
A COMPARATIVE ANALYSIS OF MICRO, SMALL AND MEDIUM SCALE RICE MILLING ENTERPRISES' CONTRIBUTIONS TO ECONOMIC DEVELOPMENT IN NASARAWA STATE, NIGERIA

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ABSTRACT

This comparative analysis of micro, small and medium scale rice milling enterprises' contributions to economic development surveyed micro, small and medium scale rice milling enterprises in Nasarawa State. The major objectives were to evaluate their impacts on employment generation, income and poverty reduction in the study area. This study adopted descriptive and quantitative methods, using questionnaires, percentages and graphic analysis. The Structural Equations Model (SEM) was also employed in the analysis. The results showed that micro scale rice milling enterprises contributed to employment generation by 20% and to income generation by 24%, while the small scale rice milling enterprises contributed to employment generation, income generation and poverty reduction by 83%, 8.3% and 4.2%, respectively. The analysis, therefore, concluded that micro scale rice milling enterprises contributed more to income generation than small scale rice milling enterprises in Nasarawa state, while small scale rice milling enterprises contributed more to employment generation and poverty reduction than micro scale rice milling enterprises in Nasarawa state. Therefore, government policies towards income generation should target micro scale enterprises to reduce income inequality, while small and medium scale enterprises should be supported when the focus is employment generation and poverty reduction in the economy.

Keywords: Economic development; Employment; Income; Poverty

JEL Classification: D31, E24, I32, N37, O10, O12, O13, O14, O17, P42, P46

INTRODUCTION

Nigeria's independence in 1960 marked a turning point in the growth and development of Micro, Small and Medium Enterprises (MSMEs) in the country. There was a national recognition of their role in fostering economic development and thus has been one of the major policy thrusts of most governments. This is also due to the awareness that they are vehicles for rapid industrialisation, wealth creation, resource utilisation, employment generation, and poverty reduction. According to Ekhator (2001) MSMEs are the solid base for a country's socio-economic development and they make tremendous contributions in enhancing the quality of

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life of the people as well as the economy.

The MSME sub-sector in Nigeria is made up of a heterogeneous group of businesses usually operating in trade, services, and agricultural and manufacturing sectors. They include a lot of businesses like craft making, restaurants, crop production, livestock rearing, and food processing, among others. Within the agricultural sector (which comprises mainly of MSMEs), there is an increased utilization of local raw materials. Moreover, these enterprises, which constitute the overwhelming majority of private business concerns in Nigeria, contribute to the economy in terms of output expansion, income redistribution, production of primary goods and promotion of indigenous technology to strengthen industrial linkages.

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2010) reported the contribution of MSMEs to Nigeria's Gross Domestic Product (GDP) in 2009 at about 37%, making it the second largest contributor after the oil sector. Eniola (2014) highlighted the crucial role of MSMEs in serving as a source of income and also in providing employment opportunities to men and women in the country, thus causing an improvement in the welfare of individuals, and contributing to economic growth, and poverty reduction. He further described the sub-sector as an antidote for rapid socio-economic development as it has also encouraged indigenous entrepreneurship, regional economic balance through industrial dispersal, including rural entrepreneurship and economic development.

A major indicator of economic development in Nigeria is the Human Development Index (HDI) which encapsulates variables like the standard of living, knowledge (literacy rate) and longevity (life expectancy). The statistical update of United Nations Development Programme (UNDP) for 189 countries assessed in 2017 shows Nigeria at 157th position, with a value of 0.532 placing the country in a low human development category. Poverty level has been on the increase from 28.1% in 1980 to 39.2% in 1992 and further to 60.9% in 2010 (National Bureau of Statistics, NBS 2012). The World Bank (2018) report shows the poverty level of Nigeria at 69.7% in 2016 and 70% in 2017. Nasarawa state ranked 20 out of the 36 states in Nigeria (World Bank, 2014) and in 2019 the poverty headcount was 57.3%, further dropping the ranking to 24 (NBS, 2019). Unemployment in Nigeria, on the other

hand, was 13.4% in 2014 and rose to 25.7% in the third quarter of 2018 as reported by the National Bureau of Statistics (NBS, 2019). In Nasarawa state the level of unemployment rose from less than 10% to a high of over 38% within the period of 1990 to 2011 (Nyong, 2013) and by the end of 2020 was recorded at 29.83% (NBS, 2020). The World Bank (2014) poverty report presented Nasarawa state ranking 20 out of the 36 states in Nigeria and as at 2019 the poverty headcount rate in the state was 57.3%, further dropping the ranking to 24 (NBS, 2019).

The national recognition of the value of rice in Nigeria and the effort of government to increase local rice production in order to make the country self-sufficient has given entrepreneurs in the rice milling industry an opportunity to improve their welfare and contribute to employment generation. According to the Agricultural Transformation Agenda (ATA, 2013), the annual rice demand in Nigeria was estimated at 5.2 million metric tons (MT), of which about 3.3 million MT of milled rice was produced locally, leading to a demand supply deficit of about 2 million MT that was filled by imports. Nigeria, therefore, spends over NGN 356 billion (USD 2.2 billion) importing rice annually, that is NGN 1 billion (USD 6.2 million) every day (Akinwumi, 2013). Rice importation exports jobs from Nigeria, depresses local production, and is unsustainable given the rising demand for rice in the country, which was put at 6% increase per year. In 2013, the federal government commissioned the second largest rice mill in West Africa, set up by Olam Nigeria Limited in Nasarawa State where rice grows well in the three senatorial zones. The rice growing communities in the state are supported by Olam with group formation and training programmes in order to encourage micro, small and medium (MSM) scale rice farmers and millers around the state. The choice of Nasarawa state for this study is because it is one of the states that the federal government picked to achieve the Rice Transformation Plan (RTP), which is one of the target commodities value chain by geopolitical zones of the Agricultural Transformation Agenda (ATA) in Nigeria.

