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Impact of Cotton Ginnery Industry on Income Generation in Zamfara State, Nigeria

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Abstract

This study examined the impact of cotton ginnery industry on income generation in Zamfara State. The major objective of the study is to examine whether the ginnery industry has any significant contribution to income generation in Zamfara State. The study employed the use of primary sources of data; the data was obtained from survey of 272 respondents, who are randomly selected. Therefore, descriptive statistics and multiple regressions were employed for data analysis. The results revealed that, qualification of the respondents, working experience with ginnery industry and family size have significant and positive impact on income generating capacity, while age of the respondents does not conform a priori expectation and not statistically significant. Similarly, experience of respondents before joining ginnery industry does not conform to our a priori expectation, even though statistically significant. Finally, the study recommended among others that, government should improve its financial and policy support to ginnery industry, so that they could create more income opportunities to employees and entrepreneurs in Zamfara State, Nigeria.

Keywords: *Cotton, Ginnery, Income, Enterprises, Potentials*

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Background to the Study

There is a general belief that the attainment of desired employment generation level which will eventually generate more income in any given economy could be achieved through the development of Small and Medium Scale Enterprises (Emerole and Edeoga, 2015). And Aremu (2010) posited that Small and Medium Scale Enterprises provide income, savings and employment generation. They are seen as veritable engines for the development of entrepreneurial capabilities and indigenous technology which will generate employment and income in the country. Small and Medium Scale Enterprises constitute the basis for industry and national economy in many countries. According to Daniel (1994) and Fisseha (1996) small and medium enterprises are estimated to employ 22% of the adult population in developing countries. (Cited in Emerole and Edeoga, 2015)

A cursory look at SMEs contributions in Africa, it was recorded that, SMEs became a source of employment and ultimately sources of income to about 80% of the African population, specifically micro businesses account for 30% of employment, small businesses 20%, and medium businesses account for 10% employment opportunities which resulted in large income generation to those employed. (Bello, et al, 2015). Furthermore, Kadiri, (2012) reported that, African SMEs accounts for more than 90% of the businesses and contribute about 50% of the GDP, for instance in Kenya SMEs contribute 40% of the GDP, it equally provides over 50% of the new jobs and accounts for 80% of all the workforce of the country (Kadiri, 2012). On similar vein, In Ghana SMEs equally accounts for 70% of all businesses and equally employed more than 70% of the total workforce (World Bank, 2006). SMEs equally account for 70% of employment in Kenya, 90% jobs in Ethiopia, 60% employment opportunities in Rwanda, its equally account for 90% employment in Uganda and 60% in South Africa (Emerole, 2015).

Another cursory look at how SMEs impacted to Nigerian economy through employment creation, increase in income generation, contributions to Nigeria's GDP and so on. According to the report of the new MSMEs policy and 2013 National MSMEs survey conducted by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in collaboration with National Bureau of Statistics (NBs) it was indicated that, Micro Small and Medium Enterprises (MSMEs) in 2013 employed 60 million Nigerians from a total number of 37 million MSMEs and equally recorded about 48% of Nigeria's Gross Domestic Product (GDP). MSMEs are globally considered as the backbone of any economy, which contribute to improved living standards, equally bring about substantial local formation, help in achieving high level of productivity, serves as vehicle for employment generation and providing opportunities for entrepreneurial sourcing, training, development and empowerment, (Aina, 2015).

Generally, Nigeria is richly endowed with abundant human and natural resources which can transform small and medium enterprises, in general and ginnery industry in particular to modern industry especially in the northern part of the Country. These resources are capable of boosting investment viability of Zamfara State and including the state in the World map as a major exporter of cotton ginnery product in particular and SMEs output in general to Europe, USA, Middle East, Asia and other African countries. This could boost the GDP, help in correcting balance of payment disequilibrium and improve the well-being of the peoples of Zamfara state in particular and Nigeria in general. The major objective of the study is to examine whether the ginnery industry has any significant contribution to income generation in Zamfara State, to identify and examine factors that determine the income of employee of ginnery industry in the study area.

