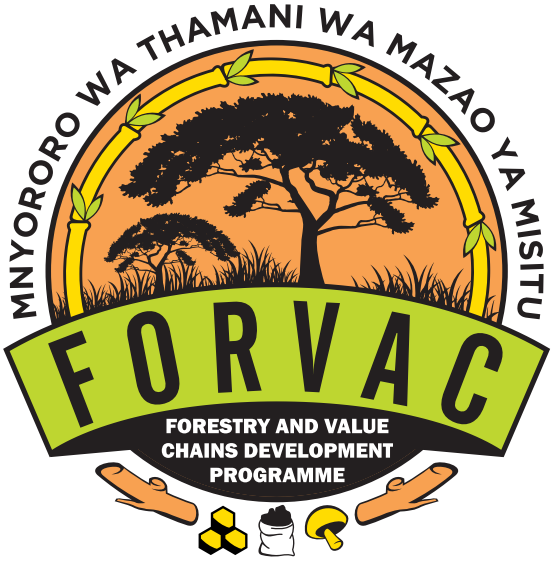
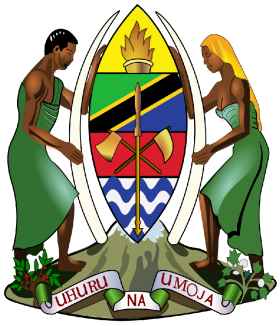


MARKET SYSTEM ANALYSIS OF FURNITURE INDUSTRIES IN DAR ES SALAAM, DODOMA AND TANGA REGIONS, TANZANIA - MASTER THESIS FOR SOKOINE UNIVERSITY OF AGRICULTURE

ALPHA EUZEBIO MFILINGE

2021



The United Republic of Tanzania
MINISTRY OF NATURAL RESOURCES
AND TOURISM

Ministry for Foreign
Affairs of Finland

MARKET SYSTEM ANALYSIS OF FURNITURE INDUSTRIES IN DAR ES SALAAM, DODOMA AND TANGA REGIONS, TANZANIA

ALPHA EUZEBIO MFILINGE

A DISSERTATION SUBMITED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS, SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA.

2021

ABSTRACT

Tanzania has diverse livelihood activities. Some of them are furniture manufacturing industries. Due to trade liberalization, furniture is also imported by various traders. However, the amount of furniture demanded is still higher compared to what is manufactured. The study was aimed at analyzing the market system of the furniture industry in the Dar es Salaam, Dodoma, and Tanga regions. Specifically, the study examines the value chain development of the industry, analyses the supportive functions for the industry, and assesses the business environment for the industry. Data was collected using a questionnaire survey, key informant interviews, focus group discussions, direct observations and secondary materials. The information gathered was analyzed both content-wise and statistically. Generally, the field results revealed that an average of 64.7% of respondents in the study area invest up to 5 million, and 35.3% above 5 million up to 200 million. The most used tree species for furniture were *Afzelia quanzensis*, *Pterocarpus angolensis*, *Eucalyptus spp.* and *Acacia nilotica* (Mberiti), while Comoro Island and Mozambique were the top countries importing furniture from Tanzania. For supportive functions, 79% of respondents work under unfriendly infrastructure, only 11.1% of respondents received capacity-building training, and 58.4% of respondents reported accessing financial services. In the business environment, 85% of respondents were aware of the rules and regulations while 15% were not aware. For those who were aware, only 18% complied with the available rules and regulations that guide the industry. The study reveals that, the industry is dominated by micro and small industries, which still

demand some improvements to become large and competent enterprises. The study recommends focusing on product quality (skills and capacity), financial support for businesses (finance), innovation, lower operational costs (taxes, levies), and export promotion.

DECLARATION

I, Alpha Euzebio Mfilinge do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

_____. _____.

Alpha Euzebio Mfilinge Date

(MSc. Candidate)

The declaration is confirmed

_____. _____.

Prof. J. M. Abdallah Date

(Supervisor)

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ACKNOWLEDGEMANTS

In the first place, I am heartily thankful to my supervisor, Prof. J. M. Abdallah, for his assistance, advice, and suggestions in shaping my study since the beginning of the research proposal and the preceding stages. I am grateful to all the lecturers in the Department of Forest and Environmental Economics for all the guidance and encouragement whenever I needed it. May God bless you abundantly.

I feel grateful to my family, who provided funds and have been there for me in all my days of pursuing this course and all the hardships they faced during my absence.

I am grateful to many people who shared their memories and experiences during data collection and analysis, especially furniture enterprise owners, Ward Executive Officer (WEO), Temeke, Handeni, and Dodoma district Tanzania Forest Service (TFS) Agency officers, and Dar es Salaam, Dodoma, and Tanga regional officers. Thanks also to my fellow students and friends, especially Mr. Habibu, Said, who invested their time in reviewing and advising on shaping this work.

Particular thanks are directed to the Forestry and Value Chains Development Programme (FORVAC) that provided funds for this research work.

My heartfelt gratitude goes to the ALMIGHTY GOD for blessing and giving me knowledge, good health and strength all the time.

DEDICATION

This work is dedicated to my beloved and caring parents, my father Euzebio Adam Mfilinge and my mother Magdalena Phillip Mlowosa for the immense sacrifices they made to build a good foundation for my career and my life in general, may God bless them abundantly.

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ABBREVIATIONS

TFS	Tanzania Forest Service Agency
FORVAC	Forestry and Value Chains Development Programme
WEO	Ward Executive Officer
USD	United States Dollar
FAO	Food and Agriculture Organization
NGO	Non – Governmental Organization
URT	United Republic Of Tanzania
TRA	Tanzania Revenue Authority
SPSS	Statistical Package for Social Sciences
SMEs	Small and Micro Enterprises
VLFRs	Village Land Forest Reserves
MDF	Medium – Density Fibre-board
NMB	National Microfinance Bank
NBC	National Bank of Commerce
VETA	Vocational Education and Training Authority
MNRT	Ministry of Natural Resources and Tourism
URK	United Republic of Kenya
IBEF	Indian Brand Equity Foundation

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background information

The furniture industry offers various products such as upholstery, cases, beds, chairs, and fabrics. They can be made from various materials, including wood, metal, or plastic. The global furniture industry has grown significantly over recent decades (Rossitsa and Rodostina, 2015). In 2014, world furniture production was worth USD 480 billion, and the market size reached over USD 575 billion in 2018 (URK, 2018). In 2014, the main importers of furniture were the United States, Germany, France, the UK and Canada, while exports were mainly China, Italy, Germany, Poland, the United States and Malaysia. In the last 10 years, China was the world leader in terms of furniture production. In 2009, exports were USD 25 billion and became USD 235.3 billion in August of 2020 (NBSC, 2020). Globally, furniture markets can generally be divided into four categories, which are domestic furniture, office/corporate furniture, hotel furniture, and furniture parts (Mhede, 2012). Industrial consumption of processed wood is dominated by the construction industry (Guadagno *et al*., 2019). According to a World Bank study (IBEF 2007), the organized furniture industry is expected to grow by 20% every year.

In Tanzania, the furniture industry is one of the important components of the manufacturing sector, and the sector is dominated by small and micro enterprises (SMEs) (Guadagno *et al*., 2019). SMEs play an important role in social and economic development by contributing significantly to employment generation, income generation, and

catalysing development in urban and rural areas (Mutalemwa, 2012). Furthermore, the industry has fueled the growth of other informal sectors such as transportation (bodabodas, cars), general stores (or kiosks), and food vendors.

About 8,000 workers were estimated to be employed in 2016 in the furniture industry, making up 6% of total manufacturing employment (Guadagno *et al*., 2019). The growth rate of 2.5 times has been achieved in terms of employment since 2008, and value added was estimated at USD 110 million, or 4% of total manufacturing value added, Guadagno *et al* (2019), and the demand for this product in cities and towns in Tanzania is still high. However, production is low compared to what is demanded, and the quality of furniture produced locally is still low compared to imported one (Held *et al*., 2017).

1.2 Problem Statement and Justification

In Tanzania, cities and towns have diverse livelihood activities. Some of them are furniture manufacturing industries. The population in cities is growing, and demand for furniture is very high (Gray, 2018). In various places, local furniture entrepreneurs establish manufacturing and trade centers. Due to trade liberalization, furniture is also imported by various traders. Nevertheless, the amount of furniture demanded is still higher compared to what is manufactured. On the other hand, demand for locally produced furniture is much less compared to imported ones (Held et al., 2017). However, most studies about furniture industries have not analyzed the entire market system. That means in-depth analysis of the furniture business environment (rules guiding the industry), value chain development (source of timber, amount of timber consumed for furniture manufacturing, amount of furniture purchased, and markets) and supporting functions

(skills, extension services, information, and financing) is limited with scarce research attention. Therefore, this study is intended to analyze the market system of the furniture industry in Dar es Salaam, Dodoma, and Tanga regions, considering value chain development (source of timber, amount of timber consumed for furniture manufacturing, amount of furniture purchased, and markets), supporting functions (skills, extension services, information, financing, and business environment (rules, policy, standards).

