36%) other Diploma, (18.36%) were Degree holders.

The educational role on enterprise success is explained through its effect on exposure to new information and processing of this new information, which has an ultimate positive impact on production and/or distribution of goods and services. Bates (1990) advocates the positive impacts of education through its effect on making good business judgments, exposure to new technology, exploiting opportunities well and thereby contributing to business endurance and success. Therefore, more than half of the respondents were diploma and degree holders.

Table 2: Education levels of respondents in percent.

Education level	Frequency	Percentage
Elementary	10	10.2
12 <sup>th</sup> Complete	14	14.28
10+2	18	18.36
TVET Diploma	20	20.4
Other Diploma	18	18.36
Degree	18	18.36
Total	98	100

### 3.2. Value Chain Analysis (VCA)

#### 3.2.1. Value chain (VC) map of Beds in Wolaita Sodo

The value chain map of small and medium scale furniture manufacturing in Wolaita Sodo is revealed in Figure 2. According to McCormick and Schmitz (2002), value chain mapping enables to visualize the flow of the product from conception to end consumer through various actors. It also helps to identify the different actors involved in the small and medium scale furniture manufacturing enterprises/industries value chain, and to understand their roles and linkages.

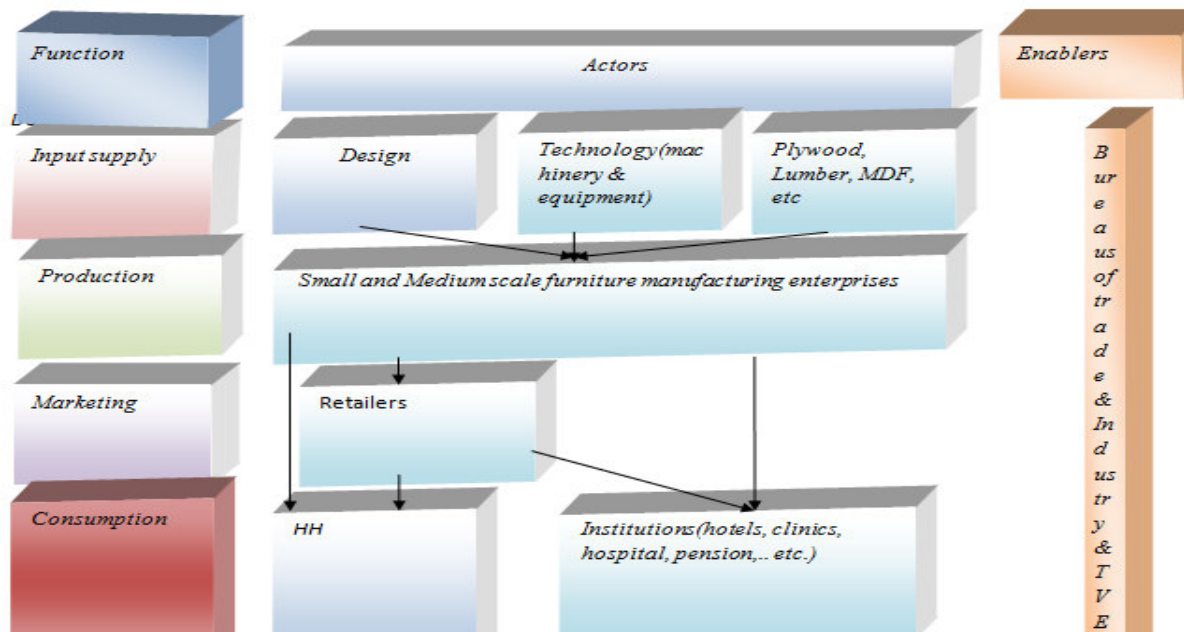


Figure 2: Value chain (VC) map of Beds.

### 3.3. Actors and their Role

The value chain map highlighted the involvement of various actors who have participated directly or indirectly in the value chain. According to KIT *et al.* (2006), the direct actors are those involved in commercial activities in the chain (input suppliers, producers, traders, consumers) and indirect actors are those that provide financial or non-financial support services, such as credit agencies, business service providers, government, NGOs, cooperatives, researchers and extension agents.

