The Roles of the Small and Medium Enterprises along the Forest-Based Value Chain in Ruvuma Region, Tanzania

Doreen Kanule Rubaratuka1, Jumanne Moshi Abdallah1, Lynder Gesase1 & Neema Mabure Kitasho1

1 Sokoine University of Agriculture, P. O. Box 3011, Morogoro, Tanzania.

* Author for Correspondence ORCID ID: https://orcid.org/0009-0005-7584-1263; Email: dorinekanule@gmail.com

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ABSTRACT

Small and Medium Enterprises (SMEs) contribute to the nation in both an economic and social sphere. However, the information on the roles which SMEs play in the forest-based value chains is inadequate. Therefore, the objective of this study was to assess the roles that Small and Medium Enterprises play along forest-based value chains in Ruvuma region. A cross-sectional research design was adopted where two districts (Songea urban and rural) were purposively chosen due to their forest value chain potentials and the availability of Small and Medium Enterprises. 120 enterprises/entrepreneurs were randomly selected and used in this study. Interviews and questionnaires were used to obtain primary data on entrepreneur demographic and socio-economic characteristics and the different roles they play along the value chain which included the market information, product pricing, business promotion, product packaging and value addition activities. Descriptive analysis was performed on the collected data where Microsoft Excel software was employed. The findings revealed that mobile phones were the most used means of obtaining and transmitting market information and business promotion, product pricing is done according to the entrepreneurs’ consideration, baskets were the major means of product packaging and value addition activities were carried out. The study concluded that the Small and Medium Enterprises do in fact play various roles along the forest-based value chain. These findings can be used as a basis for further research and knowledge provision to the entrepreneurs.

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CHICAGO CITATION


HARVARD CITATION


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INTRODUCTION

Small and medium enterprises (SMEs) are a staple in individual, communal and national development. According to Henderson and Weiler (2010), SMEs are one of the engines for any economic growth as they contributed to the employment, GDP, and in creating a more intense competitive environment. Also, SMEs play important roles in both an economic and social sphere such as activating innovation, upgrading the industrial structure, and alleviating social tensions by providing opportunities for self-employment entrepreneurship tendencies (Mempel-Sniezyk, 2014). Therefore, it can be stated that SMEs play a multitude of roles throughout different value chains in different fields/industries such as environmental, wildlife and even forestry which is the basis of this study. These roles may range from raw material sourcing to final product provision to the consumers.

Forest based sector or industry can be described as all activities which are involving the forests; however, the aforementioned is just a loose definition of the forest sector. The Forest Sector Outlook Study has defined the sector as to cover both, forest resources and the production, trade and consumption of forest products and services (Anonymous, 2005). These forest products include both timber and non-timber products such as plywood, lumber, sandal wood, voivoi, and tamarind to mention a few (Sacande & Parfondry 2018). In this sector especially with regards to SMEs, there are various value chains usually involving different players such as entrepreneurs, suppliers, distributors, investors and consumers, and these players usually have a myriad of activities(roles) which makes them to appear in various stages of the value chain.

Most available literatures such as those conducted by Lunati et al. (2008) ; Yuhua (2014), and Urata (2021) which were on the roles SMEs play in the forest-based value chains were focusing on enhancing and/or integrating these roles in the global value chains. However, these literatures were usually vague on the roles that these enterprises play in the value chain, with some literature such as Value chain management (Susanu et al., 2009) for SMEs going further on to point out that these roles have actually been neglected. With regards to the study area i.e., Ruvuma region in Tanzania there is inadequate information on the roles that these enterprises play in the value chain, with some literature such as Value chain management (Susanu et al., 2009) for SMEs going further on to point out that these roles have actually been neglected. With regards to the study area i.e., Ruvuma region in Tanzania there is inadequate information on the roles that these enterprises play in the value chain, with some literature such as Value chain management (Susanu et al., 2009) for SMEs going further on to point out that these roles have actually been neglected. With regards to the study area i.e., Ruvuma region in Tanzania there is inadequate information on the roles that these enterprises play in the value chain.

