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Rice Milling Micro, Small and Medium Enterprises and Poverty Reduction in Nasarawa State

Rosemary Angibiku Anga[1] & Alanana Christopher Abimiku[2]
[1&2]Department of Economics, University of Jos, Nigeria
Corresponding Email: rosemaryanga67@gmail.com

Abstract
This study carried out a survey among rice millers in Nasarawa state to ascertain the effects of engaging in rice milling on poverty reduction. The results of the analysis of data, using logistic regression, indicated that Start-Up Capital (SUC), Quantity of Rice Produced (QRP), Quantity of Rice Sold (QRS) and Income from rice milling activities (INC) all have positive and statistically significant impact on poverty reduction in the study area, while the impact of expenses incurred is negative and statistically significant at 5% level of significance. Additionally, increase in start-up capital, quantity of rice produced, quantity of rice sold and income of the respondents from the activities of rice milling, increased the probability or odds of reducing poverty by 0.425%, 0.131%, 0.771% and 0.588%, respectively. Furthermore, the study found that number of respondents who were below the upper and lower poverty lines fell and the depth of poverty among rice millers had reduced for both groups plus the number of non-poor had increased after engaging in rice milling activities. The study, concludes that engaging in rice milling activities reduces poverty in Nasarawa state and recommends that the Government should support the rice milling industry by making available funds in terms of grants and low interest rate loans for investment in the rice industry and creating an enabling environment to reduce the cost incurred in running the business so as to income generation and consequently poverty reduction.
Keywords: Poverty, Entrepreneurship, Income Generation, Enterprises, Rice Milling

1. Introduction

Industrialization is one of the most reliable means of improving the welfare of individuals within an economy and of raising a country's standard of living. This explains why developing economies have been in the pursuit of becoming industrialized. Agagu (2004), highlighted the crucial role of Micro, Small and Medium Enterprises (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. The relevance of the subsector is seen in

the production, distribution and consumption of commodities in the country. This, therefore, prompted the establishment of Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in 2003, with the objective to facilitate the promotion and development of the MSME subsector in a sustainable manner, to reduce poverty through wealth and employment creation and also to facilitate socio-economic transformation in the country.

SMEDAN (2010) reported that MSMEs contributed about 37% of Nigeria's Gross Domestic Product (GDP) in 2009, making it the second-largest contributor after the oil sector. Despite the recognition of the potential of the subsector by the government and the efforts made to boost and revamp it, there has been little evidence of growth in the subsector. This has become evident as the level of poverty, continues to rise in the country. The National Bureau of Statistics (NBS) shows that the poverty rate has been on the increase from 28.1% in 1980, 39.2% in 1992 and then to 60.9% in 2010 (NBS, 2012), and has persisted recording 69.7% in 2016 and 70% in 2017 (World Bank 2018).

Nasarawa State the study area is located in North Central, Nigeria and according to the National Population and National Bureau of Statistics projection (2016), has a population of 2,523,400. Agriculture is the mainstay of its economy producing varieties of cash crops and food crops. The choice of Nasarawa State as the study area was informed by the presence of rice farms which have the potential of boosting the activities of rice mills by making available rice paddy for mills within the state. The state has been listed as one of the 18 states identified for major rice production in Nigeria. The SMEDAN and NBS (2013) report revealed that there are 382, 026 micro, 1098 small and 22 medium scale enterprises in Nasarawa State and despite this, the extent to which specific MSMEs have contributed to poverty reduction in the state cannot be readily ascertained. The level of unemployment in Nasarawa State has risen from less than 10% to a high of 42.17% within the period of 1990 to the second quarter of 2020 (Nyong, 2013; NBS 2020) recording the second highest in the North Central after Plateau State. Literacy rate is 52.9 percent indicating that about 47 percent of the population is illiterate and the poverty incidence is high at 39 per cent indicating also that one out of every 3 persons in the state is poor. It is against this background that this study investigates the impact of MSMEs on poverty reduction in Nasarawa state.

2. Literature Review

2.1 Conceptual Review

Poverty can be categorized into three, namely, absolute poverty, relative poverty and subjective poverty (Nweze & Ojowu, 2002). This study however focuses on absolute poverty which sees individuals, families and groups as those who find it hard to meet the required minimum standard of living. People considered to be in absolute poverty are determined through a yardstick known as

the poverty line which is drawn based on the level of income or consumption of individuals, households or groups in a given society. The poverty line provides a threshold whereby those whose income fall below the line are said to be poor and those whose income is above are considered as the non-poor (Balogun, 1999).