#### Input Supply Stage (Upstream of the Beds VC)

To bring furniture product to the final stage several inputs are considered human resource, materials, design, and technology are the major input utilized by small and medium scale furniture producers in Wolaita Sodo for the production of furniture.

Moreover, furniture making is needed different materials and process to bring it in to final stage. The materials used in furniture making are divided in to three. These are major, auxiliary and finishing materials.

Table 3: Types of material used in furniture production

Major Material	Auxiliary Material	Finishing Material
<ul style="list-style-type: none"> <li>• Solid wood</li> <li>• Medium density board(MDF)</li> <li>• Chip wood</li> <li>• Plywood</li> </ul>	<ul style="list-style-type: none"> <li>• Bed hook</li> <li>• Steel</li> <li>• Wood screw</li> <li>• Glue</li> <li>• Nail</li> </ul>	<ul style="list-style-type: none"> <li>• Varnish</li> <li>• Lacquer</li> <li>• Thinner</li> <li>• Stain</li> <li>• Sanding paper</li> </ul>

Solid wood, MDF, Chip wood and plywood are the major raw materials used in furniture making abundantly. Whereas, Steel, Bed hook, wood screw and glue are auxiliary materials and varnish, lacquer, thinner and stain are used as finishing materials in furniture making.

#### Percentage share of Materials

The percentage share of major material is higher than that of auxiliary and finishing materials 84 %, 4%, and 12% are the percentage share of major, auxiliary and finishing material respectively.

The sourcing of raw materials is an important step at the beginning of the value chain. The findings of the study implied that small and medium furniture manufacturing owners/managers procuring their raw material from both local and far outside the area for the production of furniture. About 35% of the owners/managers of enterprises sourced their raw material from far outside like (Adis Ababa, Hawasa, Shashemane, etc) while, the remaining obtained from local traders. The materials provided by local traders in the town of Wolaita Sodo included solid wood, MDF<sup>1</sup>, ply wood<sup>2</sup>, Steel, Bed hook, wood screw, chip wood<sup>3</sup>, glue; finishing material like

<sup>1</sup> Wooden panels produced under heat and pressure with the addition of an adhesive to glue fibres.

<sup>2</sup> Wooden panels produced under heat and pressure with the addition of an adhesive to sheets of wood.

<sup>3</sup> Wooden panels produced under heat and pressure with the addition of an adhesive to particles.

varnish, lacquer, thinner, stain etc. There is no well organized marketing structure between input supplier and producers in the study area.

Besides, furniture manufacturers reported that, sourcing of local solid wood or (tawula, while pronounced locally) is very challenging and there is invisible hand in the marketing of solid wood. Therefore, the country policy should upgrade the current type of transaction constraining the solid wood market.

#### **Production Stage**

The small and medium furniture manufacturing industries are the key actors who were directly involved in furniture (Bed) production activities. There are several types of Bed with different design which are produced by small and medium scale furniture manufacturer in Wolaita Sodo. In order to make simplified the Bed VCA, four common types of Beds were identified for this study based on their dimension and frequent availability in regular households. These are, Single Bed size (90cm by 190cm), Medium Bed size (120cm by 190cm), Double Bed size (150cm by 190cm) and King Bed size (180cm by 190cm) are common types of Bed frequently produced by Small and medium scale furniture manufacturers.

The major value chain functions that furniture manufactures perform include procurement of raw material, product design, making bill of material, cutting and shaping, assembling, finishing and delivery of the product to end consumer at the point of sale.

#### **Marketing Stage (Lower stream or forward linkage of the Beds VC)**

Marketing stage is an important stage in the value chain. After the product is ready for sell Small and medium scale furniture manufactures deliver their product to retailer and consumer. Eighty five percent of furniture manufactures their products for domestic consumption due to some factors. These are high cost of local and imported raw materials, old technology, and shortage of raw material locally etc.