Literature Review

There is no universally accepted definition of Small and Medium Scale Enterprises (SMEs). The definitions depend on the context of the usage and it varies from one nation to another, it is noted that, there is no single universally accepted definition of SMEs. However, there are three major parameters which are globally considered in defining SMEs are; capital investment, number of employees and turn over. (Bello, et al, 2015). Aremu, (2011) assert that, countries do not use the same definition for classifying their SMEs sector, nor does a universal definition appear to be necessary. The definition in use depend on the purposes those definitions are required to serve and the policies which govern the SMEs sector. However, the three parameters generally applied by most countries, singly or in combination they are: capital investment on plant and machinery, number of workers employed, and volume of production or turnover of business.

In Nigeria the Central Bank of Nigeria (CBN) defines Small and Medium Enterprises in Nigeria according to assets base and number of staffs employed. The criteria are: an asset base between ₦5 million and ₦500 million and staff strength between 11 and 300. Furthermore, the small and medium industries equity investment scheme (SMIEIS) in Nigeria, defines SMEs as enterprise with a total capital employed not less than ₦ 1.5 million but not exceeding ₦200 million, including working capital but excluding cost of land and or staff strength of not more than 300, (Business info 2012 Cited in Abubakar and Yahya 2013). Thus, this study adopts the definition of SMIESIS because of its significance relevance to the context of this research and usage in Nigeria.

Empirical literature

Mayuree and Mridula (2018) in their research, which the objectives of the study were to identify how brick industries of Rangia and Hajo block of Kamrup (R) are providing employment opportunities to the unemployed persons and thereby helping them in generating some income. The study employed the use of primary data, structured questionnaire was distributed to the respondent, random sampling method was used to select 6 industries, which are 3 industries from both Rangia and Hajo Blocks, and the data collected was analyzed in tabular form. It was found that, the bricks industries are generating sufficient employment opportunities to a large number of unemployed persons and equally helping in generating some income. But in the name of earning, the workers were neglecting their health, their health condition is deteriorating. But their study failed to identify weather there is any relationship between employment and income generation in their study area.

Bansi (2016), Conducted a research to analyze the present position of labour in brick industries, to identify the existing labour availability, to assess the labour remuneration system prevailing in brick industries in rural area, to study the advance payment system prevailing in brick industries, to find out and analyze labour turn over in brick industries, and to offer suggestion to overcome the labour problems in brick industries. The study employs the use of primary data, in which proprietors were selected from brick industries in Bhor, Velhe, Haveli, Nulashi, Maval, Khed, Ambegaon, Junnar, Shirur, Daund, Purandhar, Baramati, and Indapur Tahsils of Pune District in Maharashtra State. The sources list/sample frame was prepared from the list of Brick Klins furnished by Tahsidar. Respondents had been selected from the sample frame to conduct sample survey for the collection of primary data. The size of sample was selected 10 percent that is on brick industries out of total 1040 brick industries, the proprietors were selected from the brick industries in Pune district, eight proprietors from each Tahsil. The result of the study shows that, the modernization has not taken up; the production is bricks depend up on the labour only. The labour is very important in brick industries. It was found that, brick industries have provided job opportunities and eventually income to the rural labour.

Similarly, Bello et al (2015) conducted a study, to assess the income potentials of cottage, micro and small-scale enterprises and to identify and examine factors that determine income potentials of cottage, micro and small-scale enterprises (CMSSEs). The study employs the use of primary sources of data, whereby 300 (three hundred) structured questionnaires were distributed to the entrepreneurs in three locations; Birnin-kudu, Dutse L. G., Hadejia L.G., and Gumel L.G. Furthermore, the study employs the use both descriptive statistics and multiple regression analysis, the regression was to test the relationship between income of the enterprises in the study area and some other variables that are expected to influence their ability to generate income. Hence, following empirical model was specified for the study to test the income generations of the enterprises; ($INC = \alpha + \beta_1 EDU + \beta_2 EXP + \beta_3 AGE + \beta_4 TYP + \beta_5 GSP + \beta_6 GND + \beta_7 SLK + \beta_8 FIN + e.$)

Where INC= income of the enterprises, EDU= Educational level of the entrepreneur, EXP = Experience of the entrepreneur, AGE = Age of the entrepreneur, TYP = size of the enterprises, GSP = Government support for the entrepreneur, GND = Sex of the entrepreneur, SLK = Training of the entrepreneur, FSP = Sources of finance to the entrepreneur, e = Error term, α = Autonomous constant, $\beta_{1-}\beta_{2=}$parameters of the model. The finding of the study revealed that, CMSSEs are important tools for income generation in Jigawa State, the results also revealed that, education, experience, government support, gender and finance are the key variables that determine income generation of CMSSEs in the state.