METHODOLOGY

Study Area and Target Population

Ruvuma region is situated in the Southern part of the country. The region extends between latitudes 9° 35’ to 11° 45’ South of Equator and longitudes 34° 35’ to 38° 10’ Meridian. Ruvuma Region borders the Republic of Mozambique in the South, Lake Nyasa in the West, Morogoro in the North and Iringa in the North East. It is also bordered by Mtwara Region to the West. It has a total of six districts which are Songea Urban, Songea Rural, Namtumbo, Mbanga, Nyasa, Tunduru. Ruvuma region was chosen due to its forest value chain potentials, the availability of the Small and Medium Enterprises and the presence of inadequate information on the roles that Small and Medium Enterprises play in their value chains. The target population of this study was the entrepreneurs who are engaged in entrepreneurial activities basing in the forest sector i.e., beekeepers; wood traders, wood carvers, and carpenters just to mention a few.
Study Design

Cross sectional research design was utilized for this study as the data for this study was collected only once. Purposive sampling was used in the selection of the two districts where the study was conducted i.e., Songea rural and urban. These districts were chosen due to their Forest value chain potentials and the availability of the Small and Medium Enterprises. The Purposive sampling was also employed in the selection of the entrepreneurs since this study only required the entrepreneurs who were engaged in the forest sector, and random sampling was used to obtain the entrepreneurs (respondents).

Study Sample Size

The study sample size was obtained by looking at various factors including the research topic, questions the research must answer, research population’s structure and access to the resources, and time to finalize the research (Daniela, 2020). In addition, the willingness and availability of the entrepreneurs and Kothari’s (2004) formula for sample size determination were also utilized;

\[ n = \frac{N}{1+N\epsilon^2} \]

Equation (1) is Sample size determination formula. \( n \) = Sample size, \( N \) = Population size which was 171 entrepreneurs obtained from the registry kept by Forestry and Value Chain Development Programme (FORVAC) business mentors, and \( \epsilon \) = Margin of error (0.05)

Therefore, the sample size was determined to be 120 forest-based entrepreneurs.

Data Collected and Analysis

Unstructured questionnaires and interviews were used to collect data on the roles of the SMEs. This data included the socio-economic and demographic information of the entrepreneurs which consisted of the nature and ownership of enterprises, age, gender, education level of the entrepreneur which gives us a detailed understanding of the entrepreneur and their enterprises. Also, the data included market information i.e., its sources, if they distribute it and the ways they use to transmit the information).
product pricing (how it’s done, if there is a pricing system and how it operates), product packaging, business promotion and value addition activities (if they are doing it and what are these activities) as they were identified to be the roles that the small and medium enterprises played along the forest-based value chain.

Descriptive analysis was used to analyse the aforementioned collected data where Microsoft Excel and SPSS 2020 version were employed. Since the data collected was nominal in nature, descriptive analysis was the best type of analysis for it; therefore, the data were first coded in order to be converted into their numerical counterparts which enabled their analysis to run smoothly and consequently enabling the results to be obtained.

RESULTS AND DISCUSSION

Demographic and Socio-economic Characteristics of Enterprise Owners/Entrepreneurs

The results showing age, gender, education level, employee number, and capital utilized to start the business venture were illustrated in Table 1. With regards to gender, about 54% of the entrepreneurs were female and this was due to the fact that most women were more inclined to start these businesses in order to provide for their family. In the age category, 69% of the entrepreneurs fell into the age range of 36-55 years old, this was because individuals who were around this age group were more drawn to entrepreneurship as a source of income. With regards to the education level, 64% of the entrepreneurs had reached up to secondary level. Another point of contention, with regards to the number of employees a majority of the entrepreneurs had about 1 to 4 employees working together with them in their entrepreneurial venture, this is because for most of the enterprises they are still at the earlier stages of production and trade; therefore, they not only don’t require a lot of man power but also don’t have the resources to hire more people at the moment. Finally, with regards to the capital utilized to start their businesses, 82% of the entrepreneurs used less than TZS 500,000 to start their entrepreneurial ventures and this was due to most of them actually obtaining the capital from their own pockets.