The findings from this study will inform value chain actors including the policy makers and industrial development stakeholders about the environment of the business, value chain development and how the industry has been supported. Also the research seeks to contribute on improving policies and strategies to accelerate growth and improve wellbeing of the local furniture producers.

1.3 Objectives

1.3.1 General objective

The general objective of the study was to analyze the market system of the furniture industry in the Dar es Salaam, Dodoma, and Tanga regions.

1.3.2 Specific objectives

The specific objective of the study were:

i. To examine the value chain development of the furniture industry in the Dar es Salaam, Dodoma, and Tanga regions,

ii. To analyze the supportive functions of the furniture industry in the Dar es Salaam, Dodoma, and Tanga regions,

iii. To assess the business environment for the furniture industry in the Dar es Salaam, Dodoma and Tanga regions.

1.4 Research questions

The study strove to answer the following questions:

i. How is the value chain development of the furniture industry in the Dar es Salaam, Dodoma, and Tanga regions?

ii. What is the supportive functions situation for the furniture industry in Dar es Salaam, Dodoma, and Tanga regions?

iii. How is the business environment of the furniture industry in Dar es Salaam, Dodoma, and Tanga regions?

1.5 Conceptual Framework

The study assumed that the market system for the furniture manufacturing industry can be analyzed by looking at three main areas, which are value chain development, supportive functions, and legal frame work. Also, the study assumed that value chain development is influenced by different connected areas, which are sources (raw materials/timber), production (manufacturing), and the market (users). Supportive functions can be explained in terms of skills, extension services available, coordination, information, and financial services. The legal framework as a part of the business environment deals with

policies, standards, informal rules and norms, and by-laws available will be assessed. Production is also influenced by variables of supporting function and legal frame work.

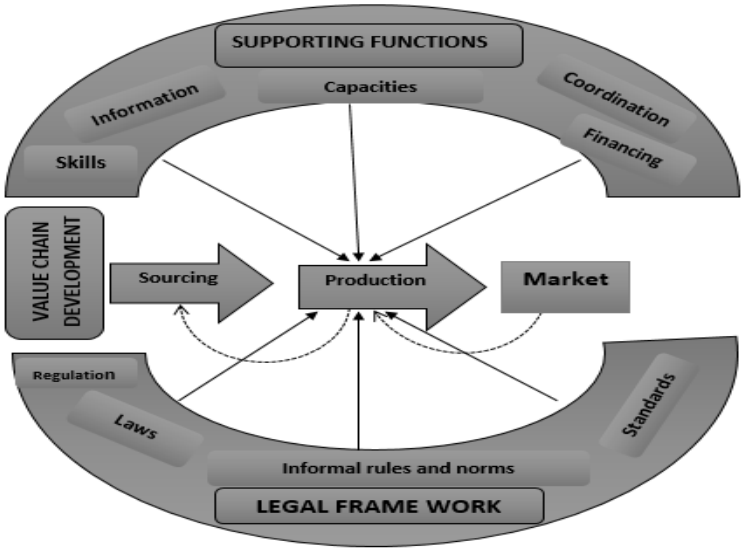

Figure 1: Conceptual framework for market system analysis

Source: Own construction, 2020

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Value chain development for furniture industry

Value chain development provides an explanation of the way all activities are conducted and the actors that are involved in bringing a product from production to consumption are linked together (El Tahir and Vishwanath, 2015). The approach takes a product or commodity as the basis for doing an analysis, and the approach is mostly used in the agricultural sector. Normally, the analysis is based on a complete characterization of input-output relationships starting with the producers to the retailer, and the whole mechanisms for coordinating guided activities from stage to stage up to the final consumer. The chain recounts the set of all actors and the overall list of activities required to design, produce, and sell a product to a final user (Gereffi and Fernandez-Stark, 2016). In my view, furniture manufacturing value chain development examines the industry and location in terms of specific input-output structures and related technologies, standards, regulations, processes, and dynamics in relationships between chain actors. Examining value chain development provides a systemic analytical magnifying glass that allows for a top-down and bottom-up assessment of the furniture manufacturing industry (Gereffi and Fernandez-Stark, 2016).The statement reflects the aim of the study. The findings will help to advance the systemic analysis of the furniture manufacturing industry in Tanzania.

Actors in value chain includes all individuals or organizations, enterprises and public agencies connected in a value chain that making an important to become familiar with the functioning and performance of the whole value chain (Stein and Barron, 2017). These actors are often but not necessarily associated with a certain value chain activities. They are of two types, chain actors and supporting actors Stein and Barron (2017), it's often important to differentiate between chain actors and supporting actors for analytical purposes. The chain actors are those who are real and directly involved in value chain activities. In our case study may include small scale/plantation forest farmers, producers (manufacturers) as well as final user. The similarity among them is that they become owners of the (raw, semi-processed or finished) product at one stage in the value chain (Gereffi and Fernandez-Stark, 2016). In my view, this shows that all of these actors along a value chain are not groups of actors who are typically of the same kind, but differ in some aspects, such as assets, skills, rights, and preferences. From the mentioned chain actors in the literature, the study will concentrate more on producers (manufacturers) as a mid-player in the chain to analyze the market system of the furniture industry in Tanzania.2.2 Supportive functions to furniture industry

It is critical for actors in value chain development to receive assistance from business development support providers in order to perform their roles effectively (FAO, 2014).These do not take ownership of the product at any stage, but play an important role in smoothing the value creation process. Support service providers are necessary for value chain development and they comply with several things, such as sector-specific input and equipment providers, financial services, business management services, and market

information access and dissemination, technology suppliers, advisory services, etc. (Tadesse and Fayera, 2018). According to FAO (2014), support providers can be divided into three categories: providers of physical inputs, such as seeds at the production level; providers of non-financial services, such as storage, transport, management training, market research and processing, and extension services; and providers of financial services, which have distinguished themselves from other services due to their critical role in capital provision for investment. Support providers together with the value chain actors stand for an extended value chain. So far, there are several people/organizations who are not directly involved in the furniture manufacturing industry's value chain, but their role is very important. An example of a supporting actor is an NGO involved in capacity building, financing, and information provision. For the purpose of understanding the market system in the furniture industry, it is important to go into detail and examine the performance of these service providers in Tanzania who enhance the manufacturing environment.

2.3 Business environment for furniture industry

A business firm is said to be an open system since its resources are coming from the environment and goods/service as a product is supplied back to environment. Therefore due to its open system it allows different forces alter the environment. The forces could be within the business (internal forces) or from outside the business (external forces). The results for an environmental forces could be a threat or opportunities to the business community. For any business organization will efficiently face the threats that emerge

from the business environment and also tries to grasp the opportunities available. All those factors/forces has been considered to be a business environment.

Emilia and Merten (2011), defined business environment as it consist of many different and connected parts of policy, legal, institutional and regulatory conditions that guide business activities sometimes is termed as investment climate. Improving those policies, laws and regulation with inferior standards or quality will reduce cost and risks of business activities.

The furniture manufacturing industry lifts up an efficient use of timber resources and increases the size of economic activities taking place within the forestry sector, starting from the time of harvesting of raw logs and downstream taking place to timber-processing and the final level of manufacturing and marketing of finished timber products (Kwang and Jan, 2011).

For timber-producing countries that seek to promote and develop downstream wood processing industries like Tanzania furniture manufacturing is therefore an ideal option and its business environment should be considered as a serious case. Different challenges are facing furniture manufacturing sector making a slow growing rate of this industry. Analysis found that El Tahir and Vishwanath (2015), the most important problems facing furniture industry owned by small, medium and large enterprises are results from manufacturing and technology, followed by management, marketing, human resources, and finance and accounting respectively. Also Kweka (2018), report the main challenges

facing local furniture manufacturing sector are as follows, hardwood timber stocks are dwindling and remaining supplies are expensive, Semi-finished furniture products (components) attract the same duties as finished products making it hard for local manufacturers to compete with imports, there is substantial corruption in the public sector tendering process, the cost of borrowing is extremely high (18% or more), the high cost and unreliable supply of power hampers local manufacturers relative to importers (Neven, 2014). Out of those there are some international competitive failure for local furniture industry in developing countries reported by Rossitsa and Rodostina (2015), as the keyfactors affecting competitiveness in the furniture industry which are the upstream section of the value chain and the role of raw materials and components, labor costs and the availability of skilled labor, of investment in technology, innovation and design, relevant policies affecting the industry. Most of the mentioned challenges facing furniture manufacturing industry is seems to be emerging from the business environment. For the significant growth of furniture industry it is important to assess the business environment with poor performance modifications are required, and with better performance should be keen observed and managed.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Description of the Study Area

The study was carried out in three cities: Dar es Salaam, the largest commercial city in Tanzania; Dodoma, which is the capital city of Tanzania; and Tanga, as one of the timber source regions in Tanzania.

3.1.1 Dar es Salaam

Dar es Salaam is located at 6°48' South, 39°17' East (−6.8000, 39.2833), on a natural harbour on the eastern coast of East Africa, with sandy beaches in some areas. The region of Dar es Salaam covers about 1393 Km^2 and divided into five districts, which are Ubungo, Kinondoni, Ilala, Temeke, and Kigamboni.