Despite the recognition of the potential of MSMEs by the government, there has been little evidence of growth as the contribution of these enterprises to economic development cannot be readily ascertained. Therefore, there is a need to evaluate the extent to which each category of enterprise (micro, small and medium) has

contributed to economic development in the state. Furthermore, a study on rice milling as a value added enterprise has not been assessed in Nasarawa state. This is imperative since government has through the ATA and subsequently the RTP shifted focus to this area for economic growth and transformation. It is against this background that this study investigates the impact of rice milling MSMEs on economic development in Nasarawa state using employment generation, income generation and poverty reduction as tripartite indicators of economic development. In doing so, the paper has been divided into six sections, with section one being introduction followed by sections two, three and four being literature review, an overview of Micro, Small and Medium Enterprises (MSMEs) in Nigeria and methodology, respectively. Section five is results and discussions while section six is conclusion and recommendations.

LITERATURE REVIEW

Conceptual Review

Concept of Micro, Small and Medium Enterprises (MSMEs)

In Nigeria, the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN & NBS, 2017) survey defined micro, small and medium enterprises as those enterprises whose total assets (excluding land and buildings) are less than Five Million Naira; above Five Million Naira, but not exceeding Fifty Million naira; and above Fifty Million Naira, but not exceeding Five Hundred Million Naira, respectively. In addition to the asset criterion, enterprises with a workforce not exceeding ten employees; above ten, but not exceeding forty-nine employees; and between fifty and one hundred and ninety-nine employees, are defined as micro, small and medium enterprises, respectively.

The Concept of Economic Development

Economic development according to Tata and Schultz (1988) is the improvement of the economic and social condition of the masses and entails a substantial reduction of poverty, ignorance, disease, hunger, unemployment, oppression, injustice, corruption etc. Seers (1969) stated that the questions to ask about a country's development are what has been happening to inequality, unemployment and poverty? He stressed that if all three of these have declined from high levels, then development is said to have taken place and if one or two of these central problems

have been growing worse, especially if all three have, it would not be regarded as development. Thus, for development to be said to have taken place, increase in output has to positively affect the life of people within the economy. In this study, therefore, economic development is a situation where there is a consistent and sustained increase in employment generation and income generation, which in turn improves the quality of life of the people within the economy, thereby, reducing poverty.

Poverty is a condition in which individuals are faced with economic, social, political, cultural and environmental deprivation. It is a condition in which a person, household, community or nation is subjected to involuntary deprivation (Oba & Onuoha, 2013). Poverty and weak economic performance are the greatest challenges militating against Nigeria's transformation and development today. Jhingan (2010) defined employment as a situation where qualified people seek jobs at prevailing rates and can find them in productive activities without considerable delay. In other words, it is a situation in which everyone who wants to work gets work. This study sees income as an amount earned as a reward for labour, which can be expended on consumptions, savings and investments.

Theoretical Review

The free market economy theory as postulated by Smith (1776) relies on the widespread competition provided by new ventures and smaller industries to prevent the monopolistic distortions at large organizations. Entrepreneurial action stemming from self-sufficient philosophy is seen as the antidote to the adversity of joblessness and regional economic realignment. Small enterprises are seen as more democratic and responsive to society than large remote organizations following strategies of high growth.

The modernization theory of economic development propounded by Weber and explained by Rostow (1990) refers to a model of a progressive transition from a pre-modern or transitional society to a modern society as they adopt more modern practices. Developed countries had managed to move from this "traditional" society through industrial revolution, research and exploitation of technology that resulted in an increase in the productive capacities of their societies and creating the

conditions of modernity characterised by innovation, motivation, entrepreneurship, weaker kin relationships and not being enslaved by tradition.

The big-push theory of development developed by Rosenstein-Rodan (1943) states that a large comprehensive programme is needed in the form of a high minimum amount of investment to overcome the obstacles to development in an underdeveloped economy and to launch it on the path to progress. He emphasized on the need for the exploration of hidden potentials for economic development in less developed regions. This is necessary for enterprises to grow and hence address the issues of economic development.

Empirical Review

A number of studies examined the impact of small and medium scale enterprises (SMEs) on economic growth and/or development in Nigeria (Muritala, Awolaja & Bako, 2012; Eze & Okpala, 2015) or parts of the country including Ekiti State (Zacheus & Omeseni, 2014) and Anambra South Senatorial Zone (Anigbogu, Onwuteaka, Edoko & Okoli, 2014). The studies found that SMEs had a significant positive impact on poverty reduction, employment generation and improvement in the standard of living in Ekiti State (Zacheus & Omeseni, 2014) and Anambra South Senatorial Zone (Anigbogu, Onwuteaka, Edoko & Okoli, 2014). However, one study (Eze & Okpala, 2015) found that SMEs did not make significant contribution to Nigeria's economic growth performance, with the conclusion that poor government policies, bribery, corruption, non-existent entrepreneurial development centres and poor state of infrastructure act as impediments to the growth and development of SMEs in Nigeria. Other constraints hindering the growth of small and medium scale businesses in Nigeria are lack of financial support, poor management, lack of training and experience, poor infrastructure, insufficient profits, and low demand for product and services (Muritala, Awolaja & Bako, 2012).