Table 1: Socioeconomic characteristics of the enterprise owners

<table>
<thead>
<tr>
<th>Social demographic variables</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>65</td>
<td>54</td>
</tr>
<tr>
<td>Male</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;18</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18-35</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>36-55</td>
<td>83</td>
<td>69</td>
</tr>
<tr>
<td>&gt;55</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary level</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>Secondary level</td>
<td>77</td>
<td>64</td>
</tr>
<tr>
<td>Tertiary level</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Number of employees in an enterprise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-4</td>
<td>100</td>
<td>83</td>
</tr>
<tr>
<td>5-49</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Initial Capital (Tshs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤500,000</td>
<td>98</td>
<td>82</td>
</tr>
<tr>
<td>500,001-1,000,000</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>1,000,001-1,500,000</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1,500,001-2,000,000</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>&gt;2,000,000</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Market Information for Enterprises Development

Market information is an integral part of any business operation. From finding places to source raw materials to finding places to sell the finished product, the market information comes into play. Therefore, this study assessed how the market information were obtained, if its distributed and
Sources of Market Information

This study investigated on how the entrepreneurs obtained their market information (i.e., the source of market information). 33.2% of the entrepreneurs responded that they used phones to obtain their market information, making it the most used source of market information. They used the phones to communicate with clients and other entrepreneurs through calls and text messages. This makes phones to be the most used source of market information, and it enabled them to receive the information quickly wherever they are. This coincides with studies such as those conducted by Baumuller (2015); Lillis and Mushi (2016); Nyagango et al. (2023) which stated that using mobile phones are the most used source of market information since they are quite efficient and as long as there is cell service they can be used anywhere. While 3% of the entrepreneurs stated that they use social medias such as WhatsApp and Instagram which makes it the least used source of market information since it required internet access and the use of smartphones to access it and most of the entrepreneurs didn’t have smartphones and lived in areas where there is no or low internet service.

Figure 2: Source of market information

Transmission of the Market Information Messages

This study went further on to inquire on whether the entrepreneurs participate in distributing the acquired market information to the other entrepreneurs and if they do which methods do they use to distribute the market information. 93% of the entrepreneurs stated that they do in fact participate in distributing the market information while the remaining 8% stated that they do not do it. As for the entrepreneurs who responded with yes, they went on to elaborate on the methods they use for the transmission of the market information. 75% of the entrepreneurs stated that they use mobile phones to distribute the market information since it facilitates easy communication with other entrepreneurs regardless of their distances making it the most used method for the transmission of the market information. While 4% of the entrepreneurs stated that they distribute the market information through meetings, gatherings, and seminars making it the least used method for the transmission of the market information, since fewer entrepreneurs used this method due to the meetings, gatherings, and seminars happening in intervals and not regular. These methods coincide with those mentioned in previous studies such as those conducted by Okillo-Obura and Matovu (2011) and Badi et al. (2022) which showcased the importance of market information and some of the ways which it is transmitted and obtained.
Product Pricing
Product pricing differs between entrepreneurs which is what creates competition between businesses. Also, product pricing was used as an attraction feature for any business since most of the times customers also consider the pricing of products when choosing where to buy the products/services they need. Therefore, this study, took a look on the methods the entrepreneurs use to allocate their prices, if there is a price allocation system, and how the price allocation system operates if it is present.