The World Bank standard for international comparison of the poverty line is given below which those that live on less than that amount are below the poverty line and those that live on more than that are above the poverty line (Ogboru & Abimiku, 2012). Using the World Bank (2016) standard of $1.90 (N782 at N412/1USD) per day, the poverty line is drawn. On bases on these assertions this study sees, poverty as a state of deprivation resulting from a lack of means of income generation, factors of production and productive resources to meet basic needs and services that gives an individual or a group of individuals a minimum acceptable standard of living.

Entrepreneurship is a process which creates an income generation means that empowers people to come out of poverty. Ogundele (2007) viewed entrepreneurship as a process involving recognizing opportunities in life and change simultaneously. The entrepreneur is seen as one who undertakes innovations with finance and business acumen in an effort to transform innovation into economic goods. In this study, it is affirmed that entrepreneurship is a courageous action undertaken by an individual who has the zeal and the passion of utilizing resources such as land, capital, labour, and the individual's own ability in order to provide a product or a service to the general populace. This the entrepreneur does with the sole aim of meeting a particular need of the general populace and by so doing creating jobs, which will have an impact on the families of the employees, and also profit to compensate for the number of hours put in by the entrepreneur.

MSMEs which are usually managed and run by the entrepreneur are able to reduce poverty by their ability to engage workers sustainably as they create and sustain jobs necessary for poor people to work and earn the income required to improve their welfare. There is no common definition of micro, small and medium scale enterprises (MSMEs), as each country tends to derive its meaning from the role that they are expected to play in that economy however the SMEDAN and NBS (2017) survey defined micro, small and medium scale enterprises as enterprises whose total assets (excluding land and buildings) are less than five million naira, above five million naira and are above fifty million naira respectively with a workforce not exceeding ten, forty nine and one hundred and ninety nine employees respectively. John-Akamelu and Muogbo, 2018 explained that these enterprises provide employment and income generation opportunities, and also serve as training grounds for entrepreneurs and employees. They harness and utilize local resources as well as serve as pillars that hold a nation together. Usually they are the only source of income especially in the rural areas. They

stimulate indigenous entrepreneurs improve per capita income, balance regional development and empower citizens.

2.2 Theoretical Review

According to Kirzner (1973), an entrepreneur is someone who is alert to and perceives profitable opportunities for trade and exchange. Recognising the possibilities for market demand enables the entrepreneur to benefit from acting as an intermediary who facilitates exchange and perceives new opportunities that have not yet been recognised. The opportunities for the Kirzner's entrepreneur exist because the entrepreneur has additional information others do not have, hence he takes advantage of the circumstance. The entrepreneur may foresee demand for a new product that has not been manufactured and may decide to manufacture it.

The economic theory of entrepreneurship advocated by Papanek (1962); Harris (1971) stated that economic incentives are the main forces of entrepreneurial activities. According to them entrepreneurship and economic growth would take place in circumstances where certain economic conditions are in favour of the business environment. These factors include the availability of bank credit, high capital formation with a good flow of savings and investments, supply for loanable funds with a lower rate of interest, increased demand for consumer goods and services, availability of productive resources, efficient economic policies like fiscal and monetary policies, communication and transportation facilities, etc. In India, analysis revealed that Gujarat had a more favourable environment for business and industry and thus performed better than other small business located in other areas where the environment was not as favourable (Desai, 2009). The entrepreneurial actions stemming from these opportunities are seen as the antidote to unemployment and income generation.

Haralambos and Heald (1980) in explaining the situational constraints theory of poverty stated that poverty results from experiences that individuals or groups pass through. It sees poverty as a reaction to situational constraints. Thus poverty occurs as a result of constraints that are imposed such as low income, unemployment and lack of capacity (O'Donnell, 1997). The theory asserted that people are poor mainly due to the fact that they find themselves in conditions where resources and opportunities are not available for them to advance their welfare (Abimiku, 2006). According to Marger (2008), breaking the vicious circle of poverty is almost impossible since poor people do not have the requisite resources to get out of poverty.