Dar es-Salaam is the most populous city in Tanzania. With a population increase of 5.6 percent per year from 2002 to 2012, it is the third-fastest-growing city in Africa, after Bamako and Lagos and the ninth fastest growing in the world. The city is the major recipient of imported furniture and is among the regions with highest number of manufacturing firms in Tanzania (Kessy *et al*., 2019). Dar es Salaam is Tanzania's most important city for business. The city contains high concentrations of trade and other services and manufacturing compared to other parts of Tanzania, which has about 80 percent of its population in rural areas. It is a major business oriented city in Tanzania, and one of the popular business in the city is furniture manufacturing. Temeke district was

selected for this study. Temeke is the industrial district of the city, where the manufacturing centers heavy and light industry are located.

3.1.2 Dodoma

The Dodoma Region lies inland very close to the centre of the Tanzanian mainland. Its location attracted the Tanzanian government to establish its capital in Dodoma Municipality. The Dodoma Region is located south of the equator between latitudes of 6° 57' and 3° 82'. Longitudinally, the region is situated between 36° 26' and 35° 26' east of Greenwich. It borders four regions, namely Manyara, Iringa, Singida, and Morogoro. It is accessible from Manyara through Babati and Kateshi in the Manyara Region; Dar es Salaam and Coastal through Morogoro and Tabora, Shinyanga and Mwanza through Manyoni in the Singida Region. All the roads are accessible throughout the year. It covers an area of 2,669km^2, making it the 12th largest region of the Tanzania Mainland out of 20. Some 5% of the Mainland is in the Dodoma Region. It consists of seven districts, which are Kondoa, Mpwapwa, Kongwa, Chamwino, Dodoma, Bahi, and Chemba. The Dodoma Region had an average population density of 50 people per sq. km in 2012 and was considered to be moderately densely populated on the Tanzanian mainland. It is projected that by the year 2022, the Dodoma Region will have a total population of about 2,642,287 and an average population density of 60 people per square kilometer (URT, 2012).

So far, the government offices (President and Ministry offices) have shifted from Dar es Salaam to Dodoma, hence the growth rate of the city is expected to increase fast. The growth rate of the city seems to be directly proportional to the population increase. The

increase in the number of people will automatically increase the demand for furniture. Both office and home furniture are expected to be in high demand due to new residence area establishments. Dodoma city council was selected as the representative district for the study.

3.1.3 Tanga

The Tanga region is bordered by Kenya and the Kilimanjaro Region to the north, the Manyara Region to the west, and the Morogoro and coastal regions to the south. Its eastern border is formed by the Indian Ocean. It has a population of about two million. Within the region, the Handeni rural district was covered. Handeni is one of the districts which is famous for timber production in Tanzania.

3.2 Sampling technique and sample size

Respondents for the study were owners (producers) of furniture manufacturing enterprises, the district community development officer, the TRA district officer, and the Tanzania Forest Services Agency (TFS) district officer. A list of registered owners (producers) of furniture manufacturing enterprises was requested in the respective districts, namely Temeke, Dodoma Municipality and Handeni rural, as a sampling frame. A stratified sampling technique was employed to form two strata (micro and small manufacturing enterprises). Simple random sampling was used to select respondents in each stratum from a sampling frame. The sample size was determined according to Machumu (2008) where the intensity of 30% from each sampling frame within wards were taken. The study covered the total of nine random selected wards from three districts.

3.3 Data Collection and Analysis

This study made use of both primary and secondary data, both quantitative and qualitative in nature.Primary data was obtained from furniture industry owners through a structured questionnaire and focus group discussion with guiding questions. Additional data was obtained from districts' community development, TRA, and TFS officers through key informants' interviews using a checklist of guiding questions regarding research objectives. The technique was used to elicit personal feelings, perceptions and opinions in a more detailed manner and to achieve a high response rate. This technique allowed for clarification of ambiguities and further follow-up on incomplete answers. According to Saunders and Thornhill (2009), interviews help to get reliable and valid information relevant to the research as they allow participants to provide rich, contextual descriptions of events. The interview was conducted face to face and recorded to allow greater interaction between the interviewer and respondents. On the other hand, secondary data was obtained from the forest office database, the district and ward administration offices, and documented sources such as books, journals, and related research done by other researchers as found in the literature review. A preliminary survey was conducted so as to get use of the study areas and the questionnaires were tested in order to see the validity of the questions. Below is a brief explanation of data collection and analysis based on the specific objective:

3.3.1 To examine the value chain development for furniture industry in Tanzania

The owners of the industry were interviewed through the use of a questionnaire (Appendix 1) and the variables included were: where they get timber, amount of timber consumed,

market (type of customer), experience (year) and education level. Excel and the SPSS statistical package tool were used for the whole analysis of the objective. Descriptive statistics were used to analyse the data, and outputs were presented in the form of graphs and charts.

3.3.2 To assess the supportive functions for furniture industry in Tanzania

Interviews by using questionnaires as a tool were used to explore the information in depth from local furniture manufacturers. The data collected included information about skills provided to workers, infrastructure, extension services, information flow, and financial access. Descriptive statistics using SPSS and content analysis were employed for the analysis and outputs presented in the charts and tables.

3.3.3 To assess the business environment for furniture industry in Tanzania

A questionnaire was used to interview owners of the industry looking at awareness and compliance of the enabling environment. The obtained information was analysed through descriptive statistics. Also, focus group discussions were conducted guided by questions (Appendix 2) with the owners of the enterprises. Key informant interviews were also conducted (Appendix 3) with Tanzania Forest Service Agencies, community development officers, and TRA officers of the study site. The information gathered concerned awareness and compliance with existing regulations, standards, informal rules and norms, and by-laws, and it was analyzed using content analysis.

Further data analysis was done at the production node, where a multiple regression model was employed to assess the influence of the enabling environment and supportive functions on production in the study area.

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon} \text{ ..... Eqn. (1)}$$

Whereby:

Y = Production (Amount of timber consumed in volume m^3)

β_0 = Constant term

β_i = Coefficients of the independent variables

X_1 = **N**umber of information about the business

X_2 = Financial access/availability

X_3 = Infrastructures

X_4 = Number of training

X_5 = Awareness

X_6 = Rules and regulations

CHAPTER FOUR

4.0 RESULT AND DISCUSSION

4.1 Respondents' Characteristics

Different characteristics of respondents were considered in this study. The respondents' characteristics included age, sex, education level, and experience of the respondent in carpentry activities.

Findings in Table 1 show that all of the respondents (100%) were male and none of the respondents (0%) were female, indicating that mostly males were involved in furniture manufacturing. This is almost similar to a study by Mhede (2012) emphasizing that, with the exception of the female presence in sales, restaurants, and communication services, the core activities of production in industries are undertaken by men.

As summarized in Table 1, the popular number (64%) of furniture producers whose age falls into the group of 31 – 50, followed by the group of 18 – 30, which makes up 20% of the whole respondents, and least of all, the group is those over 50 years old (16%). The overall average age for the respondents was 39.4, which is approximately the same as the findings of Mhede (2012), who found an average age of 38.9 years.

Results in Table 1 show that only 17% of respondents attended technical education. The remaining 83% of respondents included primary school (34%), secondary school (31%), certificate (1%) and non-formal education (17%) rely largely on apprenticeship skills acquired through learning by doing. Also, Clement (2013) suggested that most entrants

into the furniture making business are either "spin-offs" or former apprentices of current enterprises.

Table 1 shows that most furniture makers' experience ranged from 6 to 20 years (62% of respondents) in the furniture industry. For the remaining 16%, their experience ranged from 0 to 5 years, and 22% had experience above 20 years. The study of Mhede (2012) obtained an average of about 7.7 years of experience in the furniture industry. The value lies in the range of 6-20 years, similar to my findings.