According to World Bank Group, 2013 reports the cost of producing a wooden chair is more than twice as high in Ethiopia as in China and Vietnam for two main reasons. First, soft wood is much more expensive in Ethiopia than in China and Vietnam a cubic meter of pine lumber costs US\$667 in Ethiopia compared to US\$344 in China and US\$275 in Tanzania. Second, labour productivity is very low, even in the larger firms. Workers produce 4.5 chairs a day in China, 1.9 in Vietnam, and only 0.3 in Ethiopia (0.5 in Tanzania and 0.4 in Zambia). Lower wages do not compensate for lower productivity, which is caused by the small scale of operations and low skills of managers and workers (the labour cost per chair in Ethiopia is US\$10, compared with US\$3 in China and Vietnam) (World Bank Group, 2013). Consequently, in order to overcome these challenges policy should be designed and increasing the marketing channel for furniture products.

#### **Consumption Stage**

Consumers are the last step of the value chain. They are those who purchase the products for use. About two types of Bed consumers were identified: households and institutions which give services to Such as clinics, church, hotels etc. Almost all of the consumers purchase the Bed directly from manufacturer. Frequently, medium (120cm by 190cm) and double size (150cm by 190cm) Beds are much requested by consumers. Specially, they are demanded by those who live in condominium.

### **3.4 Marketing channels Analysis**

The analysis of marketing channels is intended to provide a systematic knowledge of the flow of the goods and services from their origin (producer) to the final destination (consumer). Marketing channel of furniture products is very short comparatively with other products (e.g. agricultural products).consequently; two marketing channels were identified for all types of Bed included in this study.

The estimated volume of production of Single Bed size (90cm by 190cm) ,medium Bed size (120 by 190),double Bed size (150 by 190) and king Bed 180 by 190 was about 1604, 5250, 8310 and 640 pieces respectively in the year 2014/15 from which about 1526, 5104, 8190 and 622 pieces were sold respectively. The analysis was made separately and the result obtained was the following.

#### **3.4.1. Single Bed size (90cm by 190cm) Marketing channel**

As it has been stated in the previous paragraph the estimated amount of single Bed size (90cm by 190cm) sold were (1526) pieces in Wolaita Sodo in 2014/15. Which are 59.5% and 40.5% were received by Household and Retailers respectively.



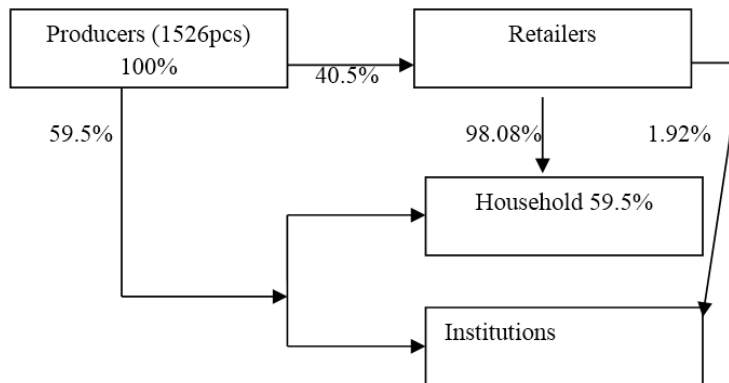


Figure 3: Single Bed size (90cm by 190cm) Marketing channel.

3.4.2. Medium Bed size (120cm by 190cm) Marketing channel

As revealed in figure 4 the amount of medium Bed size 120 by 190 produced were (5250) pieces from which (5104) pieces were sold in Wolaita Sodo in 204/15. Which are 33%, 57% and 10% were sold to retailers, household and institutions.

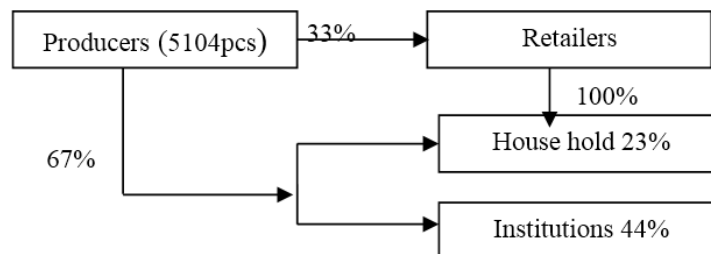


Figure 4: Medium Bed size (120cm by 190cm) Marketing channel.