Emerole and Edeoga (2015), Conducted a research, to assess the income generating capacity of these firms and it determinants and equally assess the employment capacity of these firms and it well-structured questionnaire. The study population comprises all SMEs in Abia metropolis that is five local governments: Ummuahia North, Ummuahia South, Abia North, Abia South and Osisioma Ngwa Local Government area. The study applies purposive and random sampling techniques. Purposely, a total of five Local Government areas that forms the metropolis were selected out of seventeen Local Government areas of the state. Random sampling technique was use to select sixty bakeries and poultries. Analytical procedure was used for data analysis, which includes income statement account and multiple regression analysis. The following model was employed; Income statement model: Gross margin = TR-TVC … … … Equation I, Net profit = TR-TFC … …... Equation II. Where TR = total revenue, TVC = total variable cost, TFC = total fixed cost. The multiple regression models were: Y = f (X_1, X_2, X_3, X_4, e). Where; Y =employment capacity of the firm, X_1, = size of the firm, X_2, = number of departments, $X_{3,}$ = availability of required labour, X4 = profitability of the firm. From the results,it was found that, income generation potential of these SMEs is very high and thus, help in increasing income levels, quality of life in the area of study and country in general. Furthermore, SMEs promote equitable distribution of income. The results show that, size of the firms is positively related to the employment capacity of at 1% level of significant; this implied that, size of the firms is among the variables that determine the number of employees an organization employs. Furthermore, the number of departments equally have positive relationship at 5% level of significant with employment capacity of the firm, which that, the more department in an organization, the more employment capacity. While availability of labour and profitability of the organization has negative relationship with employment capacity of these firms as it does not show any significant.

Research Gaps

Zamfara state economy is largely characterized by informal sector activities with agriculture as the major economic activity. Over 80% of the Zamfara state population is engaged in subsistence farming and animal husbandry. Other Economic activities are usually undertaken on Small and Medium Scale Enterprises, especially in agricultural goods, livestock, ginnery, textile and other consumer goods. SMEs contribute largely to the economic development of Zamfara state in particular and Nigeria in general. One of the noticeable SMEs in the state is Ginnery industry, which if it's working at full capacity can employed up to 200 workers per shift, who will work in different stages of ginning (Hassan, 2016). Therefore, to investigate these SMEs in terms of income generation in Zamfara state is a practical gap that warrants research to identify its contribution to the economy. Furthermore, studies on Small and Medium Scale Enterprises (SMEs) focus normally on economically stable developed and developing countries even in Nigeria, such studies focus on developed states in the country, and little is done on ginnery industry. In fact, to the best of the knowledge of the researcher, there are limited studies conducted on ginnery that investigate income generating capacity of ginnery industry, in economically backward state like Zamfara state. This is equally an empirical gap that warrants a research to find ginnery capacity and contributions in terms of income generation.

Methodology

Study Area

The Zamfara state's economy is largely characterized by informal sector activity, with agriculture as the major economic activity of the peoples in the state, it was estimated that, Agriculture in its various forms provides for the means of livelihood to over 80% of the population. (Guide to potential investors, 2006). One of the economic crops which is being produce in the state is cotton, thus, it gives rise to the establishment of the first ginnery in Zamfara state in 1925, British cotton growers association (BCGA). The State has the population of 3,259,846 people, according to 2006 census. It covers an area of 32, 247 square kilometers.