The theoretical review links the need for the entrepreneur to identify and focus on businesses where he foresees a high demand for his product and the economic theory of entrepreneurship which acknowledged that innovation and identifying opportunities, though good, are not sufficient to drive entrepreneurship but a favourable environment is required as well. In the Nigerian situation, where

there is freedom of enterprise, there is still a need for government influence and support to boost the MSME subsector. This will enable the entrepreneurs to advance their business and pull themselves out of poverty.

2.3 Empirical Review

Several studies have investigated the relationship between micro, small and medium scale enterprises and poverty reduction in Nigeria, as a whole, including Oba and Onuoha (2013); Eze and Okpala (2015), or parts thereof, including Anambra-South senatorial zone of Anambra State (Anigbogu, Onwuteaka, Edoko & Okoli, 2014), Benue State (Ogbuabor, Malaolu & Elias, 2013; Okpe, Uji & Okpachu, 2014), Ekiti State (Zacheus & Omeseni, 2014) and five selected local governments in Ogun State (Muritala, Awolaja & Bako, 2012). Some of the studies considered SMEs collectively (Muritala, Awolaja & Bako, 2012; Oba & Onuoha, 2013; Anigbogu et al., 2014; Zacheus & Omeseni, 2014; Eze & Okpala, 2015), while others considered SMEs involved in specific activities, including burnt bricklaying (Ogbuabor et al., 2013) and rice milling (Okpe et al., 2014). The studies considered various periods between 1993 and 2013 in their investigations.

Most of the findings point to a positive and statistically significant relationship between SMEs and poverty reduction, directly (Ogbuabor et al., 2013; Anigbogu et al., 2014; Okpe et al., 2014; Zacheus & Omeseni, 2014) or indirectly, through the level of employment (Oba & Onuoha, 2013). Eze and Okpala (2015), however, found that the output of SMEs did not make any significant contribution to Nigeria's economic growth performance even though a long run equilibrium relationship existed between SMEs and economic growth.

Reviewed literature reveals that various studies have been conducted on the viability of MSMEs and poverty reduction in Nigeria. However this study focuses on rice milling activities as a value addition process and its contributions to poverty reduction in Nasarawa State using the FGT Matrix for poverty head count and severity among respondents in the State as well as the logistic regression for analysis.

3. Methodology

The target population for this study is owners of rice mills that are operational in Nasarawa State. A three stage multi-stage sampling procedure was adopted using expert sampling to select rice milling local government areas, from each of the senatorial zone and stratified sampling to ensure fair and unbiased representation of each sub set the micro, small and medium categories in this case. The third stage sampling employed the matched-pairs probability sampling technique which allows a comparison of enterprises located within the urban and

rural areas. The sample was computed based on the Smith (1984) formula for an unknown population:

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

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. The Foster–Greer–Thorbecke (FGT) metric which is a class of poverty measures was employed in describing the extent and severity of poverty among respondents. The logistic regression analysis was carried out to achieve the objective of the study. This is due to the fact that it predicts the probability of a household being poor or not. It gives insight into variables that are important in the determination of poverty.

3.1 Model Specification

To measure the incidence, depth and severity of poverty among the respondents, the FGT Metrics will be employed. The general form of the metric is expressed as;

$$FGT_\alpha = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z - y_i}{z}\right)^\alpha \quad ----------(2)$$

Where;

z = poverty line (in this case \$1.9 or convertible to naira equivalent taking an average of exchange rate over a period of one year as at the time of the analysis).

y = the ith lowest income or income of the ith household in the poor population

N = total population

q = number of poor (those with incomes at or below z)

α = 0, 1 and 2 as poverty aversion parameter

When α = 0, the formula reduces to *headcount ratio* or *incidence of poverty* defined as the fraction of the population that lives below the poverty line. It is expressed as;

$$FGT_0 = \frac{q}{N} \quad ----------(3)$$

The variables are as defined above.

With *α* = 1, the formula reduces to the *poverty gap index* or *poverty depth* and it is expressed as;

$$FGT_1 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z - y_i}{z}\right) \quad ----------(4)$$

The variables remain as defined above.

Equations 3 and 4 are *poverty incidence or head count* and *poverty gap or depth*, respectively. The head count ratio measures the proportion of the population below the poverty line while the poverty gap measures the depth of poverty.