3.4.3. Double size (150cm by 190cm) Marketing channel

Similarly, as displayed in figure 5 the volume of double size (150cm by 190cm) produced were (8310) pieces from which (8190) were sold in 2013/14 in Wolaita Sodo 20%, 65% and 15% goes to retailers, household and institutions respectively.

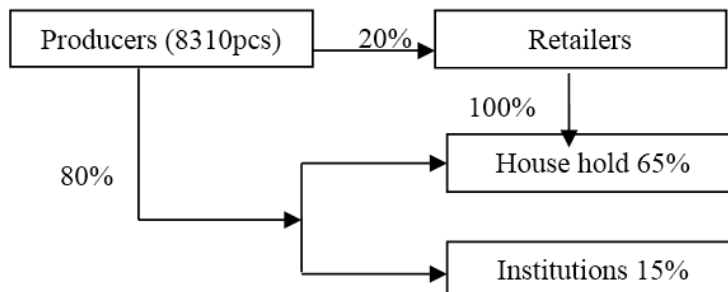


Figure 5: Double size (150cm by 190cm) Marketing channel.

3.4.4. King Bed size (180cm by 190cm) Marketing channel

Finally, the estimated amount of King Bed size 180 by 190cm produced was (640) pieces which are 622 pieces were marketed in Wolaita Sodo in 2014/15. Also it received more by house hold than other actors. Due to it is large size these types of Bed is not required much.

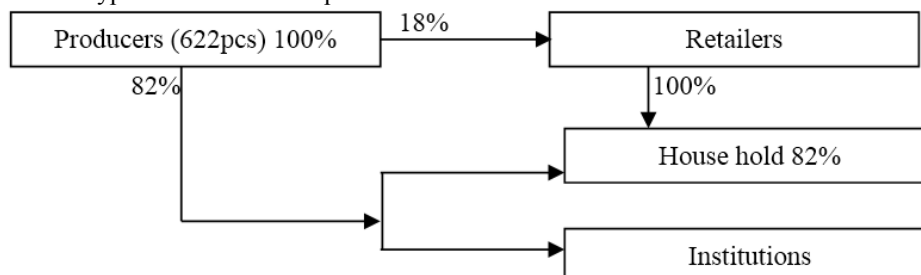


Figure 6: King Bed size (180cm by 190cm) Marketing channel.

3.5. Analysis of the Cost and Return of the Different types of Bed.

Table 4, showed that the specification of average raw materials and other input consumed by small and medium

scale enterprise at the study area.

Table 4: Average unit production Cost and Average selling price of different kinds of Beds.

No	Description	Average unit cost			
		Single Bed 90*190	Medium Bed 120*190	Double Bed 150*190	King Bed 180*190
1	Solid wood	225.00	337.50	450.00	900.00
2	MDF 18 mm	1,125.00	1,500.00	1,875.00	3,000.00
3	Chip wood 13mm	360.00	360.00	468.00	540.00
4	Ply wood	105.00	105.60		
5	Bed hook	60.00	60.00	90.00	240.00
6	Glue	26.00	52.00	52.00	312.00
7	RHS 25*25*1.25mm	67.50	202.50	270.00	810.00
8	Sealer, Lacquer & spurso	330.00	495.00	825.00	2,310.00
9	Thinner	84.00	126.00	210.00	630.00
10	Sanding paper	31.30	50.00	46.00	156.50
11	Nail w/out head	17.25	12.00	-	138.00
12	Wood screw	12.00	-	-	-
13	Total raw material cost	2,443.05	3,324.6	4,344.6	9,132.50
14	Labour Cost	403.85	415.38	673.00	3,500.00
15	Manufacturing OH and administrative costs	711.73	934.72	1,254.40	3,158.12
<b>Total average cost</b>		<b>3,558.63</b>	<b>4,673.60</b>	<b>6,272.00</b>	<b>1,5790.60</b>
<b>Average selling price</b>		<b>4,804.15</b>	<b>6,309.36</b>	<b>8,467.20</b>	<b>21,317.30</b>

The analysis considered the cost items in each of the type's Bed. There are different types of Bed produced by small and medium scale furniture manufacturing industries and supplied to market in Wolaita Sodo. Both the price and cost of production is different for the different type of Bed based on their dimension. These are Single Bed size (90cm by 190cm), Medium Bed size (120 cm \*190 cm), Double Bed size (150cm by 190cm) and King Bed Size (180cm by 190 cm).