Price Allocation Methods
The entrepreneurs who were responding to the questionnaires mentioned a variety of methods they use in allocating the prices of their products and/or services. About 43% reported to allocate the prices of their products by looking at the seasons. This was due to the fact that some of the products are harvested seasonally for example honey and also there is seasonal customer influx for some of the entrepreneurs for example wood carvers, carpenters, wood renders and traders. This coincided with previous studies such as Panda and Saha (2013) and Gilbert et al. (2016) which stated that for many enterprises seasonality is a major factor which influences how they price their products. Both Customer demand and Profit generation had about 2.4% of the entrepreneurs responding as their method of allocating their prices making it the least used price allocation method amongst the entrepreneurs and this is just due to their preference. These price allocation methods coincide with those mentioned by the authors in previous studies such as Mastrobuoni et al. (2014), Haron (2016), Etana (2020), and Jain (2021).

Price Allocation System
This study went on to look at if there is an existing price allocation system. 56.7% of the entrepreneurs responded by saying that there is a price allocation, 42.5% of the entrepreneurs stated that there is no price allocation system and the remaining 0.8% stated that they have not yet established a price allocation system. Afterwards,
for the entrepreneurs that responded with a yes, they elaborated more on the systems that they use. About 85.3% of the entrepreneurs responded that they allocate their prices by collaborating with the other entrepreneurs which makes it the most used price allocation system. This is due to the fact that most of the entrepreneur, the type of entrepreneurial venture they carry out is in an area which has a large number of entrepreneurs who participate in the same type of venture. So, by collaborating with them to determine the minimum price they can sell their products makes them to have a fair chance at selling their products. While 1.5% of the entrepreneurs stated that they used the free-market system making it the least used price allocation system amongst the entrepreneurs and this is because most of them lack knowledge on this. These price allocation systems coincide with those mentioned by the authors in previous studies such as those conducted by Ochei (2014) and Bigambo et al (2023).

**Figure 5: Existence of the price allocation system**

![Price allocation system diagram]

**Figure 6: Price allocation systems**

<table>
<thead>
<tr>
<th>System</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal system</td>
<td>1</td>
</tr>
<tr>
<td>Free market system</td>
<td>1</td>
</tr>
<tr>
<td>Common market system</td>
<td>2</td>
</tr>
<tr>
<td>Collaborating with other entreprenuers</td>
<td>58</td>
</tr>
<tr>
<td>Meetings/discussion/group</td>
<td>6</td>
</tr>
</tbody>
</table>

**Business Promotion**

This study investigated on how the entrepreneurs promote their businesses by asking them “How do you promote your business or enterprise?”. The responses varied between them where about 49.1% of the entrepreneurs stated that they used their phones to promote their businesses, making it the most used means of business promotion since it was efficient and easy to connect with others. They used the phones to send information and pictures of the products they produced to the customers and other entrepreneurs both in Ruvuma region and outside the region. This coincides with previous studies conducted by Stojanovska et al. (2015); Milandru and Alexandrescu (2018), and Camarinha et al. (2023) which stated that communication through mobile phones plays a key role in promoting businesses. While about 2.3% of the entrepreneurs stated that they used other methods to promote their businesses such as exhibitions and local leaders and the remaining making them the least used means of business promotion since the exhibitions don’t usually happen regularly and as for the local leaders most of the promotions they do are during
meeting and these meetings don’t happen frequently. Also, about 1.2% of the entrepreneurs stated that they have not yet started promoting their businesses. The means of business promotion obtained from the entrepreneurs have been seen also in previous studies such as Abed et al. (2015); Dwivedi (2021); Ponachugin et.al. (2022); and Yulistiawana et al. (2023) which have showcased how entrepreneurs promote their businesses and boost their performance.