Table 1: Characteristics of respondents in Dar es Salaam, Dodoma and Tanga (n=75)

Category	Temeke	Dodoma	Handeni	Average
Sex				
Male	100%	100%	100%	**100%**
Female	0%	0%	0%	**0%**
Total	**100%**	**100%**	**100%**	**100%**
Age (years)				
18 – 30	20%	17%	24%	**20%**
31 – 50	63%	69%	58%	**64%**
Above 50	17%	14%	18%	**16%**
Total	**100%**	**100%**	**100%**	**100%**
Education level				
No formal education	10%	11%	31%	**17%**
Primary education	27%	32%	43%	**34%**
Secondary education	37%	35%	21%	**31%**
Technical education	25%	21%	5%	**17%**
Certificate	1%	1%	0%	**1%**
Total	**100%**	**100%**	**100%**	**100%**
Experience (years)				
0 – 5	16%	14%	20%	**16%**
6 – 20	62%	60%	63%	**62%**
Above 20	22%	26%	17%	**22%**
Total	**100%**	**100%**	**100%**	**100%**

Source: Field data (2021)

4.2 Value Chain Development of the furniture industry in Dar es Salaam, Dodoma, and Tanga

The findings in Figure 2 show that an average of 64.7% (Temeke 48.7%, Dodoma 53.1%, and Handeni 92.4%) of respondents in the study area invest up to 5 million, while the remaining 35.3% (Temeke 51.3%, Dodoma 46.9%, and Handeni 7.6%) of respondents invest above five million up to 200 million. Furniture enterprises in Tanzania can be classified into three types based on their capital investments: micro enterprises with less than 5 million in investment, small enterprises with more than 5 million but less than 200 million in investment, and large furniture enterprises with more than 200 million in investment (Kessy et al., 2019).That means about 64.7% of respondents own micro furniture enterprises, 35.3% with small furniture enterprises and none of respondents own large furniture enterprises. The results are similar to those reported by Guadagno *et al*. (2019). Except for some relatively large firms which import and manufacture furniture for the domestic market, the majority of wood products and furniture producers are SMEs. The implication of these findings was that SMEs play a significant role in fostering the development of the country due to their contribution to economic growth and poverty alleviation (Kwang and Jan, 2011). This fact is also supported by Mhede (2012). SMEs form a significant component of Tanzania's industrial sector and they constitute the bulk of industrial employment as they are relatively more labor-intensive and less capital-intensive.

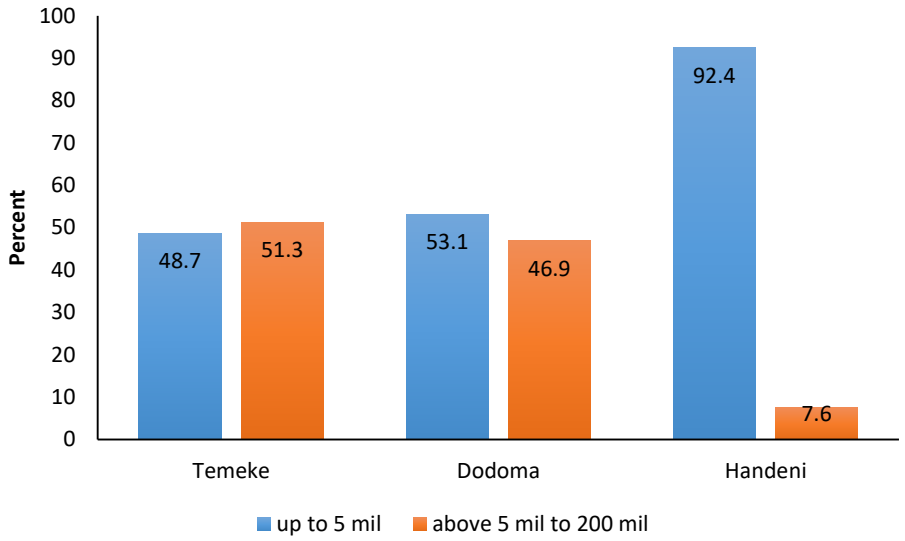

Figure 2: furniture enterprises investment

Source: Field data (2021)

About an average of 65.3% (Temake 50.9%, Dodoma 56.8%, and Handeni 88.2%) of respondents had 1-4 number of employees, and 34.7% (Temeke 49.1%, Dodoma 43.2%, and Handeni 11.8%) had 5-49 employees (Figure 3). These statistics show that most furniture enterprises have a minimum number of employees of 1 and a maximum of 4 employees, with the inclusion of the enterprise owner. Furniture enterprises with 1-4 employees are termed as micro enterprises, those with 5–49 employees are termed small enterprises, and those with 50 and above employees are large enterprises (Mhede, 2012). According to Figure 3, an average of 65.3% of respondents own micro enterprises, while 34.7% own small enterprises. The categorization of enterprises based on the number of employees in this study is roughly similar to that based on investment/capital.

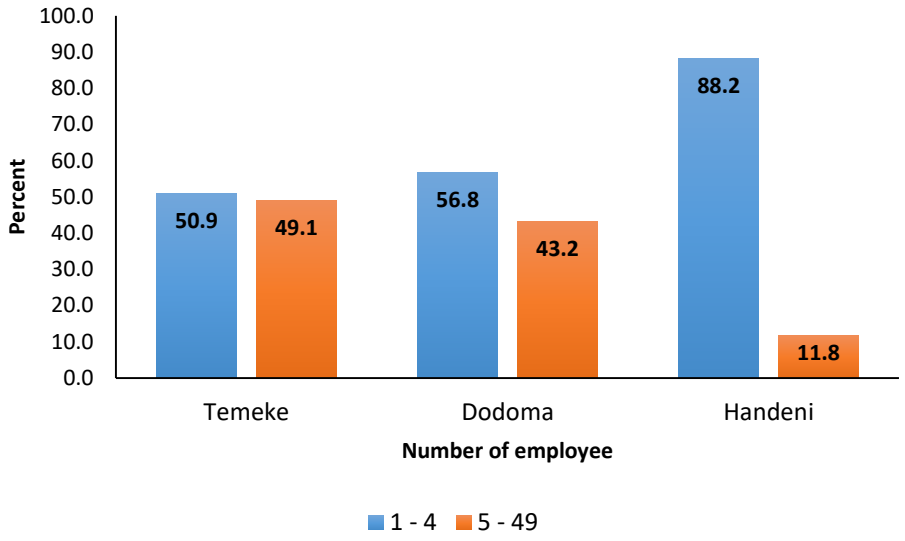

Figure 3: Number of employees in enterprises

Source: Field data (2021)

Figure 4, shows that an average of 69% of furniture enterprises obtain timber from timber yards, 27% get it from wild trees/domestic trees going by themselves to cut down trees for timber or cheaply bought from villagers, and 4% are those with permits from the Tanzania Forest Agency (TFS) to harvest government forest or/and Village Land Forest Reserves (VLFR's) for timber use. The findings imply that most enterprises tend to buy a certain amount of timber according to the tender/deal they do have at a particular time. For small and medium furniture enterprises, they mostly order the amount of timber based on the furniture intended to be made by that time (Gray, 2018). Although some of the enterprises' owners claim TFS for disallowing them to have a permit to harvest government forest and VLFRs, given only to timber yard owners even if they do meet all the demanded qualifications.

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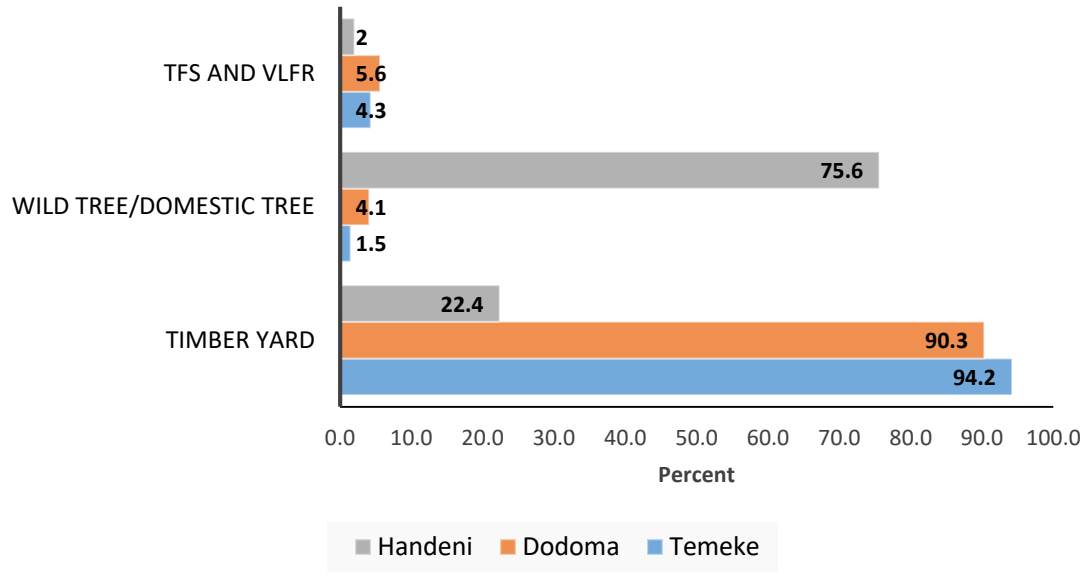

Figure 4: Source of timber for furniture enterprises

Source: Field data (2021)

Figure 5 shows that the most commonly used tree species for timber in Temeke and Dodoma were *Afzelia quanzensis*, *Pterocarpus angolensis* and *Eucalyptus spp.*, while in Handeni they were *Acacia nilotica* (Mberiti), *Combretum schumannii* and *Jurbenadia globiflora*. Also, the result shows the least used tree species were *Tectona grandis* (Teak) for Temeke, *Pinus spp.* (Pine) for Dodoma and *Artocarpus heterophyllus* for Handeni. *Afzelia quanzensis* and *Pterocarpus angolensis* were mostly mentioned in Temeke and Dodoma because most of the customers, even the government tenders, prefer furniture made from such trees. For some reason, the species are not easily available for timber in Tanzania, so the vendors tend to import such timber from Mozambique and Zambia.