Population and Sample Size

The population of the study comprised of peoples who are directly involved in the ginnery industry activities. These peoples were identified from two groups (i) the ginnery entrepreneurs and (ii) the employees of ginnery industry. The owners of five ginneries that are currently operational and 850 Workers of the ginneries in the study area, these workers comprised unskilled, semi-skilled, and skilled workers of the ginneries in the study area, Furthermore, the workers of the ginneries were divided in to three (3) categories of ginnery workers hence, proportional allocation formula and cluster sampling techniques was used to select the 272 sampled respondents from the study population. The study population comprised managers and workers of the five ginneries that are currently operational in Zamfara. A structured questionnaire was developed for the data collection. Questions were asked on the employee's qualification, experience, income, size of family among others. The study employs descriptive statistics and multiple regression analysis. The multiple regression is to test the relationship between income of ginnery employees in the study and other variables that are expected to have influence to employees to generate more income such as educational qualification of the respondents, years of experience of the respondents, family size of the respondent, age of the respondent, working experience before joining ginnery work and others.

Empirical Model

To examine the impact of cotton ginnery industry on income generation, the following model was estimated as: $Y = \alpha_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_{5+} e_o$

Where:
Y = Income of the respondents
α_o = Autonomous constant term
$\beta_1 - \beta_{5=}$ are estimate of the parameters
X_1 =Educational Qualifications
X_2 = Family Size
X_3 = Years of experience of the employee
X_4 = Age of the employee
X_5 = Working before joining ginnery work,
e_o = Error term

Empirical Results of the Study

This section presents empirical results which are divided into two; the descriptive statistics results which present an overview of the characteristics of the respondents and equally the multiple regression results.

Descriptive Statistics Results

This section of the study present descriptive statistics of the personal characteristics of the respondents in the study area and it's vividly presented below;

Table 1: Age of the Respondents

Age	Frequency	Percent
18-30	76	29.7
31-45	125	48.8
46-55	43	16.8
56-65	12	4.7
Total	256	100.0

Source: Field survey (2024)

It was indicated from the data that, majority of the respondents were between 31-45 age brackets which is 48.8%, equally 29.7% are between the ages 18-30, 16.8% are between 46-55 years, and 4.7% are between, 56-65 years.

Table 2: Educational Qualification

Qualification	Frequency	Percent
Primary	41	16
Secondary	135	52.7
Tertiary	58	22.7
No formal education	22	8.6
Total	256	100

Source: Field Survey (2024)

The above results show that, majority of the respondents have secondary school certificate as highest educational qualification, which represent about 53% This was followed by 22.7% of the respondents that attended tertiary education (NCE, ND, HND and B.Sc. Degrees). While 16% of the respondents poses primary certificate, and about 9% of the respondents have no formal education. This shows that, most of the ginnery owners and workers have formal education. Even though the result confirms the findings of Olusola and Oluwasola (2014) who found that, SMEs owners and workers do possess formal educational qualification.

Table 3: Number of dependents of the respondents

No. of dependents	Frequency	Percent (%)
1-5	98	38.3
6-10	122	47.7
11-20	27	10.5
Above 20	9	3.5
Total	256	100.0

Source: Field survey (2024)

It is indicated from the data that, majority of the respondents have between 6-10 dependent, this category has the highest frequency of 122 which represent about 48%. This was followed by between 1-5 numbers of dependent categories which has 98 frequencies and represent over 38%. The least is those respondents that have above 20 dependents which are about 4% of the total distribution. The highest percentage of respondents with large number of dependents is an indication that, the ginnery industry in Zamfara state, provide income to the people, it equally has impact on social living, because most of the workers have some numbers of dependents, whose livelihood depends on the income of that ginnery worker.

Table 4: Experience of the Respondents

Duration	Frequency	Percent (%)
1-5 years	81	31.6
6-10 years	108	42.2
11-15 years	36	14.1
16-20 years	25	9.8
Above 20 years	6	2.3
Total	256	100

Source: Field survey (2024)

Furthermore, looking at respondents' experience 42.2% spend 6-10 years in ginnery activities, 32% spend between 1-5 years', 14.1% of the respondents have between11-15 years' experience and 9.8% have 16-20 years' experience, while 2.3% have above 20 years' experience in ginnery activities.

Regression result of the impact of cotton ginnery industry on income generation

Furthermore, this study also employs the use of linear regression in form of multiple regressions to examine the impact of ginnery industry on income generation in the study area.