The studies severally recommended access to funding at lower interest rates (Zacheus & Omeseni, 2014), the establishment by government of entrepreneurial development centres for capacity building (Eze & Okpala, 2015), the re-introduction of the small business credit scheme so that beneficiaries can use them to run the micro, small and medium enterprises (Anigbogu, Onwuteaka, Edoko & Okoli, 2014)

and assistance provided by government to prospective entrepreneurs to have access to finance and necessary information relating to business opportunities, modern technology, raw materials, market, plant and machinery, which would enable them to reduce their operating cost and be more efficient to meet the market competitions (Muritala, Awolaja & Bako, 2012).

Outside Nigeria, Erdin and Ozkaya (2020) investigated the contributions of small and medium enterprises to economic development and quality of life in Turkey using operational research and geographical information system. The results showed that the quality of life and socio-economic development had a very close relationship with the existence of investments and manufacturing companies. They recommended that the government should determine and implement a systematic action plan that is appropriate for its potential growth.

AN OVERVIEW OF MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs) IN NIGERIA

According to SMEDAN & NBS (2010), there were 17,261,753 micro enterprises, 21,264 small enterprises and 1,654 medium enterprises amounting to a total of 17,284,671 MSMEs in Nigeria. The subsector employed about 32,414,884 persons representing 66.45% of the total labour force. They contributed 46.54% of the country's Gross Domestic Product (GDP) and 2.6% of exports. As at 2013, the total number of MSMEs in the country stood at 37,067,416 enterprises, out of which 36,994,578 were micro businesses, 68,168 were small businesses and 4,670 were medium sized businesses. The report indicated that the number of people employed by the sector as at 2013 stood at 59,741, 211, which represented 84.02 % of the total labour force in Nigeria. The subsector's contribution to GDP in nominal terms was 48.47% and 7.2% of the total volume of exports (SMEDAN & NBS, 2013). In 2017, the number of MSMEs in the country was 41,543,028 comprising of 41,469,947 micro enterprises, 71,288 small enterprises and 1793 medium enterprises. The total contribution to GDP in nominal terms was 49.78% and the number of persons employed in the subsector stood at 59,647,954 persons representing 76.5% of the total workforce (SMEDAN & NBS, 2017).

A comparison of these survey reports reveals a steady growth in the MSMEs subsector in terms of their number and contributions. It is, however, worthy to note that the number of medium scale enterprises had dropped significantly from 2013 to 2017, and their contribution in employment, as a percentage of the country's labour force, had dropped despite the increase in the number of people employed. The FSS 2020 SME sector report (CBN, 2007), had projected that SMEs will increase contribution to employment, national income generation and export revenue as well as raise manufactured exports to 10% by 2010, 20% by 2015 and 25% by 2020. The projection for export revenue has not been met as contribution to exports remain below 10% in 2010, 2013 and 2017 (SMEDAN & NBS, 2013) as shown in Figure 5.

The SMEDAN and NBS (2013) report revealed that there were 382,026 micro, 1098 small and 22 medium scale enterprises in Nasarawa state. According to the 2019 report, the number of enterprises had increased to 385,489 (SMEDAN, 2019). Figures 1 to 5 show the growth and contributions of the MSMEs subsector to the Nigerian economy from 2010 to 2017.

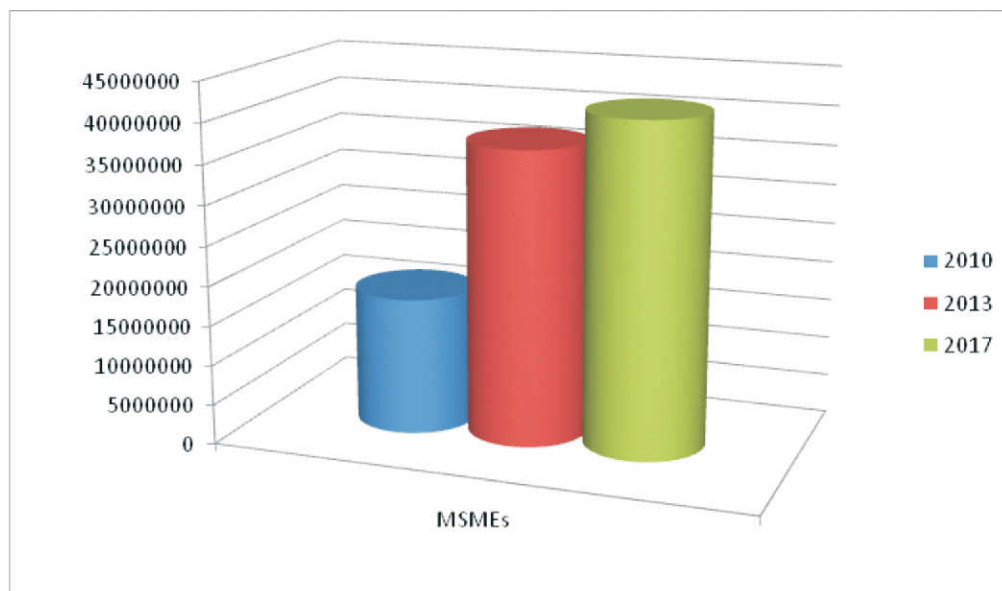


Figure 1: Total Number of MSMEs in Nigeria in Millions

Source: Authors' Derivation from SMEDAN & NBS Surveys 2010, 2013, 2017

As indicated in Figure 1, the total number of MSMEs increased over the years from 17,284,671 in 2010 to 37,067,416 in 2013, representing a 114 percent increase within a period of 3 years, which further increased to 41,543,028 in 2017 indicating a 12 percent increase. This showed a steady growth in the number of MSMEs in the country although the increase from 2013 to 2017, a period of 4 years, was marginal compared to that of 2010 to 2013, which was outstanding.