Table 5: Average unit production Cost and benefit analysis of single Bed size (90cm by 190cm).

Item	Value in Birr	Profit
<b>Producers Production Cost</b>		
Raw material cost	2,443.05	
Labour Cost	403.85	
Manufacturing OH and administrative costs	711.73	
Average Total cost	<b>3,558.63</b>	
Average selling price	<b>4,804.15</b>	
		<b>1,245.52</b>
<b>Retailers Marketing cost</b>		
Purchasing price	4804.15	
Transport cost	10.00	
Labour cost	26.00	
House rent	12.00	
Others	33.00	
Average Total marketing cost	81.08	
<b>Average Total cost</b>	<b>4,885.25</b>	
Average Selling price	5,433.15	
		<b>547.90</b>

The average total production cost incurred was Birr 3543.6 which is 2443.05 Birr) raw material cost, 403.85 Birr labour cost and 696.7 Birr manufacturing over head and administrative cost. The small and medium scale furniture manufacturing industries also earned 1245.52 Birr/single Bed as average profit. Generally, the average selling price of single Bed size (90cm by 190cm) of Small and medium scale furniture manufacturers in the study area was 4804.15 Birr minimum and maximum selling prices were 2684.00 and 6800.00 Birr, respectively. Whereas, average selling price for retailers was 5,433.15 birr/single Bed and 81.08birr/single Bed was retailer average marketing cost. 547.90birr/ single Bed also the profit gained by retailers.

Table 6: Average unit production Cost and benefit analysis of Medium Bed size (120cm by 190cm).

Item	Value in Birr	Profit
<b>Producers Production Cost</b>		
Raw material cost	3,324.60	
Labour Cost	415.38	
Manufacturing OH and administrative costs	934.72	
Average Total cost	4,673.70	
Average selling price	6,309.36	
		<b>1,635.76</b>
<b>Retailers Marketing cost</b>		
Purchasing price	6,309.36	
Transport cost	13.00	
Labour cost	28.00	
House rent	17.00	
Others	41.00	
Average Total marketing cost	99.00	
<b>Average Total cost</b>	<b>6,408.40</b>	
Average Selling price	7,182.00	
		<b>773.60</b>

The average total production cost for medium sized Bed was Birr 4,673.70 which is 3,324.60 Birr raw material cost, 415.38 Birr labor cost and 934.72 Birr manufacturing over head and administrative cost. The small and medium scale furniture manufacturing industries also earned 1,635.76 Birr/ medium Bed as average profit. Generally, the average selling price of Medium Bed size (120cm by 190cm) of Small and medium scale furniture manufacturers in the study area was 6,309.36; minimum and maximum selling prices were 3868.20 and 8250.00 Birr, respectively. Whereas, average selling price for retailers was 7,182.00 birr/single Bed and the average marketing cost of single size Bed for retail was 99.00 birr/.

Table 7: Average unit production Cost and benefit analysis of Double size (150cm by 190cm).

Item	Value in Birr	Profit
<b>Producers Production Cost</b>		
Raw material cost	4,344.6	
Labour Cost	673.00	
Manufacturing OH and administrative costs	1,254.4	
Average Total cost	6,272.00	
Average selling price	8,467.20	
		<b>2,195.20</b>
<b>Retailers Marketing cost</b>		
Purchasing price	8,467.20	
Transport cost	13.00	
Labour cost	26.00	
House rent	19.75	
Others	46.00	
Average Total marketing cost	104.00	
<b>Average Total cost</b>	<b>8,571.20</b>	
Average Selling price	9,421.20	
		<b>850.00</b>

The average total production cost for double sized Bed was Birr 6,272.00 which is 4,344.60 Birr raw material cost, 673.00 Birr labour cost and 1,254.40 Birr manufacturing over head and administrative cost. The small and medium scale furniture manufacturing industries also earned 2,195.20/ Double Bed as average profit. Generally, the average selling price of Double Bed size (150cm by 190cm) of Small and medium scale furniture manufacturers in the study area was 8,467.20; minimum and maximum selling prices are 6223.70 and 9856.13 Birr, respectively. Whereas, average selling price for retailers was 9,421.20 birr/single Bed and 104.00 birr/ double Bed. The average marketing cost for retailing of double sized Bed (150cm by 190cm) was 850.00birr.