Eucalyptus spp. were common in Dodoma and Temeke, coming from different regions such as Tanga, Morogoro, Iringa, Tabora, Singida, and Kigoma. On the other hand, *Tectona grandis* does not get much attention and is only mentioned once in Dar es Salaam. The specie is lesser known, although the government is trying to convince people to use it to discourage the use of species from the natural forests. There is also an effort to influence more people to plant such species, but still, the timber from *Tectona grandis* is less prioritized in furniture making.

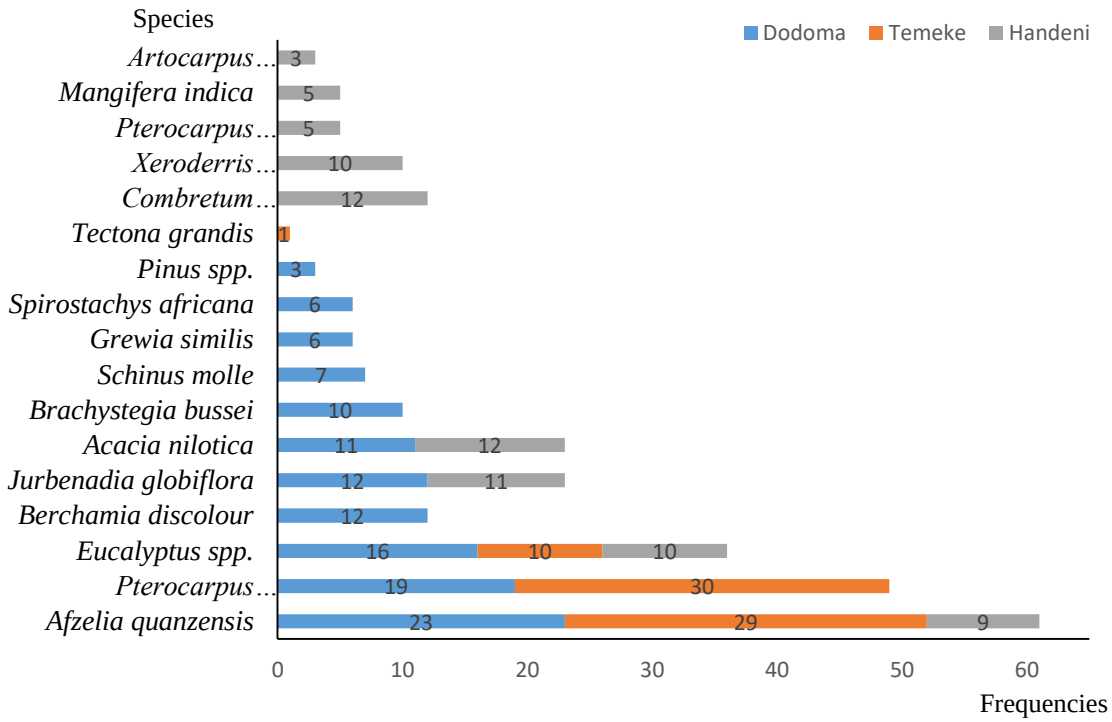

Figure 5: Distribution of tree species used for timber across districts

Source: Field data (2021)

Results in Table 2 show that the highest number of respondents in Temeke export furniture to Comoro (14) and Mozambique (9). Dodoma exports its own furniture to Burundi. Handeni are exporting furniture to Comoro island (9) and Kenya (3). The furniture was mostly exported to Comoro from Tanga and Dar es Salaam through the Indian Ocean by using Ark and cargo ships. This is also supported by a study done by Mhede (2012) arguing that some furniture enterprises located in the Keko cluster reported selling products to customers from Comoro Islands. Exportation to the other mentioned countries was done by road and railway transport. So far, the amount of furniture exported is said to be very small, which implies that furniture manufacturing firms in the study sites are mostly targeting the domestic markets. However, some concerns were raised by respondents about increased competition within the domestic furniture market because of growth in the number of domestic producers as well as an increase in the number of imports.

Table 2. Countries importing furniture from study area

Districts	Countries	Frequencies
Temeke	Comoro Island	14
	Mozambique	9
	Malawi	8
	Burundi	5
	Kenya	5
	Uganda	5
	Rwanda	4
Dodoma	Burundi	1
Handeni	Comoro Island	9
	Kenya	3

Source: Field data (2021)

As reported in Figure 6, different opinions were pointed out on reasons for why people prefer imported furniture rather than domestic furniture. Results from Temeke, Dodoma, and Handeni, show that about 47% of respondents reported the high cost of domestic furniture compared to imported ones. The rest do not prefer domestic furniture due to poor design (10.2%) and some (13.6%) due to both poor design and high cost. While 11.1% of respondents had no reason, only 18.4% preferred domestic over imported furniture. The high cost of domestic furniture seemed to result from high manufacturing costs incurred by local furniture producers. The cost stemmed from several reasons, including the high cost of raw materials, poor technology, poor power supply, poor infrastructure, as well as hostile taxation and levy. The reasons revealed appear to be consistent with those reported by Clement (2013), who discovered that the high cost of local furniture was due to higher raw material costs and the low technology used by local producers. Poor design for domestic furniture appears to be affected by lack of innovation, deficiency of training and exhibition to improve skills, as most local producers acquire their skills through learning by doing instead of technical education. Some of the respondents' 18.4% strike down the statement "people prefer imported furniture rather than domestic furniture" as they currently don’t face such a challenge when their products are sent to the market. As for those in village areas, imported furniture is not accessible, hence only locally-made furniture exists. In urban areas like Dar es Salaam, some enterprises purchase Medium-Density Fiberboard (MDF) (Abdallah and Masaka, 2018) and manufacture the inventions likely to be imported. They are thus not troubled by imported furniture.

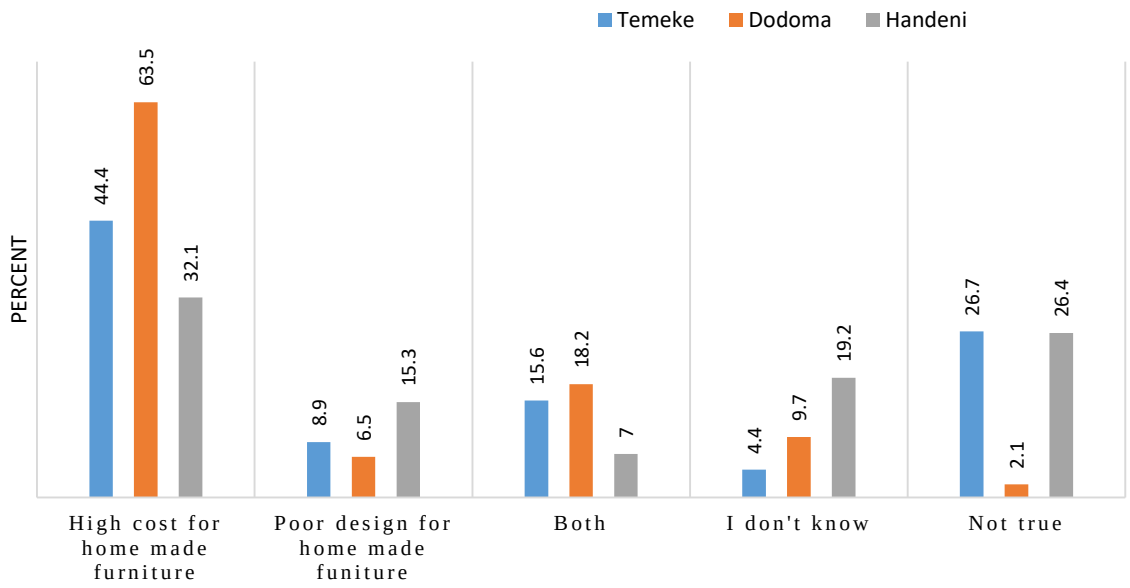

Figure 6: Opinions for why people prefer imported furniture rather than domestic one

Source: Field data (2021)

4.3 Supportive functions for furniture Industry

Most of the respondents in Temeke (61.4%), Dodoma (79.7%) and Handeni (95.9%), as presented in Figure 7, said the infrastructure available in the study area is not friendly to their work and the remaining 38.6% in Temeke, 20.3% in Dodoma, and 4.1% in Handeni, admit infrastructure is not a problem. Diverse infrastructures were included in the discussion, such as roads, electricity and communication systems. The issue of roads is a challenge for enterprises for transportation of furniture along the value chain, especially during the rainy season, which leads to a shortage of raw materials for furniture manufacturing. Unstable power supply (electricity) in towns and cities interrupts general operations during timber furnishing and manufacturing. Some villages are not connected

to the electric grid, challenging processing and other operations. In a separate study, Mhede (2012) identified poor infrastructure as one of the great challenges facing the furniture industry in Tanzania.