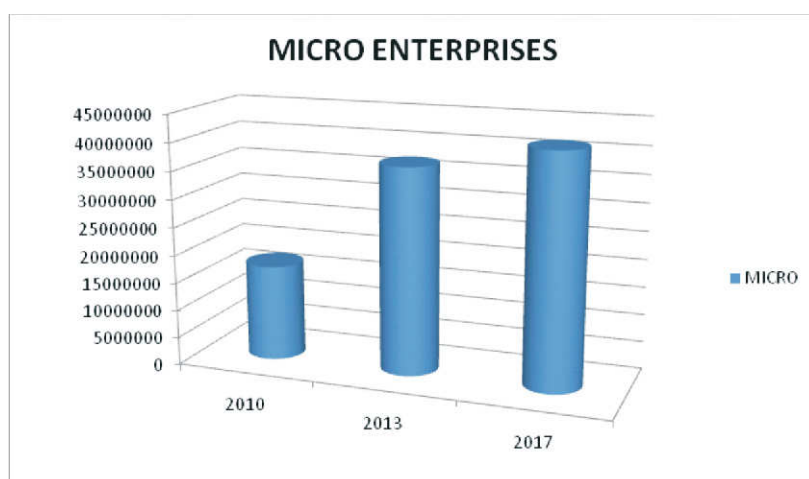


Figure 2: Total Number of Micro Enterprises in Millions

Source: Authors' Derivation from SMEDAN & NBS Surveys 2010, 2013, 2017

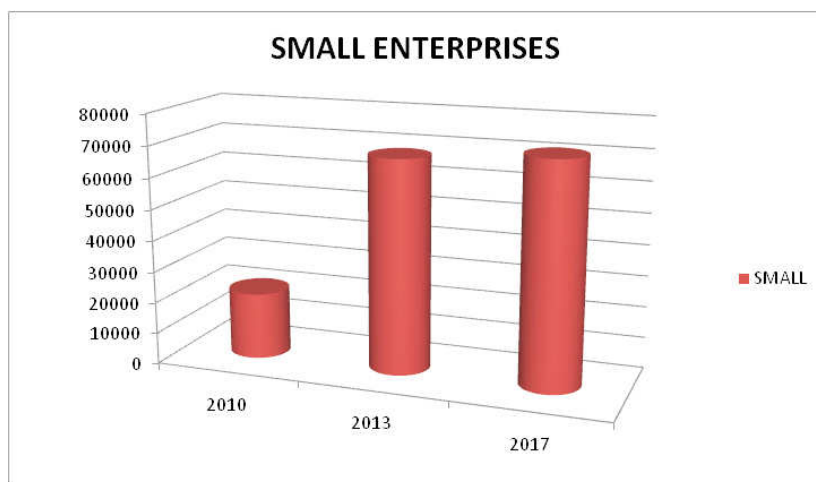


Figure 3: Total Number of Small Enterprises in Thousands

Source: Authors' Derivation from SMEDAN & NBS Surveys 2010, 2013, 2017

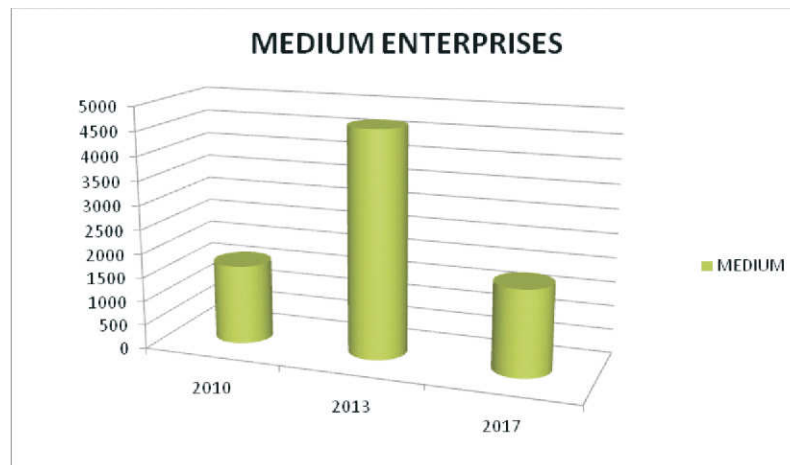


Figure 4: Total Number of Medium Enterprises in Thousands

Source: Authors' derivation from SMEDAN & NBS Surveys 2010, 2013, 2017

Figures 2 and 3 show a steady increase in the number of micro enterprises from 2010 to 2017 while Figure 4 has shown that there was a fluctuation in the growth of the number of medium enterprises in the country between 2010 and 2017. This is because in 2010, the number of medium enterprises was 1,654, but increased significantly by 282 percent to 4,670 in 2013 before dropping by 223 percent to 1793 in 2017. This implies that, during the period, a good number of enterprises folded up or scaled down their business.