Table 8: Average unit production Cost and benefit analysis of King Bed size (180cm by 190cm).

Item	Value in Birr	Profit
<b>Producers Production Cost</b>		
Raw material cost	9,132.5	
Labour Cost	3,500.00	
Manufacturing OH and administrative costs	3,158.12	
Average Total cost	15,790.60	
Average selling price	21,317.30	
		5,526.70
<b>Retailers Marketing cost</b>		
Purchasing price	213173.00	
Transport cost	24.08	
Labour cost	52.00	
House rent	29.00	
Others	102.10	
Average Total marketing cost	207.20	
<b>Average Total cost</b>	<b>21,524.20</b>	
Average Selling price	23,424.20	
		<b>1,900.00</b>

The average total production cost for king size Bed was Birr 15,790.60 which is 9,132.50 Birr raw material cost, 3,500.00 Birr labour cost and 3,158.12 Birr manufacturing over head and administrative cost. The small and medium scale furniture manufacturing industries also earned 5,526.70/ King Bed as average profit. Generally, the average selling price of king Bed size (180cm by 190cm) of Small and medium scale furniture manufacturers in the study area was 21,317.30 Birr; minimum and maximum selling prices were 16,000.00 and 26,000.00 Birr, respectively. Whereas, average selling price for retailers was 23,424.20 birr/single Bed and the average retailing marketing cost was 207.20 birr. Retailer also gained 1,900.00 birr/King Bed size.

In general, producers gained more than retailers in all types of Bed. It might be, due to the marketing cost of producers is considered in production cost during product planning. But for retailers it is additional cost.

### 3.5. Challenges and Opportunities in small and medium Scale furniture manufacturing industries Value Chain

In spite of their big potential for the development of the economy, small and medium furniture manufacturing industries faced serious problems and are often unable to capture market opportunities, have difficulty in achieving economics of scale in procuring raw materials, technology, skilled man power, consultancy services etc. According to Delmar and Dante (1977), resource endowments, lack of education and skilled labour force and infrastructure are the major factors that could influence a country's road towards industrialization.

There are a number of issues that need to be addressed and constraints to be overcome to develop and promote the small and medium furniture manufacturing industries in Wolaita Sodo.

Table 9: Major production constraints of small and medium scale furniture producers

Major constraints	No	%
Lack of Sufficient Supply of locally Raw material	84	85.7
Quality of locally available raw material is not reliable	89	90.8
Lack of skilled manpower	86	87.8
Land	60	66.67
Technology	90	94.9

#### Raw Materials

Shortage of raw material and lack of quality raw materials are the major problems for small and medium scale furniture manufacturing in Wolaita Sodo. Out of the total responding establishments to this particular question, 84 establishments, which constituted 85.7%, responded that lack of sufficient local raw material supply is the major reason for relying on imported raw materials, as shown in Table 15 above. While unreliable quality of local raw material was reported as major reason by 89 establishments or 90.8 percent. Similarly, Gebreeyesus (2013) found that Manufacturing establishments were seriously constrained by shortages of foreign exchange, raw material supply, working capital and the like.

The majority of the Ethiopian manufacturing establishments are known for their high dependence on imported raw materials in their production activities and this urges one to ask the reason for such a huge dependence (CSA, 2013). In general, the results showed that the raw material demand by local manufacturing industries couldn't be satisfied from domestic sources due to various reasons mentioned above. Therefore, the

respective government bodies must pay attention to build the capacity and performance of Small and medium scale furniture manufacturing enterprises.

**Lack of land:** result from the research also confirmed that 66.67% of the respondents described lack sufficient land size as a problem of their production. This findings has similarity with Moyi & Njiraini (2005) who mentioned out that much of SMEs in Kenya faced the problem of land availability as constraint of production.