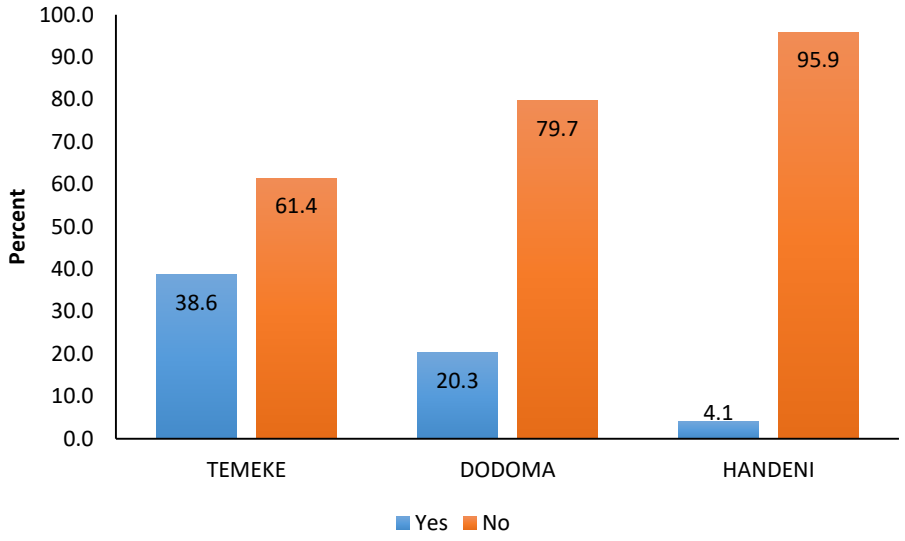

Figure 7: Responses by districts on infrastructure to support furniture business

Source: Field data (2021)

Figure 8, shows that an average of 80.1% have not attended training and/or exhibitions in the study area, while 12.7% of respondents had no idea if there had been any training and/or exhibitions open for them before and currently. Only 7.4 of respondents attended training offered within their area, and it was by FORVAC for Handeni district and National Microfinance Bank (NMB) in Dodoma. The findings imply that a large number of furniture producers lack training to improve their skills so that they can have an impact on the national and international market. Training and extension services are vital for improving skills and capacity for small industry workers (Guadagno *et al*., 2019).

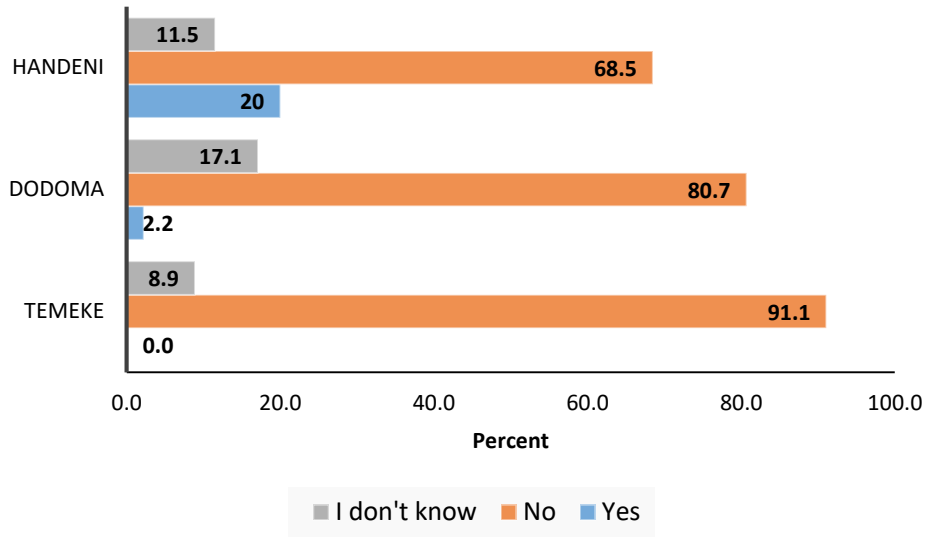

Figure 8: Training and/or exhibition available

Source: Field data (2021)

The study focused on diverse information such as tenders, raw materials, training, and capital/loan access. Figure 9 shows that an average of 74.3 respondents had gotten hold of useful information concerning their business, while 25.7% had not reached any of the information concerning the business. The findings show that the information given to the furniture producers was about law materials 63.1%, tenders 26.3%, and training 10.5% (figure 10). It implies that most of the timber vendors are active in informing their customers about timber arrivals so as to maintain and improve their customer base. Also, the result shows there is at least a good relationship between furniture producers as they occasionally share tenders. The information about training and/or exhibition is in minor percentage, meaning that the amount of training offered to furniture producers is too small and can only be reached by a few people.

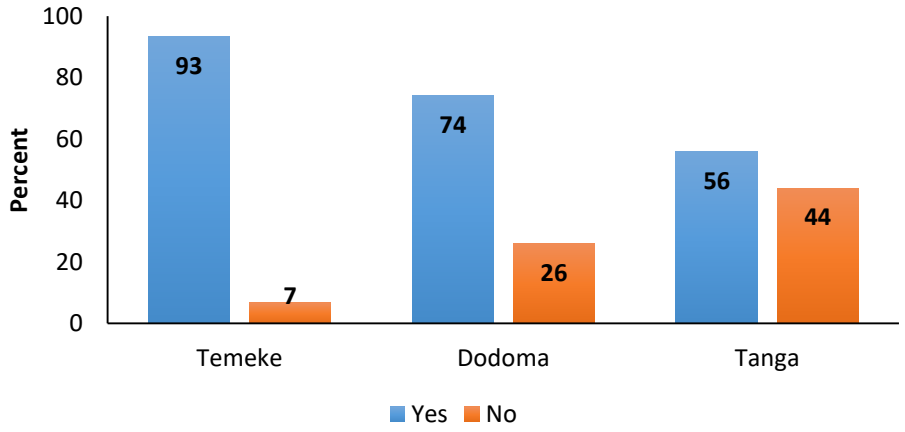

Figure 9: Responses on the availability of information about the business by districts

Source: Field data (2021)

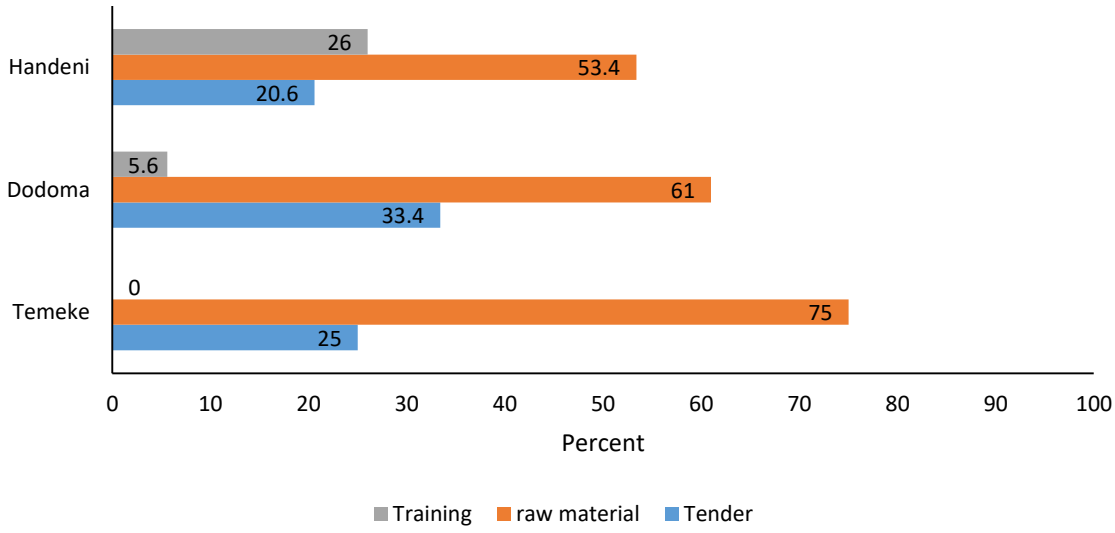

Figure 10: Kind of information's obtain across districts

Source: Field data (2021)

About an average of 58.4% of respondents have access to financial services, while 41.6% of respondents are without access to financial services (Figure 11). Accessible financial services include loans and money saving. Services are from banks (NMB, CRDB, NBC, and Postal Bank) and mobile money services. Of the respondents having access to financial services, 72.6% had access for money saving, 7.7% had access for loans and 19.7% for both access to loans and saving money (Figure 12). Having a small capital (less than 5 million) makes most of them use only mobile money services, making it difficult for them to access loans and use only for saving money through M-pesa, Airtel money, Tigo Pesa, and Halo Pesa. Also, most of the rural areas had not been reached by bank services, hence their only option remained to use mobile money services. Sites with bank services still most of woodworker the only bank service they do access is money saving. The issue of loans has become challenging with a lot of processes and conditions to meet, which dissatisfy them for taking loans, making opportunities for only a few of them. Although during focus group discussion, the point was raised that they lack awareness of bank services, they wish bankers could reach out in their areas and offer knowledge about bank issues.