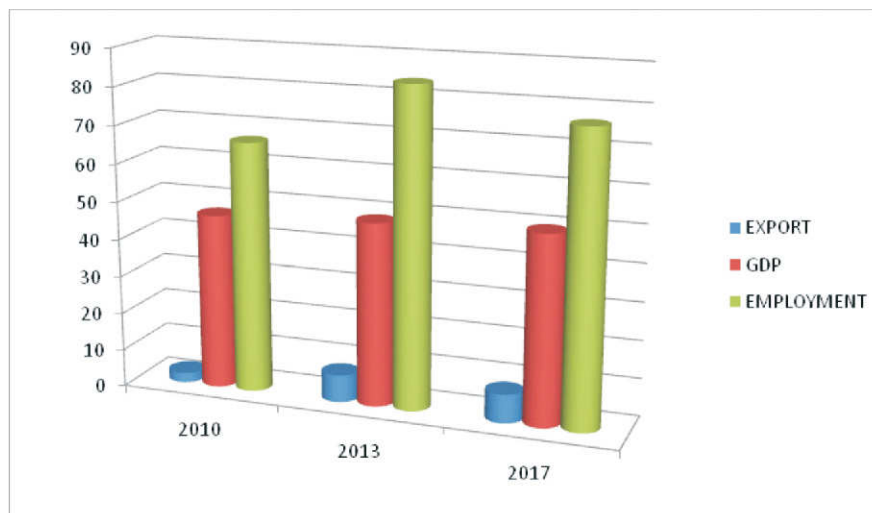


Figure 5: Contributions of MSMEs to the economy in percentages

Source: Authors' derivation from SMEDAN & NBS surveys 2010, 2013, 2017

Figure 5 revealed the contribution of the subsector to export, GDP and employment between 2010 and 2017. The contribution of the sub sector to export has been on the increase, though it follows the trend of the number of total MSMEs and is significant between 2010 and 2013, with marginal increase between 2013 and 2017. The contribution of the subsector to GDP increased marginally between 2010 and 2017, while the contribution to employment of total workforce increased significantly from 66.45% to 84.02% between 2010 and 2013 and decreased between the periods of 2013 to 2017 from 84.02% to 76.5%.

METHODOLOGY

The methodology adopted for this study includes descriptive and quantitative methods, using questionnaires, simple percentages and graphic analysis. Descriptive statistics are used to describe the basic features of data in a study and they provide simple summaries about the sample using simple measures and graphics analysis. This creates a visual impression of the data; hence, information can be communicated more effectively (Frankfort-Nachmias & Nachmias, 1996). The descriptive method will include the use of tables and bar charts to make representations. The study will also employ the Structural Equation Model (SEM) to address the objective of the study.

The survey research design was employed in this study of MSMEs in Nasarawa state. Data for the study was collected from primary and secondary sources including SMEDAN reports, National Bureau of Statistics (NBS) publications, Central Bank of Nigeria (CBN) publications, World Bank publications, textbooks, journals, and other relevant publications. Primary data was collected from the field using questionnaires and interviews.

The target population of the study included all owners of Micro, Small and Medium scale rice mills within Nasarawa state. Multi stage sampling technique was adopted using a combination of single stage sampling procedures. Sampling procedures included expert, stratified and matched pairs probability sampling techniques. The sample size was computed based on the Smith (1984) formula:

$$\text{Sample Size} = \frac{Z^2 \times \sigma \times (1 - \sigma)}{e^2}$$

Where:

Z = the critical value for Z statistic

σ = the standard deviation

e = the selected margin of error

Therefore,

$$\text{Sample size} = \frac{1.96^2 \times 0.5 \times (1 - 0.5)}{0.05^2}$$

$$\text{Sample size} = \frac{3.816 \times 0.5 \times 0.5}{0.0025}$$

$$\text{Sample size} = \frac{3.816 \times 0.25}{0.0025}$$

$$\text{Sample size} = \frac{0.9604}{0.0025}$$

$$\text{Sample size} = 384.16$$

Hence, at 5% level of significance a sample size of 384 respondents was arrived at.

Model Specification

The SEM model in its general form consists of two parts: the structural equations and the measurement model. The structural equations specify the causal relationships among the observed or latent variables and describe the causal effects and the amount of unexplained variance. The measurement model specifies how the latent variables or hypothetical constructs are measured in terms of the observed variables (Giufrida, Lunes & Savedoff, 2005). The research hypothesis is represented by the structural part and contains the basic patterns of direct and indirect causal effects among the latent variables as the SEM literature suggests (Kline, 2011). The working hypothesis here is that each category of rice milling enterprise has no significant impact on the indicators of economic development in Nasarawa State.

The theoretical specification of the structural model is presented in the path diagram in Figure 6.

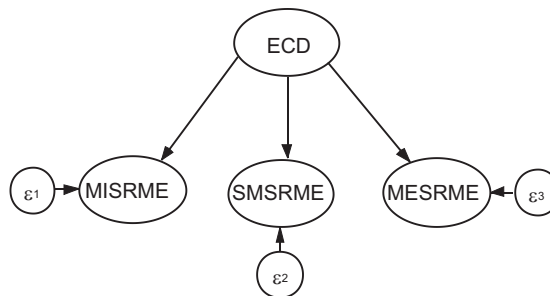


Figure 6: Path diagram of the theoretical specification of the structural model

Where: ECD = Economic development

MISRME = Micro scale rice milling enterprise

SMSRME = Small scale rice milling enterprise

MESRME = Medium scale rice milling enterprise

The measurement models, on the other hand, clarify the relationships between the measures and the latent variables, as well as, the dimensions and latent variables construct (Bollen, 1989). The indicators of economic development as used in this study include employment generation, income and poverty, each of which is influenced by the three categories of rice milling enterprises (micro scale, small scale and medium scale rice milling enterprises). Based on this, the path diagram of the general SEM and the structural equations of the construct is as shown on Figure 7.