Finally, when *α = 2*, it implies that a distinction is made between the poor and the poorest of the poor. This gives a measure of *poverty severity* expressed as;

$$FGT_2 = \frac{1}{N}\sum_{i=1}^{q}\left(\frac{z - y_i}{z}\right)^2 \quad ----------(5)$$

The variables remain as defined above.

The FGTs are compared for the two periods (before and during rice milling activity) to ascertain whether or not rice milling improves the poverty levels of the respondents in the study area.

The multivariate Logistic Regression Model was employed to test the hypothesis;

H_0: Rice mills have not contributed significantly to poverty reduction in Nasarawa State.

Decision: If the P-value of the Chi-square is less than 0.05 (level of significance) we reject H_0 and accept H_1. Otherwise we accept H_0 and reject H_1.

Using the World Bank standard of $1.90 (N782 at N412/1USD) per day (World Bank, 2016), a dichotomous variable was computed indicating whether the household is poor or not as the dependent variable. That is,

$$Pov = \begin{cases} 1 & if\ household\ is\ \text{non-}poor \\ 0 & if\ otherwise \end{cases}$$

Where; *POV* = household poverty defined as *1* if household is above the poverty line and *0* if household is below the poverty line.

Since the dependent variable is binary, the relationship between the dependent and independent variables is non-linear. The logistic function, which describes this relationship, is of the form:

$$\pi = \frac{\exp^{(\beta_0+\beta_i X_i)}}{1+\exp^{(\beta_0+\beta_i X_i)}} = \frac{e(\beta_0+\beta_i X_i)}{1+e(\beta_0+\beta_i X_i)} = \frac{e}{1+e} - - - - - - (6)$$

Where; π is the probability that the dependent variable is equivalent to 1, meaning that household is not poor due to rice milling activity. Regression coefficients β_i, i = 1, 2,…, n, are the unknown parameters. The logistic transformation for the estimation of the β*'s* is stated as:

$$Logit(\pi) = \ln\left(\frac{\pi}{1-\pi}\right) = \beta_0 + \beta_1 g + \beta_2 age + \beta_3 ms + \beta_4 led + \beta_5 hs + \beta_6 mw + \beta_7 nm + \beta_8 mc + \varepsilon - - - - - - - - - - - - - - - - - - (7)$$

Where;

$\ln\left(\frac{\pi}{1-\pi}\right)$ = natural log of odds (probability that rice milling activity has reduced poverty)

g = gender (1 if male and 0 if female)

age = age of the respondents (actual age)

ms = marital status (1 if married and 0 if otherwise)

led = level of education (1 if received formal education and 0 if otherwise)

hs = household size (actual number of household)

mw = monthly wages of rice mill worker (nominal monthly wage)

nm = number of meals taken per day (1 if ≥ two times and 0 if otherwise)

mc = medicare received when sick (1 if access to healthcare and 0 if otherwise)

β_0 is the intercept, β_i $i = 1, 2, \ldots, 8$ are the parameters/coefficients to be estimated and ε is the error term.

4. Results and Discussion

To evaluate the poverty status of the rice millers before and during rice milling business, the study adopted the poverty line benchmarking approach using the World Bank standard of $1.90 (which is the equivalent of N782 at N412/1USD). The poverty line is further grouped into three categories depending on the extent of the poverty.

i. A core poverty line equivalent of 1/3 of the mean annual income.
ii. Moderate poverty line equivalent of 2/3 of the mean annual income and
iii. Non-poor

This brings out three mutually exclusive groups separated by the lines as core poor, moderately poor and non-poor. This study adopted this criterion alongside the Foster-Greer-Thorbecke (FGT) index to measure different

dimensions of poverty incidence, using FGT_0, FGT_1 and FGT_2 as presented in Table 1.

Table 1: Poverty Indices of Respondents for Before and During Rice Milling Enterprise

Index	Before Rice Milling	During Rice Milling	t-stats
Total Annual Income			
Annual Income	₦230,090,000	₦605,150,340	
Average Income			
Average Annual Income	₦575,225	₦1,779,854	-2.2309 (0.0895)
2/3 of mean income (moderate poor)	₦383,483	₦1,186,569	
1/3 of mean income (Core poor)	₦191,742	₦593,285	
Head Count Index (FGT_0)			
Core-poor	0.142(14.2%)	0.119(11.9%)	0.0000 (1.0000)
Moderate poor	0.175(17.5%)	0.156(15.6%)	
Non-poor	0.683(68.3%)	0.725(72.5%)	
Poverty Gap Index (FGT_1)			
Core-poor	0.52	0.34	2.392232 (0.1392)
Moderate poor	0.41	0.25	
Severity of poverty (FGT_2)	0.52	0.21	