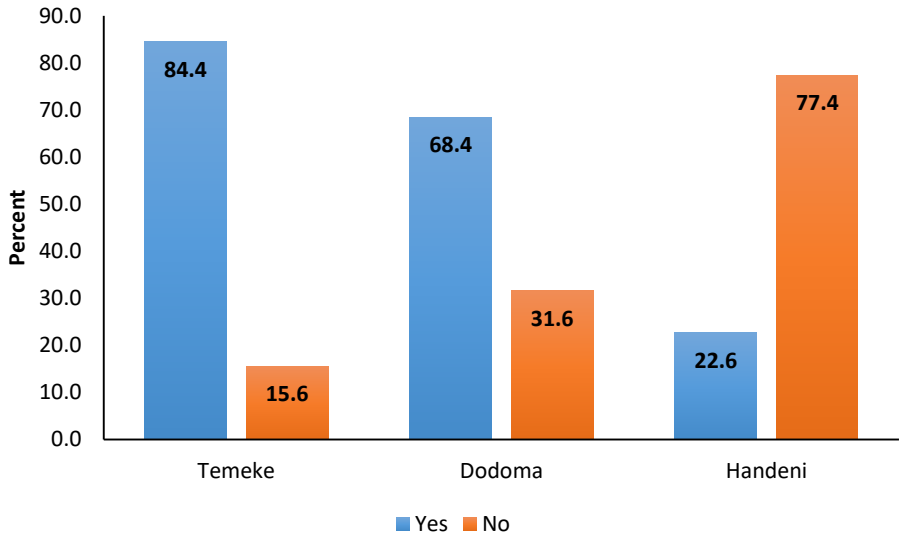

Figure 11: Responses on the availability of financial services by districts

Source: Field data (2021)

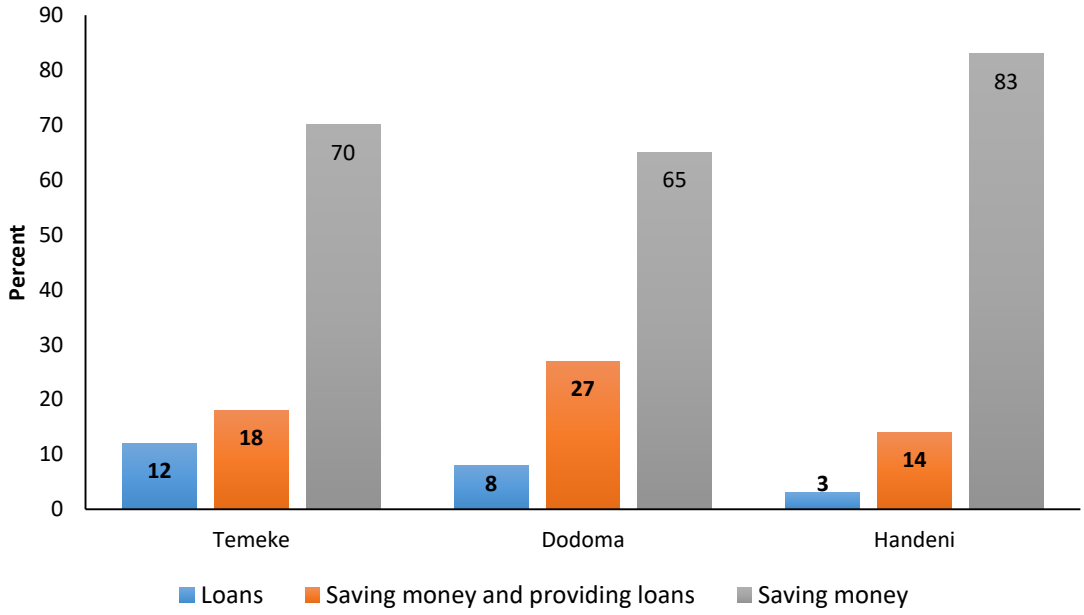

Figure 12: Distribution of available financial services across districts

Source: Field data (2021)

4.4 Business environment of furniture industry

The study examined the business environment regarding rules and regulation available through awareness and compliance. It was found that, an average of 85% respondents were aware of the available rules and regulations which guide the furniture industry, while 15% were not aware (Table 3). For those who were aware, only 18% of respondents complied with the rules and regulations, and 82%, go against them. Different rules and regulations guiding furniture enterprises are enforced by Tanzania Forest Agency (TFS) for forest policy 1998, the Forest Act 2002, regulations 2004, and government notices, as well as district councils for district by-laws of a particular area and the Tanzania Revenue Authority (TRA) for tax collection. The majority of the respondents seemed to be aware of those rules and regulations, but among those few respondents, those rules and regulations were complied with. Respondents blame the available rules and regulations for not being friendly to their business since they consist of many taxes to pay (too costly) and if you can afford the cost, there are still many processes that take time. That's why they are still running their business illegally. Others said they are not aware of the reasons why they collect all those fees and taxes. They need clarification on the use of collected taxes, fees, and levy.

Table 3. **Awareness and compliance for rules and regulation**

	Temeke		**Dodoma**		**Handeni**	
Response (%)	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Awareness	98	2	88	12	69	31
Compliance	18	82	28	72	9	91

Source: Field data (2021)

4.5 Influence of enabling environment and supportive function

The multiple regression model was used to determine the influence of the enabling environment and supportive functions on production in the study area. The model summary (Table 4) shows that, the independent variables fit well in the regression model (R^2= 0.949). The fitted model explained 94.9% of the variation (enabling environment and supportive function) in the furniture industries' production across. The R and adjusted R square of 0.974 and 0.944 respectively reveal the correlation between production and explanatory variables.

Table 4. Model summary for the influence of enabling environment and supportive function on production

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.974	.949	.944	0.239

Source: Field data (2021)

The model revealed ANOVA results as follows: with an F value of 178.663 estimated at 7 and 67 degrees of freedom and a standard error of 0.239, giving a p value of 0.000 (Table 5). This implies that at a significant level of 5%, the explanatory variables are statistically significant in explaining the production in the furniture industry.

Table 5. ANOVA for the influence of enabling environment and supportive function on production

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	6 808 154.189	7	972 593.456	178.663	.000
Residual	364 729.757	67	5 443.728		
Total	**7 172 883.947**	**74**			

Source: Field data (2021)

Table 6 summaries the enabling environments and supportive functions influencing production in the furniture industry. The results show that some explanatory variables (information, rules and regulation, financial services, and infrastructure) significantly influence the production of furniture. Of the five independent variables used in the model, four variables are significant at a 5% significant level (α).

Table 6. Multiple regression results for the influence of enabling environment and supportive function on production

Model	B	Std. Error	Beta	t	Sign.
(Constant)	.996	.261		2.986	.002
Information	.197	.074	1.020	8.888	.000*
Rules and regulation	.166	.098	.134	3.487	.001*
financial service	.475	.053	.084	2.390	.020*
Infrastructure	.177	.061	.124	1.103	.004*
Training/exhibition	-.035	.038	-.021	-.700	.486^{+}

*=Statistically significant at α = 0.05; + = statistically not significant at α = 0.05

Source: Field data (2021)

4.5.1 Information

The results in Table 6 suggest that, the amount of information an enterprise owner receives has a significant positive influence on production ($p<0.05$). That means the production value will be 1.020 times greater for every addition of information about the business. The findings imply that for a woodworker to increase production, they must receive information related to the work. This could be about tenders, raw materials, or training. The outcome is similar to that of Gereffi and Fernandez-Stark (2016), who stated that the industry's output will be determined by the number of tenders received from customers.

4.5.2 Rules and regulations

The findings in Table 6 show that rules and regulations significantly influence production positively ($p<0.05$), which means respondents who work under legal conditions will have an additional production rate of 0.134 more than those who work under illegal conditions. This is due to the fact that those working under legal conditions will be working free with no disturbance and supported by the government, also be the ones who receive all the government tenders when they appear, hence their production rate will become superior to that of those working under illegal conditions.

4.5.3 Financial service

Having access to financial services significantly influences positively the production of furniture ($p<0.05$). The finding in Table 6 shows that those who are able to access financial services like loans and money saving have an advantage in production rate of 0.084 over those who are not. This implies that enterprise owners with access to financial services

will be producing more furniture than those who don't have access to financial services under ceteris puribus. Furniture producers with access to loans have a chance of improving their investment in terms of machinery, adding efficiency in production, as explained by Held *et al*., (2017).

4.5.4 Infrastructure

The results in Table 6 reveal that infrastructure influences production of furniture positively and significantly ($p<0.05$). The findings show that enterprises located in areas with friendly infrastructure will have an additional rate of 0.124 in production than those working in areas with unfriendly infrastructure**.** The findings imply that having supportive roads and railways, reliable power supply, and improved communication systems boost the efficiency of furniture production; being in areas with unsupportive infrastructure lowers the production efficiency of furniture industries (Mhede 2012).