![Figure 7: Business promotion](image)

Product Packaging

This is an essential part of businesses especially those whose products can be packaged since packaging enhances the business’s attractive factor and boosts its performance. It was discovered that the entrepreneurs provided a variety of products which included mushrooms (both fresh and dried), wild tea leaves, bamboo products such as baskets, tooth picks and bamboo furniture, wooden carvings, honey, pollen, lumber, wooden furniture, firesticks (used to assist in igniting charcoal). However, it should be noted that not all of the entrepreneurs involved in this study carried out product packaging, therefore this concerned for the ones who actually do it which was about 82% of the total respondents/entrepreneurs. About 37.6% of those entrepreneurs stated that they use baskets to package their products since they were engaging in selling mushrooms at wholesale and retail and using baskets was the most efficient way of packaging the amount of mushroom they had. While 5% of those entrepreneurs stated that they used special packages/containers to package their products, and this was for mostly the entrepreneurs who were selling their honey at a more mainstream fashion. About 2.1% of those entrepreneurs stated that they had not yet started packaging their products but will in the future. These methods of product packaging not only increase the attractive factor and performance of the businesses but also enabled easy transportation of these products and provide a competitive edge to the entrepreneurs which coincides with previous studies which showcased how product packaging can influence consumer behaviour and perception (Rundh, 2009; Javed & Javed, 2015; Yeo et al. 2020; Chukwu et al. 2023).

![Figure 8: Methods used for product packaging](image)
Value Addition Activities

Value Addition activities are those activities which add value to the final product that is being produced and sold. This study investigated whether the entrepreneurs carried out these value addition activities and if they do, what are those activities. About 59.2% of the entrepreneurs responded yes with regards to carrying out value addition activities while the remaining 40.8% of the entrepreneurs responded no to carrying out the value addition activities. Of those who responded with a Yes, they gave a myriad of activities that they usually carried out. 35.1% of the entrepreneurs stated that they carried out preservation process and beehives addition which makes it the most used value addition activities, while 3.9% of the entrepreneurs responded that they added transportation after the customers have bought their products which makes it the least used value addition activities. These value addition activities coincide with those in previous studies conducted by Sathre and Gustavsson (2009); Chakravarty et al. (2015) and Asamoah et al. (2023) which have shown the importance of value addition activities to the value or worth of the final product and services and some of these activities and/or services.

Figure 9: Value Addition Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservation process and beehives addition</td>
<td>27.0%</td>
</tr>
<tr>
<td>Mushroom drying</td>
<td>23.0%</td>
</tr>
<tr>
<td>Colour, vanish and different designs</td>
<td>7.0%</td>
</tr>
<tr>
<td>Harvesting, and selling beeswax</td>
<td>6.0%</td>
</tr>
<tr>
<td>Proper Harvesting process</td>
<td>7.0%</td>
</tr>
<tr>
<td>Transportation</td>
<td>3.0%</td>
</tr>
<tr>
<td>Packaging</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

CONCLUSION

The entrepreneurs are seen to engage in various activities that assist in the delivery of the final product and/or service to the consumer. Therefore, they enable the facilitation of a smooth-running value chain in this forest sector. Consequently, it can be seen that these entrepreneurs have and play different roles in the forest-based value chains which include obtaining and transmitting market information, price allocation, business promotion, product packaging and carrying out value addition activities. This study has hence shown some of the different roles that the entrepreneurs who are involved in the Small and Medium Enterprises have and perform when it comes to the forest-based value chains. Therefore, this study has provided clarity on what some of the roles that the SMEs play, not limited only to the forest sector since the roles transcend to other sectors also.

Recommendations

Further studies should be done in order to expand the knowledge on the roles SMEs play along their value chains. More knowledge on how important and how to do business promotion should be provided to the entrepreneurs since it will significantly boost their businesses. Knowledge on value addition activities should be provided to the entrepreneurs in order for them to have more options on how they can increase the prices of their products and in turn their earnings can increase. More network towers should be installed especially in the remote areas in order to work out the network issues which hinder communication between the entrepreneurs. Entrepreneurs should be encouraged to develop price allocation systems in order to allow for a fairer market place especially with regards to the entrepreneurs dealing with the same product.

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