Note: Values in parentheses for first and second columns are percentages and those for the third column are probabilities

Source: Author's Computation from Field Survey (2019)

Table 1 revealed that average annual income increased from ₦230,090,000 before joining rice milling enterprise to N605,150,340 during rice milling activities. The mean annual incomes for the moderate poor and core poor is ₦383,483 and ₦191,742, respectively, while the mean annual incomes during rice milling activities for the moderate poor and core poor is ₦1,186,569 and

₦593,285, respectively. Consequently, the average annual income of a rice miller increased from ₦575,225 before joining rice milling to ₦1,779,854 during rice milling business. Similarly, the mean annual income of the respondents improved for the two poverty lines, from ₦383,483 to ₦1,186,569 for the moderate poor and from ₦191,742 to ₦593,285 for the core poor.

The head count index (FGT_0), results showed that the proportion of the core poor and moderate poor dropped from 14.2% to 11.9%, and from 17.5% to 15.6% after respondents engaged in rice milling business. Conversely, the proportion of the non-poor increased from 68.3% to 72.5% during rice milling activities. The result of the Poverty Gap Index (FGT_1), indicates that poverty depth among the rice millers had reduced for both core-poor, from 0.52 to 0.34, which implied a 34.6% reduction and moderate poor from 0.41 to 0.25, implying a 39.02% reduction. The Severity of poverty measured by FGT_2, showed that the poverty level of the rice millers reduced from 0.52 to 0.21, representing 59.6% reduction in poverty level due to engagement in rice milling businesses.

Table 2: Results of Logistic Regression showing the Impact of Rice Milling Activities on Poverty Reduction

Variable	Coefficient	Std. Error	z-Statistic	Prob.	Exp (β) (Odds Ratio)	% Δ in (Odds Ratio)
SUC	0.354176	0.079774	4.439742	0.0062	1.4250	0.4250
QRP	0.123192	0.021904	5.624178	0.0000	1.1311	0.1311
QRS	0.571342	0.125851	4.539829	0.0035	1.7706	0.7706
INC	0.950966	0.208692	4.556792	0.0011	2.5882	0.5882
EXPN	-0.534322	0.200426	-3.330640	0.0184	0.5861	-0.4139
C	-0.244215	0.321949	-0.758551	0.4481	0.7833	-0.2167
McFadden R-squared		0.609691				
S.E. of regression	0.495335					
LR statistic	15.29177					
Prob(LR statistic)	0.000000					

Source: Author's Computation Using Eviews 10

The results indicated that start-up (SUC), quantity of rice produced (QRP), quantity of rice sold (QRS) and income from rice milling activities (INC) all have positive and statistically significant impact on poverty reduction in the study area, while the impact of expenses incurred is negative and statistically significant at 5% level of significance. More start-up capital increases the probability or odds of

reducing poverty by 0.425%. Also, increase in the quantity of rice produced and quantity of rice sold increases the probability of reducing poverty in the study area by 0.131% and 0.771%, respectively. Similarly, increase in income of the respondents from the activities of rice milling leads to increase in the probability of reducing poverty in the study area by 0.588%.

The finding implies that more start-up of capital increases the probability that rice millers would expand their business, employ more workers and pay improved wages that can go a long way in reducing poverty level among the workers. This would also lead to increase in the quantity of rice produced and sold, which results to an increase in income and in turn a rise in the probability of reducing poverty level in the study area. Furthermore the mean annual income of the respondents improved for the two categories of poor defined by the poverty line, that is, the moderate poor, defined by the upper poverty line, and the core poor, defined by the lower poverty line. The study showed that among entrepreneurs engaged in rice milling activities, the proportion of the core poor and the moderate poor dropped, while the proportion of the non-poor increased.