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The general objective of this study was to analyze the market system of the furniture industry in Tanga, Dar es Salaam, and Dodoma. The specific objectives of the study included (a) examining the value chain development of the furniture industry, (b) analyzing the supportive functions of the furniture industry, and (c) assessing the business environment for the furniture industry. Below are the conclusions that have been made based on the findings:

For value chain development, the findings revealed that core activities of production in the furniture industry are mostly undertaken by men aged between 31 and 50 years. Also, the study shows only 17% of furniture producers had attended technical education, the remaining 83% with secondary or primary education, while others failed to attend formal education at all. Most of them held experience ranging from 6 to 20 years. The industry is dominated by micro enterprises (investing up to TZS five million with 1-4 employees) followed by small enterprises (investing above TZS five million up to 200 million with 5-49 employees). The main source of timber for them is from timber yards, and preferred tree species include *Afzelia quanzensis*, *Pterocarpus angolensis*, *Jurbenadia globiflora*, *Eucalyptus spp,* and *Acacia nilotica* depending on the site and its availability. One of the great challenges facing the industry is Chinese furniture importation, which has been preferred by some Tanzanians due to its lower cost and upright design compared with domestic furniture. With the importation challenge still standing, the industry had a chance

to export its products to some parts of Africa, including Comoro Island, Mozambique, Uganda, Rwanda, Kenya, Burundi, and Malawi.

The study's result on analyzing supportive functions for the furniture industry revealed that the industry had a deficit in training and exhibition for the improvement of skills of local furniture producers so as to lift up the industry. Also, the industry faces the challenge of infrastructure, especially roads, which are important for the transportation of raw materials (timber) from the source to the manufacturing area, as well as taking furniture to customers. The other infrastructure challenge is insufficient and unstable power supply (electricity) to the furniture production area, which reduces production efficiency. This study's findings show that the flow of information to furniture producers is open mostly to raw materials from timber yard owners but also least on tender and training from fellow producers. A large number of local furniture producers had access to financial services from their banks and mobile money services, but the most commonly used service is money saving, with few qualified to have access to loan services.

In terms of the business environment (rules and regulations), the findings show that although there is awareness of government rules and regulations guiding furniture enterprises enforced by TFS (policy, act, regulation, and government notice), district council (district by-laws), and TRA (tax collection), the lack of effective cooperation and mutual understanding between the government and the enterprise owners has resulted in poor compliance with these rules and regulations, blaming they are not friendly to their business, resulted to loss of government revenue.

5.2 Recommendations

Behind the observations revealed in this study, the following recommendations are made so as to lift-up the furniture industry:-

i. For the positive direction of the furniture industry, it is important to make investments in infrastructure, such as roads, railways, electricity, and communication systems, without which no modern furniture industry can develop. This will allow easy transportation of raw materials such as timber from the source to the manufacturing areas, as well as take products to customers/marketplace. Having a reliable source of power (electricity) will boost production efficiency as most of these SMEs depend on electricity from the main utility grid with no guarantee of its availability.

ii. This study recommends supporting furniture industrial growth by providing the relevant knowledge and business skills through training and exhibition programs. For local producers to become competent nationally and internationally, it is important for the government and other stakeholders to invest in building the skills and capacity of domestic producers to be able to manufacture furniture at the same level or above that imported. Also, the government should ensure the effectiveness of institutions providing technical and vocational training to woodworkers, such as the Vocational Education and Training Authority (VETA), so as to produce nationally and internationally competitive graduates.

iii. Access to finance is another challenge that enterprises regard as serious in preventing the development of the sector. Commercial banks and other financial

organizations are generally perceived as being too bureaucratic. Besides, enterprises struggling to meet banks' demands to access loans as being too costly to obtain. The government should assist the industry with grants and an easy way to access loans so as to improve their business in multiple aspects, such as machinery, since the majority of furniture processing activities are still done by hand, reducing production efficiency as it is time-consuming, e.t.c.

iv. Given the fact that timber is the vital raw material for the industry, accessing local timber has become tough due to the high tax burden. The industry faces a forestry levy, a levy imposed by the Ministry of Natural Resources (MNRT) and enforced by TFS, together with levies at the village and district council level. The outcomes are the high cost of domestic furniture compared to imported furniture, and some woodworkers reportedly import timber from neighboring countries (Mozambique, Zambia, and Congo) as it costs less than accessing local timber, despite Tanzania's having a huge potential as a source of wood and timber. This kills our country's economy and improves that of our neighbors. It is important for the government to come up with new tax settings which will be friendly to the industry in accessing local timber. This will lower furniture costs and make use of our own timber rather than importing it.

v. On policy implications from the findings, the study recommends having a policy which will make key priorities on technology, product quality (skills and capacity), monetary support for enterprises (finance), innovation, lower operational costs (taxes, levies), and promote exports. With regard to our home

environment, the study recommends that the government may use the industrial policy tools in support of the wood and furniture industries of Vietnam directed to supporting the growth of forest plantations, encouraging investments, promoting exports, diversifying and moving up the value chain, and attracting foreign direct investment.

5.3 Limitations to the Study

Though the research findings and conclusions are not altered, it is important to highlight some of the limitations that came across the study. First, the study was conducted in three regions, one district only from each region. Hence, it does not examine other districts within the studied regions or other regions so as to see if there are any district/regional differences for furniture enterprises in Tanzania. Second, as with most surveys, the study only captures the situations as seen during the interviews, despite the fact that additional similar recorded data was provided by the sampled respondents. Last, it's possible that some of the furniture enterprise owners and other woodworkers didn't provide their real thoughts during the interviews as they considered some of the questions as sensitive. In spite of that, this group was slight and we assume these sensitivities didn't affect the general research findings and conclusions.

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APPENDICES

Appendix 1: Questionnaire for local furniture producers

A. General information

Name of respondent……..Name of interviewer……

GPS Reading……..

Region	District	Division	Ward	Village	sex	Age	Date

B. value chain development

1. What is your experience on manufacturing the furniture's?
   a. 0 – 5 years
   b. 6 – 20 years
   c. More than 20 years
2. How many employees (including you) do you have?
   a. 1 – 4
   b. 5 – 49
   c. 50 – 99
   d. 100 and above
3. Where do you get raw materials (timber)?
   a. Timber yard
   b. Direct from Forest growers
   c. Own plantation
   d. Others (specify)
4. What types of tree species used for furniture manufacturing?
5. What amount of raw material (timber) are you demanding per month?
6. What are the varieties of furniture are you producing?
7. What types of customer do you have? rank in order (institution, home use etc)
8. What varieties are mostly sold? And of what size? (if there is any size variation)
9. How many mentioned (8) above varieties are sold per month?
10. What amount of timber is consumed for making single product of most sold product?
11. Do you think, why people prefer imported furniture than locally made furniture?
12. How much capital of your currently business investment?
    a. Up to 5 mil.

b. Above 5 mil to 200 mil.
c. Above 200 mil to 800 mil
d. Above 800 mil

C. Supportive functions

13. Are the infrastructure (roads) available friendly to support your work?
    a. Yes
    b. No
14. Is there any training/exhibition provided to build your skills or capacities for your work?
    a. Yes
    b. No
    c. I don't know
15. If yes from whom?
16. How many training/exhibition do you attend per year?
    a. 1 – 5
    b. 6 – 20
    c. 21 and above
17. Is there any information about the business you are receiving?
    a. Yes
    b. No
18. What type of information are you receiving?
    a. Tender
    b. Financial issues
    c. About raw material (timber)
    d. Training/exhibition
    e. Others (specify)
19. From whom?
20. Are there any financial service you are able to access?
    a. Yes
    b. No
21. If yes which services do you get?
22. Are these supportive function helpful for the industrial growth?

D. Business environment

23. Is there any of these, (i) policy (ii) standards (iii) informal rules and norms (iv) regulations (v) by-laws available, guiding your work?
    a. Yes
    b. No
24. If yes what are they among those?
25. Are you able to comply with any of those mentioned legal framework?
    a. Yes
    b. No – go to 26
26. If no why?
27. Are the available legal frame work helpful?
    a. Yes - go to 28
    b. No - go to 29
28. If yes how do they help?
29. If no why?
30. Do you think there are (i) policy (ii) standards (iii) informal rules and norms (iv) regulations (v) by-laws available that conflict in relation to manufacturing industry? If yes, what are they?
31. What are the incentives and disincentives for legal timber manufacturing industry?

Appendix 2: Guiding questions for focus group discussion

Name of the district …….

Date …….

1. Is there any legal framework available guiding furniture manufacturing firm in your area?
2. Who is responsible for supervision of those legal framework?
3. Are those legal framework help the industry to grow?
4. What challenges do you face when complying with those legal framework?
5. Is there any seminar/training/exhibition provided to make you familiar with those legal framework?
6. What are your suggestion toward available legal framework?

Appendix 3: Checklist for key Informants

Name of the district…….

Respondent full name…….

Occupation …….

1. What are the legal framework guiding furniture manufacturing firm in this area?
2. Who is responsible for supervision of those legal framework?
3. What challenges do you face resulted from legal framework when you are working with these woodworkers?
4. How do you overcome those challenges?
5. Are those legal framework help the industry to grow?
6. What are your suggestion toward available legal framework?
7. What are other challenges facing furniture enterprises you are aware as one of your working area?
8. What do you suggest should be done in order to uplift the furniture industries in your area?

FCG