**Lack of modern Technology:** Findings from the research confirmed that 77% of the respondents used obsolete technology. Only 23% of the respondents were using modern technology. The findings agree with Moyi & Njiraini (2005) who found out that much of the existing technology available to SMEs in Kenya is either insufficiently productive to create secure livelihoods with the available resources or cannot produce goods of a quality or the type that enables them to break into new, expanding or demanding markets. The increase in production of value-added products can be achieved by increasing the scale of production and increasing the use of technology (Lantz, 2003). Efforts to increase value addition can be done through the use of technology in every business activity, so the competitive advantage of the company can be formed by creating excellence in one or several chain business activities (Porter, 1990).

The efficiency and effectiveness of production is assured by the level of technology in use. Technology can be expressed in terms of type of hard knowledge such as machinery, workshop lay out, inventory and quality control and soft knowledge in terms of licenses, patents and designs or utility models etc. Most of the owners of the industries use out dated and traditional technology machineries due to limited capital and lack of skilled person needed to operate advanced machines. Advanced technologies and methodologies help to improve the quality of goods and services (Wadsworth *et al.*, 2002). The adoption of new technology and utilization of competently skilled manpower enables sustained increase in product quality, reduction in the cost of production, increase in market share and profit margin.

#### **Lack of skilled man power**

Furniture manufacturing is labour-intensive which require sufficient labour force. However, almost all developing countries like Ethiopia suffer from serious shortage of qualified personnel at all levels in all key points in industry. The same is true for the Small and medium scale furniture enterprises. About 70% of owners/managers stated that, most of the employees engaged in their enterprises are not educated and have lack of technical skill. They get skill through experience the reason behind to the lack of skilled labour for Small and medium scale furniture manufacturer in Wolaita Sodo are as follows:-

- Most people considered woodworking as low profession due to this reason there is no sufficient man power in this profession.
- Those who graduated from TVET are cooperating themselves as Micro and small enterprises and work self-employed in their own enterprises. Due to the reason mentioned above small and medium scale furniture manufacturers suffer with lack of skilled labour.

In addition to this almost all the existing enterprises use outdated and old technology. Due to this factor the Wolaita Sodo small and medium industries are not competitive in global market. The adoption of new technology and utilization of skilled manpower will enable to sustainably increase production capacity, quality, and reduction of cost of production, market and profit margin to business operators in the industry. Therefore, it is essential to link the manufacturing sector with training institution like colleges of TVET to facilitate access to training and upgrade opportunities for the labour force engaged in small and medium scale furniture enterprises.

#### **Existence of high market potential in the Country**

There is high domestic demand of furniture product. Due to urbanization, rapid population growth and improvement of living conditions Ethiopian citizens with anticipated fast economic growth. The increase in demand of furniture product in the domestic market shows the increasing importance of the product for human being. Among the sample of respondents 82.2% reported the presence of high market demand. While the share of local market was 100% and export market share was 0.00 in the reference year.

According to the respondent report there is a big market opportunity for furniture product in the study area. However, this opportunity has limited to domestic market for various problem listed above. The respondents also reported that, the government emphasis for this subsector is very low. Similarly, (UNDP, 2014), reported that, the economy of the country still depends on very few subsectors. For instance, 64 percent of the real GDP growth is contributed by three sub-sectors, namely, crop production, construction and wholesale and retail trade. Therefore, the contribution of small and medium scale furniture sub sector should be well known and these enterprises should be well supported equally with other sector. Furthermore, Government should give due attention to this sector and it is important to support them by providing all necessary material and services.

### **3.6. SWOT analysis**

The SWOT analysis of the enterprise was useful for a clear understanding of the enterprises status. The following major strengths, weaknesses, Opportunities and Challenges are observed

Table10: SWOT Analysis for Wolaita Sodo Small and medium scale furniture manufacturing enterprises.