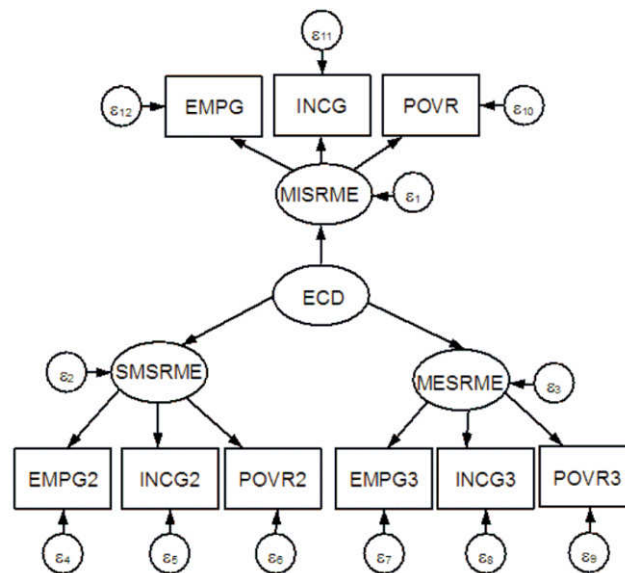


Figure 7: Path diagram of the general SEM and the structural equations of the construct

Where:

EMPG = employment generation from MISRME

INCG = income generation from MISRME

POVR = poverty reduction from MISRME

EMPG2 = employment generation from SMSRME

INCG2 = income generation from SMSRME

POVR2 = poverty reduction from SMSRME

EMPG3 = employment generation from MESRME

INCG3 = income generation from MESRME

POVR3 = poverty reduction from MESRME

RESULTS AND DISCUSSIONS

Socio-Demographic Characteristics of Respondents

The descriptive analysis for this study covered the demographic and socio-economic characteristics of the entrepreneurs who were engaged in rice milling activities in Nasarawa state. The result is presented in the Table 1.

Table 1: Demographic and Socio-economic Characteristics of Respondents

Demographic Variables	Frequency	Percentage
Gender		
Male	298	74.5
Female	102	35.5
Age		
20	10	2.5
21-40	278	69.5
41-60	96	24.0
61	16	4.0
Family Size		
3	45	11.2
4-6	133	33.2
7-9	150	37.5
10	62	18.1
Educational Level		
No formal education	110	27.5
Primary	71	17.8
Secondary	151	37.8
ND/NCE	40	10.0
HND/First Degree	25	6.2
Masters/PhD	3	0.7

Source: Field Survey, 2019

As indicated in table 1, the distribution of operators by gender showed that 74.5% of the respondents were male and 35.5% were female. This indicated that there were more male than female entrepreneurs found within the rice milling MSMEs in the study area. This could be attributed to the fact that the rice milling industry is a highly technical one and employs the use of heavy-duty machinery. Operating the machines and processing rice to its finished form required physical exertion, more so that the machines used within the study area are mostly crude in nature. Secondly, the predominant presence of male entrepreneurs within the rice milling enterprises could be attributed to the fact that they bear responsibilities as family heads, which strongly motivates them to engage in productive activities.

Table 1 also presented the age distribution of respondents indicating that 2.5% of the entrepreneurs were below the age of 20, 69.5% were within the age range of 21 – 40, while those that fell within the range of 41 – 60 and above 60 years constituted 24% and 4%, respectively. This showed that entrepreneurs in the micro, small and medium scale rice milling industry in Nasarawa were mostly youth and that the industry holds employment opportunities for the unemployed youth in Nigeria. This further indicated that based on the natural endowment and opportunities inherent in Nigeria, youth are able to get themselves engaged in entrepreneurial activities within the agro-allied MSMEs rather than wait on government for jobs which are not forthcoming. Furthermore, since 69.5% of the entrepreneurs are youth in their productive age, there is potential for increased output which will generate more income and expansion opportunities as they expend their energy into productive activities. This would further lead to employment generation, hence, income generation and would subsequently reduce poverty and then enhance economic development.

The educational level of respondents as captured in Table 1 revealed that 27.5% had no formal education, 17.8% had primary education, while 37.8%, 10%, 6.2% and 0.7% of the respondents had secondary education, National Diploma/National Certificate of Education, Higher National Diploma/First Degree, and Masters/Doctorate degrees, respectively. The information collated showed that 72.5% of respondents had attained different levels of educational feats which served as advantages to them as they could transmit their knowledge into their enterprise for better output. Again, this implies that respondents who had attained the highest level of education were able to find employment and means of generating income within the MSME subsector alongside people that had no formal education. It further revealed that, job opportunities are available within the MSME sub sector for the unemployed in Nasarawa state. Rather than have graduates wait on the government to provide jobs, they could create jobs or engage themselves in the MSME subsector.

Quantitative Analysis

In order to effectively capture the contribution of micro scale rice milling enterprises and small scale rice milling enterprises to economic development, the study estimated the SEM model shown in Figure 8 and the results are presented in Table 2. The hypothesis formulated in line with the stated objective is: H_0 : Each category of rice milling enterprise has not contributed significantly to economic development in Nasarawa State.

Decision: If the probability values of the Chi-square for both categories of rice milling enterprises *misrme* and *smsrme* are all greater than 0.05 ($p > 0.05$), we reject the null hypothesis.