On the other hand, the results showed that expenses (EXPN) incurred in the course of rice milling activities is negatively signed implying that increase in the level of expenses (EXPN) incurred in the course of rice milling activities reduces the probability of reducing poverty in the study area by -0.414%. More so, the negatively signed coefficient of the constant term showed that holding rice milling activities constant, the probability of reducing poverty in the study area would reduce by 0.217%. This infers that an increase in the amount of expenses incurred exacerbated poverty among the respondents. As more money is expended, less of it is left for re-investment and growth of the business, which often times leads to closure of operations, especially when businesses cannot afford to meet up with improved production techniques and continue using obsolete production techniques. From the responses collected via the questionnaire the entrepreneurs explained that the cost of running their businesses is hiked up by lack of electricity as they have to use machines powered by diesel which are more expensive to purchase and maintain among other factors such as lack of water, lack of good roads, insecurity, obsolete technology, lack of improved seedlings and lack of funds.

The findings further showed that the joint impact of the independent variables in explaining the probability of poverty reduction is statistically significant at 5% level of significance, given that the probability value of the likelihood ratio statistic prob (LR-statistic) – 0.000 is less than 0.05. The McFadden R-square which measures the goodness of fit of the model indicated an explained variation of 0.609691. This means that 61% of the total variation in poverty reduction among respondents is explained by all variables included in the model (that is, the explanatory variables). Since the probability value of the

likelihood ratio (LR) statistic (0.0000) is less than 0.05 ($p<0.05$), we reject the null hypothesis at 5% level of significance and conclude that rice mills had contributed significantly to poverty reduction in Nasarawa State.

5. Conclusion and Policy Recommendations

This study concludes that Rice milling activities have impacted positively on poverty reduction in Nasarawa State. Variables like start-up capital, quantity of rice produce, Quantity of rice sold and wages had positive impacts on poverty reduction and should be enhanced. An increase in the income of the entrepreneur implies affordability for basic necessities of life thus improvement in the standard of living. Furthermore, the mean annual income of the respondents improved for the two categories of poor the moderate poor and the core poor however; the high level of expenses remains a challenge to the entrepreneur. Therefore the following recommendations are drawn;

There is a need for Government to support the rice milling industry by making available funds to boost up the start-up capital for existing and intending entrepreneurs. This could be given in terms of grants and low interest rate loans for investment in the rice industry. These finances should be made readily and easily accessible by reducing the bureaucratic burden involved in most loan application and approval processes. Loans should also be given on terms which rice millers can afford including giving them long timeline for repayments. This could include moratorium on interest in order to encourage local rice mills MSMEs. This would boost the entrepreneur to expand his business and pay better wages to his employees.

The study established that rice milling improved the welfare of the entrepreneurs however, local supply of rice is still far from meeting demand. Government should encourage the unemployed to engage in the business by making policies, providing subsidies and introducing programmes in order to attract more people into the rice milling business. This can be through providing improved quality seedlings for rice farming and improved technology for milling respectively. Furthermore, the availability of good seedlings will improve the quality of paddy available to millers and will improve the quality of rice produced and the quantity sold and will give locally produced rice an edge to compete with the imported rice, thereby generating more income for the economy..

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APPENDIX: QUESTIONAIRE

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. Family size: <3 [ ] 4 – 6 [ ] 7 – 9 [ ] >10 [ ]
4. Educational Level: No formal Education [ ] Primary [ ] Secondary [ ] ND/NCE [ ] HND/FIRST DEGREE [ ] Masters [ ] Others (please specify)……
5. Where is your rice mill located? local government headquarters [ ] outside local government headquarters [ ]
6. How long has your business been in operation? Less than 5 years [ ] 5 - 10years [ ] 10- 15 years[ ] more than 15 years[ ]
7. What was your start-up capital? >less than 1.50 million[ ] >less than 50 million[ ] >less than 200 million [ ]
8. What was the source of funds for your start-up capital? Informal Loan [ ] Personal Funds [ ] Ploughed back Profit [ ] Bank Loan [ ]
9. Have you had access to any loan facility? Yes [ ] No [ ]
10. Has this loan/aid helped you to expand your business? Yes [ ] No [ ]
11. If yes what is your source of loan? Commercial Bank[ ] Micro finance [ ] Friends [ ] Family [ ] Adashi [ ]
12. How much capital is invested now? >less than 1.50 million [ ] >less than 50 million[ ] >less than 200 million [ ]
13. What quantity of rice do you produce daily?
14. How quantity of rice do you sell daily?
15. What is your average daily income?.....
16. How many people are in your household?.....
17. How much cost do you incur on running your business……
18. What factors affect your business

Name of interviewer ……

Signature…… Date……