Strength		Weaknesses	
<ul style="list-style-type: none"> <li>• Customer attraction</li> <li>• Product design</li> <li>• Create job opportunity</li> </ul>		<ul style="list-style-type: none"> <li>• Poor product quality(finishing)</li> <li>• Poor linkage with input suppliers</li> <li>• Old technology application</li> <li>• Less access to export market</li> <li>• In competitiveness in global market</li> </ul>	
Opportunities		Threats(Challenges)	
<ul style="list-style-type: none"> <li>• Export to nearby Neighboring countries(Sudan, Kenya)</li> <li>• Easy transport access</li> <li>• Demand for product</li> </ul>		<ul style="list-style-type: none"> <li>• Shortage of raw material</li> <li>• The production system is not knocked down</li> <li>• Lack of skilled persons</li> <li>• Non availability of standard (quality) raw material</li> <li>• Illegal selling of local raw material</li> <li>• Cost of raw material both local and imported</li> <li>• Lack of encouragement</li> <li>• Absence of training</li> <li>• Shortage of capital and land</li> <li>• The existence of high finishing imported product with reasonable selling price</li> </ul>	

#### 4. Conclusions

The value chain map highlighted the involvement of diverse actors participated directly or indirectly in the chain. Directly input suppliers, producers, traders, consumers and indirectly actors are credit agencies, business service providers and government are involved.

The actors involved in vertical/upstream to bring furniture product to the final stage used several inputs such as human resource, materials, design, and technology. The materials used in furniture making are divided as major, auxiliary and finishing materials. The percentage share of given material is 84 %, 4%, and 12% respectively. About 35% of the owners/managers of enterprises sourced their raw material far from Wolaita Sodo like (Adis Ababa, Shashmane and Hawasa) while, the remaining obtained from local traders around Wolaita Sodo area.

There are several types of Bed with different design which are produced by small and medium scale furniture manufacturer in Wolaita Sodo. Commonly produced are Single Bed size (90cm by 190cm), Medium Bed size (120cm by 190cm), Double Bed size (150cm by 190cm) and King Bed size (180cm by 190cm). Eighty five percent of furniture manufactures provide their products for local consumption. The products are consumed by households (especially living in condominium) and institutions (higher education institutions, hospitals, church, hotels etc.). Frequently, medium (120cm by 190cm) and double size (150cm by 190cm) Bed are much requested by consumers. The estimated volume of production was about 1604, 5250, 8310 and 640 pieces respectively in the year 2014/15 from which about 1526, 5104, 8190 and 622 pieces were sold respectively.

The average total production cost incurred for raw material, labor, manufacturing over head and administrative issues is Birr 3543.6, 4,673.70, 6,272.00 and 15,790.60 for single, medium, double and king sized Beds respectively. The manufactures received in average profit of Birr 1245.52 , 1,635.76, 2,195.20 and 5,526.70 form single, medium, double and king sized Beds respectively. In other side retails incurred cost of 81.08 and received average profit 547.90. The average manufacturers selling price of single, medium, double and king Bed size of Small and medium scale furniture manufacturers in the study area was 4804.15, 6,309.36, 8,467.20 and 21,317.30 respectively.

In other side average selling price and marketing cost for retailers was 5,433.15 birr/single and 81.08birr, 7,182.00 birr and 99.00 birr , 9,421.20 birr and 850.00b birr, and 23,424.20 and 207.20 for single ,medium ,double and king sized Beds respectively. In general, producers gained more than retailers in all types of Bed.

The finding also included challenges and opportunities of small and medium scale furniture manufacturing industries. The challenges are shortage of inputs(such as land and raw material), poor quality of raw materials, lack of modern technology and skilled man power which account 85.7,87.8 and 94.9 percentage of respondent. The basic opportunities are existence of high market potential in the country and availability of raw material (forest) resource in the area.

#### 5. Recommendations

From the study result the following recommendations were developed;

- The small and medium scale furniture manufacturing problems of modern technology , land, skilled man

power and market information should be solved to contribute to provide quality products and to increase supply of furniture(Beds) to the market and to use high market potential and availability of raw martial(forest) resource in the area.

- Increased investment by government bodies on capacity and performance building on enterprises engaged in furniture manufacturing by using training centers (especially TVET, trade and industry bureau and university) also needed to sustain furniture contribution to local as well as global economy.
- There is no well organized marketing structure between input supplier and producers in the study area. Therefore, the country policy should upgrade the current type of transaction constraining the solid wood market

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