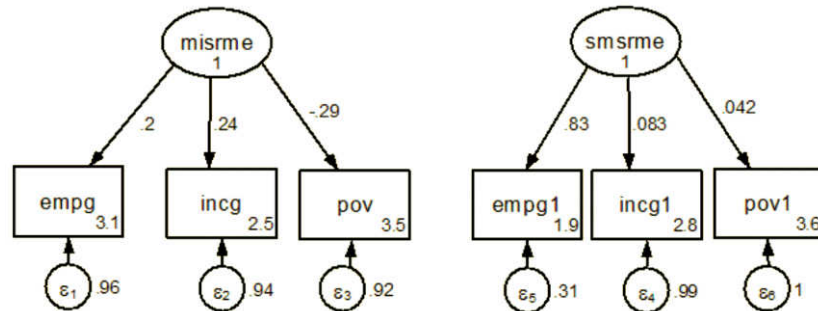


Figure 8: SEM Result showing the Contribution of each Category of Rice Mill to Economic Development in Nasarawa State
Source: Developed by Authors

Table 2: SEM Test Statistic Result

Test Statistic	Misrme	Smsrme
Chi-Square	19.36	12.04
Prob(Chi-Square)	0.007	0.012

Source: Authors' Computation using STATA 15

The result of the structural equation analysis depicted in Figure 8 revealed the contribution of micro scale rice milling enterprises (*misrme*) and small scale rice milling enterprises (*smsrme*) to economic development in terms of employment generation (*empg*), income generation (*incg*) and poverty reduction (*pov*). The result showed that, micro scale rice milling enterprises contributed to employment generation by 20%, to income generation by 24% and to poverty reduction by -29%; small scale rice milling enterprises contributed to employment generation by 83%, to income generation by 8.3% and to poverty reduction 4.2%. The values in the boxes explaining *misrme* (3.1, 2.5 and 3.5 for *empg*, *incg* and *pov*, respectively) and *smsrme* (1.9, 2.8 and 3.6 for *empg*, *incg* and *pov*, respectively) are the corresponding *t* statistics, while the ones beneath the boxes (that is, .96, .94, .92, .31, .99, and 1) are the standard errors explaining the significance level of the individual relationships.

The results showed that the contribution of rice milling enterprises to employment generation and poverty reduction is higher for the small scale rice milling enterprises than the micro scale rice milling enterprises, while the micro scale enterprises contributed more to income generation in the state. This could be attributed to the

fact that MSMEs are labour intensive as a result of their mode of production. The low performance of the micro scale enterprises in terms of poverty reduction could be explained by their low capital base which limited production, hence, profit. Since the probability values of the Chi-square for both categories of rice milling enterprises – *misrme* (0.007) and *smsrme* (0.012) – are all less than 0.05 ($p < 0.05$), the study rejected the null hypothesis at 5% level of significance and concluded that each category of rice milling enterprise had contributed significantly to economic development in Nasarawa State.

The SEM result as presented in Figure 8 indicated only two categories of MSMEs (the micro and small) rather than three as suggested by the models in Figures 6 and 7. This is because the state had only one medium scale enterprise, which was not functional as at the time this study was carried out. The mill was given to the members of the Rice Mill Association of Nasarawa state by the state government after it was donated to the state by the Japan International Cooperation Agency (JICA). The enterprise suffered mainly as a result of lack of finance since the members of the association could not raise enough capital to finance the activities of the mill all year round. This resulted in an interruption in the milling process as the entrepreneurs had to wait to sell the rice processed before buying paddy to start the process all over.

Discussion of Findings

The results showed the contributions of micro and small scale rice milling enterprises to economic development in Nasarawa state. This was captured in terms of employment generation, income generation and poverty reduction. Micro scale rice milling enterprises contributed to employment generation by 20% and to income generation by 24%. The contribution to poverty reduction however was negative. The small scale rice milling enterprises contributed to employment generation, income generation and poverty reduction by 83%, 8.3% and 4.2%, respectively. This clearly showed that the contribution of rice milling enterprises to employment generation was higher for the small scale rice milling enterprise, while the contribution to income generation and poverty reduction was higher for the micro scale rice milling enterprises. This finding corroborates the findings of Nursini (2020), which concluded that small scale enterprises contributed more to poverty reduction than the micro scale enterprises, and those of Zacheus and Omeseni (2014) and Anigbogu, Onwuteaka, Edoko and Okoli (2014), which found out that SMEs had

a significant positive impact on poverty reduction and employment generation in Ekiti State and Anambra South Senatorial Zone, respectively. However, the study carried out by Eze and Okpala (2015) found that SMEs did not make significant contributions to Nigeria's economic growth.

The findings revealed that the ventures were profitable enough to cause shifts from other businesses to rice milling business. Thus, the results collated from the study revealed that the micro and small scale categories of rice milling enterprises have contributed significantly to economic development in Nasarawa State.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study carried out an evaluation of the contributions of rice milling MSMEs to economic development in Nasarawa state, Nigeria, to ascertain which category of rice milling MSMEs contributes more to economic development. Micro scale rice milling enterprises contributed more to income generation than small scale rice milling enterprises in Nasarawa state. Small scale rice milling enterprises, on the other hand, contributed more to employment generation and poverty reduction than the micro scale rice milling enterprises in Nasarawa state. The study, in line with the definition of Seers (1969), can conclude, based on investigation, that rice milling MSMEs in Nasarawa state have contributed to economic development by reducing poverty, unemployment and income inequality in the state.

Policy Recommendations

Based on the findings of the study, the following recommendations are made;

1. When government policies are targeted towards encouraging income generation, the micro scale enterprises should be supported to reduce income inequality among the populace.
2. The small and medium scale enterprises should be supported by government when the focus is employment generation and poverty reduction in the economy.
3. The study recommends that government and the financial sector should launch finance schemes targeted at MSME development in line with government policies targeted at growing the economy. This will help achieve set goals and objectives (one of such targets is the RTP through the ATA).