Table 5: Multiple Regression result Ginnery and Income Generating Capacity

Variable	Coefficient	Std. Error	Significance
(Constant)	1.689	0.169	0.000*
Age	-0.038	0.05	0.453
Family Size	0.028	0.063	0.655
Qualification	0.416	0.039	0.000*
Experience	0.146	0.045	0.001*
Working	-1.512	0.082	0.000*

a. Dependent Variable: Income

R^2=0.661 F=97.298, DW=1.9

Significant level at 1% (*), 5 %(**), 10 %(***)

Sources: Author's computation (2024)

Regression Results

The coefficient of age of the respondent appears to have a negative impact on the income of the respondents in the study area, the coefficient is -0.038 which implies that an increase in the age of the respondents will lead to 3.8% decrease in his/her income, although this impact is statistically insignificant as the p-value which is 0.453 is greater than 5% and 10% level of significance. Similarly, the coefficient of family size of the respondents it is measured by the number of dependent of respondents is also not statistically significant. Although the coefficient is positive meaning that a change in family size will lead to about 2.8% increases in income. This is in contrast to the a priori expectation in the model, it is expected that when there is increase in the family size, income of the respondent will shrink unless if there is a corresponding increase in income in form of promotion or increase in salary.

The coefficient educational qualifications and the Experience of the respondents were found to be positive and statistically significant. This implies that the higher the qualifications of a respondent, the more likely he is to earn higher income. The coefficient of educational qualification is 0.416 which means that a percentage increase in educational qualification will lead to about 42% increase in an income of the respondents. This is in line with the a priori expectation of this study because; ginnery in this study area prefer to employ workers that have lower qualification because workers with relative educational qualification are paid more than those who doesn't have any. That is why most of the employees in the ginnery have secondary school and primary school qualification, with few of them has tertiary and other qualification. Also, workers who have undergo certain certified training lament getting promoted and posted to appropriate section of the ginnery and have had experience increase in their income. The coefficient is statistically significant, because the p-value is 0.00 which is less than 5%. This has corroborated the evidence in Bello, (2015) which found that, there is strong positive relationship between educational qualification and employees/entrepreneurs' income.

Similarly, the coefficient working experience exerts positive relationship with income of employee that is experience enhanced level of income of the respondents. The coefficient of income has 0.146 which implies that a percentage increase in working experience will lead to about 15% increase in the level of income. The coefficient is statistically significant as the significance value is 0.001 which is less than 5%. By implication, this means that the more an employee stays in the job, the more he specializes in and become experienced in the job, which consequently put him in a better pay than the inexperience worker. Also, it shows the consciousness of the ginnery in employing workers to work for them by showing that, those with working experience earn higher than those without it. Finally, the coefficient working before joining ginnery work, the result shows whether previous work of the respondents has influence on their income. It was found that there is negative relationship between income and previous work of the respondents. As stated earlier, very few of them has worked before joining the ginnery, and their previous work have negative impact on their income.

Conclusion and Policy Recommendations

The findings of the study revealed that cotton ginnery industry is an important tool for income generation in Zamfara state. The study employed primary sources of data where 272 questionnaires were administered to the respondents of five sample ginnery industry. The data was analyzed using descriptive statistic and multivariate regression analysis. Multiple regression analysis was used via the used of SPSS statistics 23 App. Therefore, the study concludes that, cotton ginnery industry provides income opportunities in Zamfara state and that, the independent variables (Qualification of the employee, experience, family size and experience before joining ginnery work) put together determine cotton ginnery industry employee's income.

It's clear from the findings of the study that, ginnery industry are important tools for income generation in Zamfara state. Thus, the following policy recommendations are proffered (1) both government at all levels should create enabling environment and provide adequate support for farmers, this will ensure supply of adequate cotton to the ginnery industry, this is because one of the major problems that is hindering their effort to provide adequate income in the study area is shortage of raw material. (2) Furthermore, Central Bank of Nigeria should establish more spaces that will enable ginnery industry to have access to financial support from government, and equally CBN should mandate Commercial banks to reserve some quota of their loanable funds for financing cotton farmers and ginnery entrepreneurs, this will stimulate their activities, hence, more income will be generated in the study area.

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