4. Government should take up the funding of the medium scale enterprise donated by JICA to the state. Such enterprises that require huge capital investments and have the capacity to provide jobs and income for the residents of the state should not be left lying unproductive.
5. Entrepreneurs should reinvest their profit towards expanding their business and growing the micro category to small or even medium scale category in order to escape the dark clutches of poverty.

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APPENDICES**Appendix A: Questionnaire**

Instructions: Please tick or fill using Capital letters only where necessary.

SECTION A: PERSONAL DATA

1. Gender: Male [] Female []
2. Age: ≤ 20 [] 21 - 40 [] 41 – 60 [] ≥ 61 []
3. Religion: Christianity [] Islam [] Traditional [] Other []
4. Marital status: Single [] Married [] Widowed [] Divorced []
Separated []
5. Family size: <3 [] 4 – 6 [] 7 – 9 [] >10 []
6. Educational Level: No formal Education [] Primary [] Secondary []
JND/NCE [] HND/FIRST DEGREE [] Masters [] Others (please
specify).....
7. Can you read and write? Yes [] No []

SECTION B: RICE MILLS AND ECONOMIC DEVELOPMENT

8. How many employees do you have now? None [] >10 [] >100
[] >300 []
9. How much do you pay your employees monthly? > l e s s t h a n
N10,000 [] >less than N20,000 [] >less than N50,000 []
10. How many workers are on your payroll? >less than 10 [] >less
than 100 [] >less than 300 []
11. How many workers are not on your payroll? >less than 10 [] >less
than 100 []

12. What was your start-up capital? >less than 1.50 million[] >less than 50 million[] >less than 200 million []
13. How much capital is invested now? >less than 1.50 million[]
>less than 50 million [] >less than 200 million []
14. What is your average daily income?.....
15. How much do you save monthly?.....
16. What do you/your family depend on when sick?
(a) herbs (b) Self-medication (c) Dispensary/clinic/hospital
17. How many times do you and your family eat in a day? (a) Once (b) Twice (c) Thrice (d) More than Thrice
18. What type of house are you living in ? (a) Thatched-mud house (b) Zinc-house with cemented walls (c) Others (specify).....
19. What type of sleeping material do you use? (a) Mat (b) Bamboo Bed (c) Bed and mattress (d) others (specify).....
20. How often do you buy pairs of clothes in a year? (a) None (b) Once (c) Twice (d) More than twice

1. Are you a member of the Association of rice millers?
2. What are the benefits of being a member of the association?
3. What are the sources of funds for your business?
4. What factors affect your business?
5. Have you benefitted from any of the government schemes in favour of MSMEs?

Appendix C: SEM Result for the Contribution of Each Category of Rice Milling Enterprise to Economic Development

```

Structural equation model          Number of obs    =        386
Estimation method    = ml
Log likelihood        = -2923.8359
( 1) [empg]misrme = 1
( 2) [incgl]smsrme = 1
-----
|                               OIM
Standardized |      Coef.   Std. Err.      z    P>|z|    [95% Conf. Interval]
-----+-----
Measurement |
empg <- |
    misrme |   .1994069   .1551801     1.29   0.199   -1.1047404   .5035542
    _cons |   3.117019   .1231906    25.30   0.000     2.87557     3.358468
-----+-----
incg <- |
    misrme |   .2392081   .1830803     1.31   0.191   -1.1196226   .5980388
    _cons |   2.512489   .1037671    24.21   0.000     2.309109     2.715869
-----+-----
povr <- |
    misrme |  -.2894055   .2187837    -1.32   0.186   -1.7182137   .1394028
    _cons |   3.454342   .1343401    25.71   0.000     3.191041     3.717644
-----+-----
incgl <- |
    smsrme |   .0829649   .3370268     0.25   0.806   -1.5775955   .7435253
    _cons |   2.834352   .114003     24.86   0.000     2.61091     3.057793
-----+-----
empgl <- |
    smsrme |   .8315873   3.403136     0.24   0.807   -5.838437   7.501611
    _cons |   1.874769   .0845182    22.18   0.000     1.709117     2.040422
-----+-----
povl <- |
    smsrme |   .0424246   .1828991     0.23   0.817   -1.3160512   .4009003
    _cons |   3.628086   .1401471    25.89   0.000     3.353403     3.90277
-----+-----
var(e.empg) |   .9602369   .0618879                .8462873   1.089529
var(e.incgl) |   .9427795   .0875886                .7858318   1.131073
var(e.povr) |   .9162445   .1266344                .698822   1.201313
var(e.incgl) |   .9931168   .0559228                .8893421   1.109001
var(e.empgl) |   .3084626   5.660009                7.42e-17   1.28e+15
var(e.povl) |   .9982002   .0155188                .9682425   1.029085
var(misrme) |           1           .                .                .
var(smsrme) |           1           .                .                .
-----+-----
LR test of model vs. saturated: chi2(9)    =      89.16, Prob > chi2 = 0.0000
. test (misrme)
( 1) [empg]misrme = 0
( 2) [incg]misrme = 0
( 3) [povr]misrme = 0
    Constraint 1 dropped
        chi2( 2) =    19.36
        Prob > chi2 =    0.0071
. test (smsrme)
( 1) [incgl]smsrme = 0
( 2) [empgl]smsrme = 0
( 3) [povl]smsrme = 0
    Constraint 1 dropped
        chi2( 2) =    12.04
        Prob > chi2 =    0.0120

```